U-V_L-1 light-chain variable region amino acid sequence (SEQ ID NO:94)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVPDRFNGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSTHWPITFGQGTRLEIK

CDR3

U-V_L-2 light-chain variable region amino acid sequence (SEQ ID NO:95)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCIQGTHWPTTFGQGTRLEIK

CDR3

U-V_L-3 light-chain variable region amino acid sequence (SEQ ID NO:96)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQGTHWPITFGQGTRLEIK

CDR3

U-V_L-4 light-chain variable region amino acid sequence (SEQ ID NO:96)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQGTHWPITFGQGTRLEIK

CDR3

FIGURE 1A

U-V_L-5 light-chain variable region amino acid sequence (SEQ ID NO:97)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQGIQLRCSFGQGTKLEIK

CDR3

U-V_L-6 light-chain variable region amino acid sequence (SEQ ID NO:98)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSIQLPLTFGGGTKVEIK

CDR3

U-V_L-7 light-chain variable region amino acid sequence (SEQ ID NO:98)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSIQLPLTFGGGTKVEIK

CDR3

U-V_L-8 light-chain variable region amino acid sequence (SEQ ID NO:99)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSIQLPITFGHGTRLEIK

CDR3

FIGURE 1B

U-V_L-9 light-chain variable region amino acid sequence (SEQ ID NO:99)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSIQLPITFGHGTRLEIK

CDR3

U-V_L-11 light-chain variable region amino acid sequence (SEQ ID NO:100)

DIQMTQSPSSLSASVGDRVTITCRASQGIANYLAWYQQKPGKVPKLLIYVASTLQSGVPSRFSGSGSGTDFTLTISSLQPEDVATYYCQ

CDR1 CDR2

NYNSAPFTFGPGTKVDIK

CDR3

U-V_L-12 light-chain variable region amino acid sequence (SEQ ID NO:101)

DIQMTQSPSSLSASVGDRVTIICRASQGISNDLAWYQQKPGKVPKLLIYAASTLQSGVPSRFSGSGSGTDFTLTISSLQPEDVATYYCQ

CDR1 CDR2

KYNSVPLTFGGGTKVEIK

CDR3

U-V_L-13 light-chain variable region amino acid sequence (SEQ ID NO:102)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGSGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGPGTKVDIK

CDR3

FIGURE 1C

U-V_L-14 light-chain variable region amino acid sequence (SEQ ID NO:102)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGSGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGPGTKVDIK

CDR3

U-V_L-15 light-chain variable region amino acid sequence (SEQ ID NO:103)

EIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGTGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGGGTKVEIK

CDR3

U-V_L-16 light-chain variable region amino acid sequence (SEQ ID NO:104)

EIVLTQSPGTLSLSPGERATLSCRASQTVISSYLAWYQQKPGQAPRLLISGASSRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC

CDR1 CDR2

QQYGSSPRTFGQGTKVEIK

CDR3

U-V_L-17 light-chain variable region amino acid sequence (SEQ ID NO:105)

EIVLTQSPGTLSLSPGERATLSCRASQSVSRLAWYQQKPGQAPRLLIYGASRRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQ

CDR1 CDR2

YGSSPRSFGQGTKLEIK

CDR3

FIGURE 1D

U-V_L-18 light-chain variable region amino acid sequence (SEQ ID NO:106)

DIQMTQSPSSLSASVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAASSLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCL
CDR1 CDR2

QHNSYPPTFGQGTKVEIK
CDR3

U-V_L-19 light-chain variable region amino acid sequence (SEQ ID NO:107)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGVPDRFTGSGSGTDFTLTISSLQAEDV
CDR1 CDR2

AVYYCQQYYSFPWTFGQGTKVEIK
CDR3

U-V_L-20 light-chain variable region amino acid sequence (SEQ ID NO:107)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGVPDRFTGSGSGTDFTLTISSLQAEDV
CDR1 CDR2

AVYYCQQYYSFPWTFGQGTKVEIK
CDR3

U-V_L-21 light-chain variable region amino acid sequence (SEQ ID NO:108)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV
CDR1 CDR2

AVYYCQQYYSTTWTFGQGTKVEIK
CDR3

FIGURE 1E

U-V_L-22 light-chain variable region amino acid sequence (SEQ ID NO:109)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYYGTPRTFGQGTKVEIK

CDR3

U-V_L-23 light-chain variable region amino acid sequence (SEQ ID NO:110)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYYGTPRTFGQGTKVEIK

CDR3

U-V_L-24 light-chain variable region amino acid sequence (SEQ ID NO:111)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFGGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSISRTFGQGTKVEIK

CDR3

U-V_L-25 light-chain variable region amino acid sequence (SEQ ID NO:111)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFGGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSISRTFGQGTKVEIK

CDR3

FIGURE 1F

U-V_L-26 light-chain variable region amino acid sequence (SEQ ID NO:112)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQADDV

CDR1 CDR2

AVYYCQQYYSTTWTFGPGTKVEIK

CDR3

U-V_L-27 light-chain variable region amino acid sequence (SEQ ID NO:113)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQADDV

CDR1 CDR2

AVYYCQQYYSTTWTFGPGTKVEIK

CDR3

U-V_L-28 light-chain variable region amino acid sequence (SEQ ID NO:114)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGVPDRFSGSGSGTDFTLTISGLQAEDV

CDR1 CDR2

ALYYCQQYYSTMFSFGQGTKLEIK

CDR3

U-V_L-29 light-chain variable region amino acid sequence (SEQ ID NO:114)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGVPDRFSGSGSGTDFTLTISGLQAEDV

CDR1 CDR2

ALYYCQQYYSTMFSFGQGTKLEIK

CDR3

FIGURE 1G

U-V_L-30 light-chain variable region amino acid sequence (SEQ ID NO:115)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVFYCHQYYSTPLTFGGGTKVAIK

CDR3

U-V_L-31 light-chain variable region amino acid sequence (SEQ ID NO:115)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVFYCHQYYSTPLTFGGGTKVAIK

CDR3

U-V_L-32 light-chain variable region amino acid sequence (SEQ ID NO:116)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYFITPLTFGGGTKVEIK

CDR3

U-V_L-33 light-chain variable region amino acid sequence (SEQ ID NO:116)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYFITPLTFGGGTKVEIK

CDR3

FIGURE 1H

U-V_L-34 light-chain variable region amino acid sequence (SEQ ID NO:117)

DIQMTQSPSSLSASVGDRVTITCRASQDISHYLAWFQQKPGKAPKSLIYAASSLQSGVPSKFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QYNNYPFTFGPGTKVDIK

CDR3

U-V_L-35 light-chain variable region amino acid sequence (SEQ ID NO:118)

DIQMTQSPSSLSASVGDRVAITCRASQDISNYLAWLQQKPGKAPKSLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QYNTYPFTFGPGTKMDIK

CDR3

U-V_L-36 light-chain variable region amino acid sequence (SEQ ID NO:119)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSGSGSGTEFTLTISSLQSEDFAVYYCQ

CDR1 CDR2

QHNNWPPWTFGQGTKVEIK

CDR3

U-V_L-37 light-chain variable region amino acid sequence (SEQ ID NO:119)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSGSGSGTEFTLTISSLQSEDFAVYYCQ

CDR1 CDR2

QHNNWPPWTFGQGTKVEIK

CDR3

FIGURE 11

U-V_L-38 light-chain variable region amino acid sequence (SEQ ID NO:120)

DIQMTQSPSSVSASVGDRVTITCRASQDISRWLAWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QANSFPPTFGQGTKVEFK
CDR3

U-V_L-39 light-chain variable region amino acid sequence (SEQ ID NO:121)

DIQMTQSPSSLSASVGDRVTITCRASQSISTYLNWYQQKPGKAPKFLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFAAYYCQ
CDR1 CDR2

QSHSAPFTFGPGTKVDIK
CDR3

U-V_L-40 light-chain variable region amino acid sequence (SEQ ID NO:122)

DIQMTQSPSSLSASLGDRVTITCRASQTISIYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYSTLTFGGGTKVEIK
CDR3

U-V_L-41 light-chain variable region amino acid sequence (SEQ ID NO:123)

DIQMTQSPSSLSASVGDRVTITCRASQSIRSYLNWYQQRPGNAPKLLIYAASSLQSGVPSRVSGSGSGTDFTLTIRSLQPEDFATYYCQ
CDR1 CDR2

QSYSIPLTFGGGTKVEIK
CDR3

FIGURE 1J

U-V_L-42 light-chain variable region amino acid sequence (SEQ ID NO:124)

DIQMTQSPSSRSASVGDRVTITCRASQTISRYLNWYQQKPGKAPKLLIYAASTLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFATYYCQ
CDR1 CDR2

QIYSTSITFGQGTRLEIK
CDR3

U-V_L-43 light-chain variable region amino acid sequence (SEQ ID NO:125)

DIQMTQSPSSLSASVGDRVTITCRASQRISSYLNWYQQKPGKAPKVLIYAESSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYITPITFGQGTRLEII
CDR3

U-V_L-44 light-chain variable region amino acid sequence (SEQ ID NO:126)

DIQMTQSPSSLSASVGDRVTITCRASQSISRYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPENFATYYCQ
CDR1 CDR2

QSYFTPITFGQGTRLEIK
CDR3

U-V_L-45 light-chain variable region amino acid sequence (SEQ ID NO:127)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTFSSLQPEDFATYYCQ
CDR1 CDR2

QSYFSPITFGQGTRLEIK
CDR3

FIGURE 1K

U-V_L-46 light-chain variable region amino acid sequence (SEQ ID NO:128)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFASYYCQ
CDR1 CDR2

QSFYTPITFGQGTRLEIK
CDR3

U-V_L-47 light-chain variable region amino acid sequence (SEQ ID NO:128)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFASYYCQ
CDR1 CDR2

QSFYTPITFGQGTRLEIK
CDR3

U-V_L-48 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYFTPITFGQGTRLEIK
CDR3

U-V_L-49 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYFTPITFGQGTRLEIK
CDR3

FIGURE 1L

U-V_L-50 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYFTPITFGQGTRLEIK
CDR3

U-V_L-51 light-chain variable region amino acid sequence (SEQ ID NO:130)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFASYYCQ
CDR1 CDR2

QSFYAPITFGQGTRLEIK
CDR3

U-V_L-52 light-chain variable region amino acid sequence (SEQ ID NO:130)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFASYYCQ
CDR1 CDR2

QSFYAPITFGQGTRLEIK
CDR3

U-V_L-53 light-chain variable region amino acid sequence (SEQ ID NO:131)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ
CDR1 CDR2

QSYFTPITFGQGTRLEIK
CDR3

FIGURE 1M

U-V_L-54 light-chain variable region amino acid sequence (SEQ ID NO:132)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDYLPFTFGPGTKVDIK

CDR3

U-V_L-55 light-chain variable region amino acid sequence (SEQ ID NO:132)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDYLPFTFGPGTKVDIK

CDR3

U-V_L-56 light-chain variable region amino acid sequence (SEQ ID NO:133)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPELLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QCDDLPLTFGGGTKVEIK

CDR3

U-V_L-57 light-chain variable region amino acid sequence (SEQ ID NO:134)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

HYDNLPLTFGGGTKVEIK

CDR3

FIGURE 1N

U-V_L-58 light-chain variable region amino acid sequence (SEQ ID NO:135)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QYDNLPLTFGGGTKVEIK
CDR3

U-V_L-59 light-chain variable region amino acid sequence (SEQ ID NO:135)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QYDNLPLTFGGGTKVEIK
CDR3

U-V_L-60 light-chain variable region amino acid sequence (SEQ ID NO:136)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASILETGVPSRFSGSGSETDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QCDILPLSFGGGTKVEIK
CDR3

U-V_L-61 light-chain variable region amino acid sequence (SEQ ID NO:137)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QYDNLPLAFGGGTKVEIR
CDR3

FIGURE 1O

U-V_L-62 light-chain variable region amino acid sequence (SEQ ID NO:138)

DIQMTQSPSSLSASVGDGVTITCQASQDITNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QYDSLPITFGQGTRLEIK
CDR3

U-V_L-63 light-chain variable region amino acid sequence (SEQ ID NO:139)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKLGKAPKLLIHDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

QYDNLPITFGQGTRLEIK
CDR3

U-V_L-64 light-chain variable region amino acid sequence (SEQ ID NO:140)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

HYDNLPITFGQGTRLEIK
CDR3

U-V_L-65 light-chain variable region amino acid sequence (SEQ ID NO:141)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ
CDR1 CDR2

HYDNLPITFGQGTRLEIK
CDR3

FIGURE 1P

U-V_H-1 heavy chain variable region amino acid sequence (SEQ ID NO:142)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKLQDRVTMTTDTSTSTAYMELRSLRSD
CDR1 CDR2

DTAVYYCAREDNWNYGFFDYWGQGTLVTVSS
CDR3

U-V_H-2 heavy chain variable region amino acid sequence (SEQ ID NO:142)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKLQDRVTMTTDTSTSTAYMELRSLRSD
CDR1 CDR2

DTAVYYCAREDNWNYGFFDYWGQGTLVTVSS
CDR3

U-V_H-3 heavy chain variable region amino acid sequence (SEQ ID NO:143)

QVHLVQSGAEVKKPGASVKVSCKVSGYTFTGHYMHWVRQAPGQGLEWMGWINPNSGGTNCAQKFQGRVTMTRDTSISTAYMELSRLRSD
CDR1 CDR2

DTAVYYCARSIAVALDYWGQGTLVTVSS
CDR3

U-V_H-4 heavy chain variable region amino acid sequence (SEQ ID NO:144)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHWVRQAPGQGLEWMGWINPNSGGTNHTQKFQGRVTMTRDTSISTAYMELSRLRSD
CDR1 CDR2

DTAVYYCARSIAVALDYWGQGTLVTVSS
CDR3

FIGURE 2A

U-V_H-5 heavy chain variable region amino acid sequence (SEQ ID NO:145)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKFQGRVTMLEDTSTDTAYMELSSLRSE

CDR1 CDR2

DTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-6 heavy chain variable region amino acid sequence (SEQ ID NO:145)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKFQGRVTMLEDTSTDTAYMELSSLRSE

CDR1 CDR2

DTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-7 heavy chain variable region amino acid sequence (SEQ ID NO:146)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLAHIFSNDEKSYSTSLKSRLTISKDTSKSQVVLTMTNMDP

CDR1 CDR2

VDTATYYCARMYSSGWYGVFDYWGQGTLVTVSS

CDR3

U-V_H-8 heavy chain variable region amino acid sequence (SEQ ID NO:147)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLVLIFSNDEKSYSTSLKSRLTISKDTSKSQVVLTMTNMDP

CDR1 CDR2

VDTATYYCARVYSSGWSFYGMDVWGQGTTVTVSS

CDR3

FIGURE 2B

U-V_H-9 heavy chain variable region amino acid sequence (SEQ ID NO:148)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP
CDR1 CDR2

VDTATYYCAHRRELPFDYWGQGTLVTVSS
CDR3

U-V_H-10 heavy chain variable region amino acid sequence (SEQ ID NO:149)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKTQVVLTVTDMDP
CDR1 CDR2

VDTATYYCAHRNWTPFDYWGQGTLVTVSS
CDR3

U-V_H-11 heavy chain variable region amino acid sequence (SEQ ID NO:150)

QITLKESGPTLVKPTQTLTLTCTFSGFSLNTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP
CDR1 CDR2

VDTATYYCAHRLELPFDYWGQGTLVTVSS
CDR3

U-V_H-12 heavy chain variable region amino acid sequence (SEQ ID NO:151)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRDTITKDTSKNQVVLTMTNLDP
CDR1 CDR2

VDTATYYCAHRREVPFDYWGQGTLVTVSS
CDR3

FIGURE 2C

U-V_H-13 heavy chain variable region amino acid sequence (SEQ ID NO:152)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNVEKRYSPSLRSRLTITKATSKNQVVLTMTNMDP

CDR1 CDR2

VDTATYYCAHRHTNPFEYWGQGTLVTVSS

CDR3

U-V_H-14 heavy chain variable region amino acid sequence (SEQ ID NO:153)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP

CDR1 CDR2

VDTATYYCAHRGELPFDYWGQGTLVTVSS

CDR3

U-V_H-15 heavy chain variable region amino acid sequence (SEQ ID NO:153)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP

CDR1 CDR2

VDTATYYCAHRGELPFDYWGQGTLVTVSS

CDR3

U-V_H-16 heavy chain variable region amino acid sequence (SEQ ID NO:154)

EVQLVESGGGLVKPGGSLRLSCAASGFPFSRYSMNWVRQAPGKGLEWVSAISSSSSYIYYADSVKGRFTISRDNAKNSLYLQMNSLRAE

CDR1 CDR2

DTAVYYCARDRVGATPDAFDIWGQGTMVTVSS

CDR3

FIGURE 2D

U-V_H-17 heavy chain variable region amino acid sequence (SEQ ID NO:155)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMNWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCAKEGIAVAGTAEYYYYYAMDVWGQGTTVTVSS
CDR3

U-V_H-18 heavy chain variable region amino acid sequence (SEQ ID NO:156)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCAKEGIAARDSYYYYAMDVWGQGTTVTVSS
CDR3

U-V_H-19 heavy chain variable region amino acid sequence (SEQ ID NO:157)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSS
CDR3

U-V_H-20 heavy chain variable region amino acid sequence (SEQ ID NO:157)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2E

U-V_H-21 heavy chain variable region amino acid sequence (SEQ ID NO:158)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSVKGRFTISRDNSMNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSS
CDR3

U-V_H-22 heavy chain variable region amino acid sequence (SEQ ID NO:158)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSVKGRFTISRDNSMNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSS
CDR3

U-V_H-23 heavy chain variable region amino acid sequence (SEQ ID NO:159)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARNVIDYWGQGTLVTVSS
CDR3

U-V_H-24 heavy chain variable region amino acid sequence (SEQ ID NO:160)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARGGATGAEYFQHWGQGTLVTVSS
CDR3

FIGURE 2F

U-V_H-25 heavy chain variable region amino acid sequence (SEQ ID NO:160)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARGGATGAEYFQHWGQGTLVTVSS
CDR3

U-V_H-26 heavy chain variable region amino acid sequence (SEQ ID NO:161)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCVLLWFGETFDYWGQGSLVTVSP
CDR3

U-V_H-27 heavy chain variable region amino acid sequence (SEQ ID NO:162)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWSDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARNLPFDYWGQGTLVTVSS
CDR3

U-V_H-28 heavy chain variable region amino acid sequence (SEQ ID NO:163)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWDDGSNQYYTDSVKGRFTVSRDNSKNTLFLQMNSLRAE
CDR1 CDR2

DTAVYYCARSHYGGDYDYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2G

U-V_H-29 heavy chain variable region amino acid sequence (SEQ ID NO:164)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKRYVDSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARDGWQQQAPFDYWGQGTLVTVSS
CDR3

U-V_H-30 heavy chain variable region amino acid sequence (SEQ ID NO:165)

QVQLVESGGGVVQPGRSLRLSCAASGFTFRSHGMHWVRQAPGKGLEWVAVIWYDGSNKNYADSVRGRFTISRDNSKNTLDLQMNSLRAE
CDR1 CDR2

DTAVYYCARWGISAPFDCWGQGTLVTVSS
CDR3

U-V_H-31 heavy chain variable region amino acid sequence (SEQ ID NO:166)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSVKGRFTISRDNAKNSLFLQMNSLRDE
CDR1 CDR2

DTAVYYCALWAPFDYWGQGTLVTVSS
CDR3

U-V_H-32 heavy chain variable region amino acid sequence (SEQ ID NO:167)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISSSSRTIYYADSVKGRFTISRDNAKNSVYLQMNSLRDE
CDR1 CDR2

DTAVYYCARDGYNWNGGGNYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2H

U-V_H-33 heavy chain variable region amino acid sequence (SEQ ID NO:168)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSVKGRFTISRDNAKNSLYLQMNSLRDE

CDR1 CDR2

DTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-34 heavy chain variable region amino acid sequence (SEQ ID NO:168)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSVKGRFTISRDNAKNSLYLQMNSLRDE

CDR1 CDR2

DTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-35 heavy chain variable region amino acid sequence (SEQ ID NO:169)

QVQLQESGPGLVKPSQTLSLTCTVSGGSVSSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRVTISVDTSKNQFSLNLSSVTA

CDR1 CDR2

ADTAVYYCARGPYYGMDVWGQGTTVTVSS

CDR3

U-V_H-36 heavy chain variable region amino acid sequence (SEQ ID NO:170)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPSLKSRVNMSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSS

CDR3

FIGURE 2I

U-V_H-37 heavy chain variable region amino acid sequence (SEQ ID NO:170)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPSLKSRVNMSVDTSKNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSS
CDR3

U-V_H-38 heavy chain variable region amino acid sequence (SEQ ID NO:171)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIYYSGSTYYNPSLKSRVTISVDTSKNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARDETVVRGLIRYCYGMDVWGQGTTVTVSS
CDR3

U-V_H-39 heavy chain variable region amino acid sequence (SEQ ID NO:172)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRITISADTSKNQFSLKLNSVTA
CDR1 CDR2

ADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSS
CDR3

U-V_H-40 heavy chain variable region amino acid sequence (SEQ ID NO:173)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRITISADTSKNQFSLKLNSVTA
CDR1 CDR2

ADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSS
CDR3

FIGURE 2J

U-V_H-41 heavy chain variable region amino acid sequence (SEQ ID NO:174)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRITKSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARSNNYGCFALWGRGTLVTVSS

CDR3

U-V_H-42 heavy chain variable region amino acid sequence (SEQ ID NO:175)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRITKSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARSNNYGCFALWGRGTLVTVSS

CDR3

U-V_H-43 heavy chain variable region amino acid sequence (SEQ ID NO:176)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRVTISVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCASGYNYGLYYYDSSGYPSYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-44 heavy chain variable region amino acid sequence (SEQ ID NO:177)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPSLKSRVTISVDTSKNQFSLKLFSVTA

CDR1 CDR2

ADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSS

CDR3

FIGURE 2K

U-V_H-45 heavy chain variable region amino acid sequence (SEQ ID NO:178)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPSLKSRVTISVDTSKNQFSLKLFSVTA
CDR1 CDR2

ADTAVYFCARTVYDILTGYPFYFDYWGQGTLVTVSS
CDR3

U-V_H-46 heavy chain variable region amino acid sequence (SEQ ID NO:179)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWYWFDPWGQGTLVTVSS
CDR3

U-V_H-47 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

U-V_H-48 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

FIGURE 2L

U-V_H-49 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

U-V_H-50 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

U-V_H-51 heavy chain variable region amino acid sequence (SEQ ID NO:181)

QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQPAGKGLEWIGRIYTSGTTNYNPSLKSRVTMSVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARDGYSYGHYYYYGMDVWGQGTTVTVSS
CDR3

U-V_H-52 heavy chain variable region amino acid sequence (SEQ ID NO:182)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPSLKSRVTISIVTSRNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSS
CDR3

FIGURE 2M

U-V_H-53 heavy chain variable region amino acid sequence (SEQ ID NO:182)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPSLKSRVTISIVTSRNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSS
CDR3

U-V_H-54 heavy chain variable region amino acid sequence (SEQ ID NO:183)

EVQLVQSGAELKKPGESLKISCKGSGYRFTSYWIGWVRQMPGKGLEWMGIIYPDDSDTRYSPSFQGQVTISADKSISTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQKSYGYSYFDYWGQGTLVTVSS
CDR3

U-V_H-55 heavy chain variable region amino acid sequence (SEQ ID NO:184)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPDDSDARYSPSFQGQVTISADKSINTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQGYGSGWGYFDYWGQGTLVTVSS
CDR3

U-V_H-56 heavy chain variable region amino acid sequence (SEQ ID NO:185)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDSDIRYSPSFQGQVTISADKSISTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQGLAVAGTSYYYYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2N

U-V_H-57 heavy chain variable region amino acid sequence (SEQ ID NO:186)

QVQLQQSGPGLVKPSQTLSLTCAISGDSVSSYSAAWNWIRQSPSRGLEWLGRTYCRSKWYNDYAVSVKSRITINPDTSKNQFSLQLNSV

CDR1 CDR2

TPEDTAVYYCARDRAVAGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-58 heavy chain variable region amino acid sequence (SEQ ID NO:166)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSVKGRFTISRDNAKNSLFLQMNSLRDE

CDR1 CDR2

DTAVYYCALWAPFDYWGQGTLVTVSS

CDR3

FIGURE 2O

U_L-1 light chain amino acid sequence (SEQ ID NO:1)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVP
DRFNGSGSGTDFTLKISRVEAEDVGVYYCMQSTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-2 light chain amino acid sequence (SEQ ID NO:2)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCIQGTHWPTTFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-3 light chain amino acid sequence (SEQ ID NO:3)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-4 light chain amino acid sequence (SEQ ID NO:3)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-5 light chain amino acid sequence (SEQ ID NO:4)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGIQLPCSFGQGTKLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-6 light chain amino acid sequence (SEQ ID NO:5)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPLTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3A

U_L-7 light chain amino acid sequence (SEQ ID NO:5)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPLTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-8 light chain amino acid sequence (SEQ ID NO:6)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPITFGHGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-9 light chain amino acid sequence (SEQ ID NO:6)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPITFGHGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-11 light chain amino acid sequence (SEQ ID NO:7)

DIQMTQSPSSLSASVGDRVTITCRASQGIANYLAWYQQKPGKVPKLLIYVASTLQSGVPSRFSG
SGSGTDFTLTISSLQPEDVATYYCQNYNSAPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-12 light chain amino acid sequence (SEQ ID NO:8)

DIQMTQSPSSLSASVGDRVTIICRASQGISNDLAWYQQKPGKVPKLLIYAASTLQSGVPSRFSG
SGSGTDFTLTISSLQPEDVATYYCQKYNSVPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-13 light chain amino acid sequence (SEQ ID NO:9)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGSGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGPGTKVDIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3B

U_L-14 light chain amino acid sequence (SEQ ID NO:9)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGSGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGPGTKVDIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-15 light chain amino acid sequence (SEQ ID NO:10)

EIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGTGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-16 light chain amino acid sequence (SEQ ID NO:11)

EIVLTQSPGTLSLSPGERATLSCRASQTVISSYLAWYQQKPGQAPRLLISGASSRATGIPDRFS
GSGSGTDFTLTISRLEPEDFAVYYCQQYGSSPRTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

U_L-17 light chain amino acid sequence (SEQ ID NO:12)

EIVLTQSPGTLSLSPGERATLSCRASQSVSRLAWYQQKPGQAPRLLIYGASRRATGIPDRFSGS
GSGTDFTLTISRLEPEDFAVYYCQQYGSSPRSFGQGTKLEIKRTVAAPSVFIFPPSDEQLKSGT
ASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYA
CEVTHQGLSSPVTKSFNRGEC

U_L-18 light chain amino acid sequence (SEQ ID NO:13)

DIQMTQSPSSLSASVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAASSLQSGVPSRFSG
SGSGTEFTLTISSLQPEDFATYYCLQHNSYPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-19 light chain amino acid sequence (SEQ ID NO:14)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGV
PDRFTGSGSGTDFTLTISSLQAEDVAVYYCQQYYSFPWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3C

U_L-20 light chain amino acid sequence (SEQ ID NO:14)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGV
PDRFTGSGSGTDFTLTISSLQAEDVAVYYCQQYYSFPWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-21 light chain amino acid sequence (SEQ ID NO:15)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYYCQQYYSTTWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-22 light chain amino acid sequence (SEQ ID NO:16)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYYGTPRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-23 light chain amino acid sequence (SEQ ID NO:17)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYYGTPRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-24 light chain amino acid sequence (SEQ ID NO:18)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFGGSGSGTDFTLTISSLQAEDVAVYYCQQYYSISRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-25 light chain amino acid sequence (SEQ ID NO:18)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFGGSGSGTDFTLTISSLQAEDVAVYYCQQYYSISRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3D

U_L-26 light chain amino acid sequence (SEQ ID NO:19)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQADDVAVYYCQQYYSTTWTFGPGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-27 light chain amino acid sequence (SEQ ID NO:20)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQADDVAVYYCQQYYSTTWTFGPGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-28 light chain amino acid sequence (SEQ ID NO:21)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGV
PDRFSGSGSGTDFTLTISGLQAEDVALYYCQQYYSTMFSFGQGTKLEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-29 light chain amino acid sequence (SEQ ID NO:21)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGV
PDRFSGSGSGTDFTLTISGLQAEDVALYYCQQYYSTMFSFGQGTKLEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-30 light chain amino acid sequence (SEQ ID NO:22)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVFYCHQYYSTPLTFGGGTKVAIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-31 light chain amino acid sequence (SEQ ID NO:22)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVFYCHQYYSTPLTFGGGTKVAIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3E

U_L-32 light chain amino acid sequence (SEQ ID NO:23)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYFITPLTFGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-33 light chain amino acid sequence (SEQ ID NO:23)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYFITPLTFGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-34 light chain amino acid sequence (SEQ ID NO:24)

DIQMTQSPSSLSASVGDRVTITCRASQDISHYLAWFQQKPGKAPKSLIYAASSLQSGVPSKFSG
SGSGTDFTLTISSLQPEDFATYYCQQYNNYPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-35 light chain amino acid sequence (SEQ ID NO:25)

DIQMTQSPSSLSASVGDRVAITCRASQDISNYLAWLQQKPGKAPKSLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQYNTYPFTFGPGTKMDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-36 light chain amino acid sequence (SEQ ID NO:26)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSG
SGSGTEFTLTISSLQSEDFAVYYCQQHNNWPPWTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

U_L-37 light chain amino acid sequence (SEQ ID NO:26)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSG
SGSGTEFTLTISSLQSEDFAVYYCQQHNNWPPWTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

FIGURE 3F

U_L-38 light chain amino acid sequence (SEQ ID NO:27)

DIQMTQSPSSVSASVGDRVTITCRASQDISRWLAWYQQKPGKAPKLLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQANSFPPTFGQGTKVEFKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-39 light chain amino acid sequence (SEQ ID NO:28)

DIQMTQSPSSLSASVGDRVTITCRASQSISTYLNWYQQKPGKAPKFLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFAAYYCQQSHSAPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-40 light chain amino acid sequence (SEQ ID NO:29)

DIQMTQSPSSLSASLGDRVTITCRASQTISIYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYSTLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGT
ASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYA
CEVTHQGLSSPVTKSFNRGEC

U_L-41 light chain amino acid sequence (SEQ ID NO:30)

DIQMTQSPSSLSASVGDRVTITCRASQSIRSYLNWYQQRPGNAPKLLIYAASSLQSGVPSRVSG
SGSGTDFTLTIRSLQPEDFATYYCQQSYSIPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-42 light chain amino acid sequence (SEQ ID NO:31)

DIQMTQSPSSRSASVGDRVTITCRASQTISRYLNWYQQKPGKAPKLLIYAASTLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFATYYCQQIYSTSITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-43 light chain amino acid sequence (SEQ ID NO:32)

DIQMTQSPSSLSASVGDRVTITCRASQRISSYLNWYQQKPGKAPKVLIYAESSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYITPITFGQGTRLEIIRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3G

U_L-44 light chain amino acid sequence (SEQ ID NO:33)

DIQMTQSPSSLSASVGDRVTITCRASQSISRYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPENFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-45 light chain amino acid sequence (SEQ ID NO:34)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTFSSLQPEDFATYYCQQSYFSPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-46 light chain amino acid sequence (SEQ ID NO:35)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFASYYCQQSFYTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-47 light chain amino acid sequence (SEQ ID NO:35)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFASYYCQQSFYTPITFGQGTRLEIKASTKGPSVFPLAPCSRSTSES
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNV
DHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHED
PEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEK
TISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPML
DSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_L-48 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-49 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3H

U_L-50 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-51 light chain amino acid sequence (SEQ ID NO:37)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFASYYCQQSFYAPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-52 light chain amino acid sequence (SEQ ID NO:37)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFASYYCQQSFYAPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-53 light chain amino acid sequence (SEQ ID NO:38)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-54 light chain amino acid sequence (SEQ ID NO:39)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDYLPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-55 light chain amino acid sequence (SEQ ID NO:39)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDYLPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3I

U_L-56 light chain amino acid sequence (SEQ ID NO:40)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPELLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQCDDLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-57 light chain amino acid sequence (SEQ ID NO:41)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-58 light chain amino acid sequence (SEQ ID NO:42)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-59 light chain amino acid sequence (SEQ ID NO:42)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-60 light chain amino acid sequence (SEQ ID NO:43)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASILETGVPSRFSG
SGSETDFTFTISSLQPEDIATYYCQQCDILPLSFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-61 light chain amino acid sequence (SEQ ID NO:44)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLAFGGGTKVEIRRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3J

U_L-62 light chain amino acid sequence (SEQ ID NO:45)

DIQMTQSPSSLSASVGDGVTITCQASQDITNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDSLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-63 light chain amino acid sequence (SEQ ID NO:46)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKLGKAPKLLIHDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-64 light chain amino acid sequence (SEQ ID NO:47)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-65 light chain amino acid sequence (SEQ ID NO:48)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3K

U_B-1 heavy chain amino acid sequence (SEQ ID NO:49)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKL
QDRVTMTTDTSTSTAYMELRSLRSDDTAVYYCAREDNWNYGFFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-2 heavy chain amino acid sequence (SEQ ID NO:49)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKL
QDRVTMTTDTSTSTAYMELRSLRSDDTAVYYCAREDNWNYGFFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-3 heavy chain amino acid sequence (SEQ ID NO:50)

QVHLVQSGAEVKKPGASVKVSCKVSGYTFTGHYMHWVRQAPGQGLEWMGWINPNSGGTNCAQKF
QGRVTMTRDTSISTAYMELSRLRSDDTAVYYCARSIAVALDYWGQGTLVTVSSASTKGPSVFPL
APCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSN
FGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVT
CVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVS
NKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE
NNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-4 heavy chain amino acid sequence (SEQ ID NO:51)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHWVRQAPGQGLEWMGWINPNSGGTNHTQKF
QGRVTMTRDTSISTAYMELSRLRSDDTAVYYCARSIAVALDYWGQGTLVTVSSASTKGPSVFPL
APCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSN
FGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVT
CVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVS
NKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE
NNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4A

U_H-5 heavy chain amino acid sequence (SEQ ID NO:52)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKF
QGRVTMLEDTSTDTAYMELSSLRSEDTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-6 heavy chain amino acid sequence (SEQ ID NO:52)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKF
QGRVTMLEDTSTDTAYMELSSLRSEDTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-7 heavy chain amino acid sequence (SEQ ID NO:53)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLAHIFSNDEKSYSTS
LKSRLTISKDTSKSQVVLTMTNMDPVDTATYYCARMYSSGWYGVFDYWGQGTLVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-8 heavy chain amino acid sequence (SEQ ID NO:54)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLVLIFSNDEKSYSTS
LKSRLTISKDTSKSQVVLTMTNMDPVDTATYYCARVYSSGWSFYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4B

U_R-9 heavy chain amino acid sequence (SEQ ID NO:55)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRRELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-10 heavy chain amino acid sequence (SEQ ID NO:56)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKTQVVLTVTDMDPVDTATYYCAHRNWTPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-11 heavy chain amino acid sequence (SEQ ID NO:57)

QITLKESGPTLVKPTQTLTLTCTFSGFSLNTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRLELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-12 heavy chain amino acid sequence (SEQ ID NO:58)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNLDPVDTATYYCAHRREVPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4C

U_H-13 heavy chain amino acid sequence (SEQ ID NO:59)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNVEKRYSPS
LRSRLTITKATSKNQVVLTMTNMDPVDTATYYCAHRHTNPFEYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-14 heavy chain amino acid sequence (SEQ ID NO:60)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRGELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-15 heavy chain amino acid sequence (SEQ ID NO:60)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRGELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-16 heavy chain amino acid sequence (SEQ ID NO:61)

EVQLVESGGGLVKPGGSLRLSCAASGFPFSRYSMNWVRQAPGKGLEWVSAISSSSSYIYYADSV
KGRFTISRDNAKNSLYLQMNSLRAEDTAVYYCARDRVGATPDAFDIWGQGTMVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4D

U_B-17 heavy chain amino acid sequence (SEQ ID NO:62)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMNWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKEGIAVAGTAEYYYYYAMDVWGQGTTVTVSS
ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDW
LNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDI
AVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSL
SLSPGK

U_B-18 heavy chain amino acid sequence (SEQ ID NO:63)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKEGIAARDSYYYYAMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_B-19 heavy chain amino acid sequence (SEQ ID NO:64)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_B-20 heavy chain amino acid sequence (SEQ ID NO:64)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

FIGURE 4E

U_H-21 heavy chain amino acid sequence (SEQ ID NO:65)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSV
KGRFTISRDNSMNTLYLQMNSLRAEDTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-22 heavy chain amino acid sequence (SEQ ID NO:65)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSV
KGRFTISRDNSMNTLYLQMNSLRAEDTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-23 heavy chain amino acid sequence (SEQ ID NO:66)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARNVIDYWGQGTLVTVSSASTKGPSVFPLAPC
SRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGT
QTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVV
VDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKG
LPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY
KTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-24 heavy chain amino acid sequence (SEQ ID NO:67)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARGGATGAEYFQHWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4F

U_H-25 heavy chain amino acid sequence (SEQ ID NO:67)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARGGATGAEYFQHWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-26 heavy chain amino acid sequence (SEQ ID NO:68)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCVLLWFGETFDYWGQGSLVTVSPASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-27 heavy chain amino acid sequence (SEQ ID NO:69)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWSDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARNLPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-28 heavy chain amino acid sequence (SEQ ID NO:70)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWDDGSNQYYTDSV
KGRFTVSRDNSKNTLFLQMNSLRAEDTAVYYCARSHYGGDYDYYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4G

U_B-29 heavy chain amino acid sequence (SEQ ID NO:71)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKRYVDSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDGWQQQAPFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-30 heavy chain amino acid sequence (SEQ ID NO:72)

QVQLVESGGGVVQPGRSLRLSCAASGFTFRSHGMHWVRQAPGKGLEWVAVIWYDGSNKNYADSV
RGRFTISRDNSKNTLDLQMNSLRAEDTAVYYCARWGISAPFDCWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-31 heavy chain amino acid sequence (SEQ ID NO:73)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSV
KGRFTISRDNAKNSLFLQMNSLRDEDTAVYYCALWAPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-32 heavy chain amino acid sequence (SEQ ID NO:74)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISSSSRTIYYADSV
KGRFTISRDNAKNSVYLQMNSLRDEDTAVYYCARDGYNWNGGGNYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

FIGURE 4H

U_H-33 heavy chain amino acid sequence (SEQ ID NO:75)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSV
KGRFTISRDNAKNSLYLQMNSLRDEDTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_H-34 heavy chain amino acid sequence (SEQ ID NO:75)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSV
KGRFTISRDNAKNSLYLQMNSLRDEDTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_H-35 heavy chain amino acid sequence (SEQ ID NO:76)

QVQLQESGPGLVKPSQTLSLTCTVSGGSVSSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPS
LKSRVTISVDTSKNQFSLNLSSVTAADTAVYYCARGPYYGMDVWGQGTTVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-36 heavy chain amino acid sequence (SEQ ID NO:77)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPS
LKSRVNMSVDTSKNQFSLKLSSVTAADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

FIGURE 4I

U_B-37 heavy chain amino acid sequence (SEQ ID NO:77)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPS
LKSRVNMSVDTSKNQFSLKLSSVTAADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

U_B-38 heavy chain amino acid sequence (SEQ ID NO:78)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIYYSGSTYYNPS
LKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCARDETVVRGLIRYCYGMDVWGQGTTVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

U_B-39 heavy chain amino acid sequence (SEQ ID NO:79)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRITISADTSKNQFSLKLNSVTAADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-40 heavy chain amino acid sequence (SEQ ID NO:80)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRITISADTSKNQFSLKLNSVTAADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4J

U_R-41 heavy chain amino acid sequence (SEQ ID NO:81)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWI81RQHPGKGLEWIGYIHSSGSTYYN
PSLKSRITKSVDTSKNQFSLKLSSVTAADTAVYYCARSNNYGCFALWGRGTLVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-42 heavy chain amino acid sequence (SEQ ID NO:82)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPS
LKSRITKSVDTSKNQFSLKLSSVTAADTAVYYCARSNNYGCFALWGRGTLVTVSSASTKGPSVF
PLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPS
SNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPE
VTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCK
VSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQ
PENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-43 heavy chain amino acid sequence (SEQ ID NO:83)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCASGYNYGLYYYDSSGYPSYYYGMDVWGQGTT
VTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQS
SGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFP
PKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTV
VHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGF
YPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY
TQKSLSLSPGK

U_R-44 heavy chain amino acid sequence (SEQ ID NO:84)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPS
LKSRVTISVDTSKNQFSLKLFSVTAADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

FIGURE 4K

U_E-45 heavy chain amino acid sequence (SEQ ID NO:85)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPS
LKSRVTISVDTSKNQFSLKLFSVTAADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_E-46 heavy chain amino acid sequence (SEQ ID NO:86)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWYWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_E-47 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_E-48 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4L

U_R-49 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-50 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-51 heavy chain amino acid sequence (SEQ ID NO:88)

QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQPAGKGLEWIGRIYTSGTTNYNPSLK
SRVTMSVDTSKNQFSLKLSSVTAADTAVYYCARDGYSYGHYYYYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_R-52 heavy chain amino acid sequence (SEQ ID NO:89)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPS
LKSRVTISIVTSRNQFSLKLSSVTAADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSSAS
TKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLS
SVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTL
MISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLN
GKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
EWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL
SPGK

FIGURE 4M

U_B-53 heavy chain amino acid sequence (SEQ ID NO:89)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPS
LKSRVTISIVTSRNQFSLKLSSVTAADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSSAS
TKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLS
SVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTL
MISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLN
GKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
EWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL
SPGK

U_B-54 heavy chain amino acid sequence (SEQ ID NO:90)

EVQLVQSGAELKKPGESLKISCKGSGYRFTSYWIGWVRQMPGKGLEWMGIIYPDDSDTRYSPSF
QGQVTISADKSISTAYLQWSSLKASDTAMYYCARQKSYGYSYFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-55 heavy chain amino acid sequence (SEQ ID NO:91)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPDDSDARYSPSF
QGQVTISADKSINTAYLQWSSLKASDTAMYYCARQGYGSGWGYFDYWGQGTLVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_B-56 heavy chain amino acid sequence (SEQ ID NO:92)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDSDIRYSPSF
QGQVTISADKSISTAYLQWSSLKASDTAMYYCARQGLAVAGTSYYYYYGMDVWGQGTTVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

FIGURE 4N

U_B-57 heavy chain amino acid sequence (SEQ ID NO:93)

QVQLQQSGPGLVKPSQTLSLTCAISGDSVSSYSAAWNWIRQSPSRGLEWLGRTYCRSKWYNDYA
VSVKSRITINPDTSKNQFSLQLNSVTPEDTAVYYCARDRAVAGYYYGMDVWGQGTTVTVSSASTK
GPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV
VTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMI
SRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGK
EYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEW
ESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSP
GK

U_B-58 heavy chain amino acid sequence (SEQ ID NO:73)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSV
KGRFTISRDNAKNSLFLQMNSLRDEDTAVYYCALWAPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4O

CONSTANT REGION: LIGHT CHAIN AMINO ACID SEQUENCE

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKA
DYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:187)

FIGURE 5A

CONSTANT REGION: HEAVY CHAIN AMINO ACID SEQUENCE

ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQF
NWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLP
PSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH
EALHNHYTQKSLSLSPGK (SEQ ID NO:188)

FIGURE 5B

LIGHT CHAIN CDRS

NAME	SEQUENCE	SEQ ID NO:
CDRL1-1	RSSQSLVYSDGNTYLN	189
CDRL1-2	RSSQSLVYSDGNTYLN	189
CDRL1-3	RSSQSLVYSDGNTYLN	189
CDRL1-4	RSSQSLVYSDGNTYLN	189
CDRL1-5	KSSQSLLHSDGKTYLY	190
CDRL1-6	KSSQSLLHSDGKTYLY	190
CDRL1-7	KSSQSLLHSDGKTYLY	190
CDRL1-8	KSSQSLLHSDGKTYLY	190
CDRL1-9	KSSQSLLHSDGKTYLY	190
CDRL1-11	RASQGIANYLA	191
CDRL1-12	RASQGISNDLA	192
CDRL1-13	RSSQSLVHSDGNTYLS	193
CDRL1-14	RSSQSLVHSDGNTYLS	193
CDRL1-15	RSSQSLVHSDGNTYLS	193
CDRL1-16	RASQTVISSYLA	194
CDRL1-17	RASQSVSRLA	195
CDRL1-18	RASQGIRNDLG	196
CDRL1-19	KSSQSVLYSSNNKNYLV	197
CDRL1-20	KSSQSVLYSSNNKNYLV	197
CDRL1-21	KSSQSVLYSSNNKNYLA	198
CDRL1-22	KSSQNVLYSSNNKNYLA	199
CDRL1-23	KSSQNVLYSSNNKNYLA	199
CDRL1-24	KSSQSVLYSSNNKNYLA	198
CDRL1-25	KSSQSVLYSSNNKNYLA	198
CDRL1-26	KSSQSVLYNSNNKNYLA	200
CDRL1-27	KSSQSVLYNSNNKNYLA	200
CDRL1-28	KSSQSVLYSSNNKNYLA	198
CDRL1-29	KSSQSVLYSSNNKNYLA	198
CDRL1-30	KSSQSVLDSSNNKNYLA	201
CDRL1-31	KSSQSVLDSSNNKNYLA	201
CDRL1-32	KSSQSILYRSNNKNYLA	202
CDRL1-33	KSSQSILYRSNNKNYLA	202
CDRL1-34	RASQDISHYLA	203
CDRL1-35	RASQDISNYLA	204

FIGURE 6A

NAME	SEQUENCE	SEQ ID NO:
CDRL1-36	RASQSVSSNLA	205
CDRL1-37	RASQSVSSNLA	205
CDRL1-38	RASQDISRWLA	206
CDRL1-39	RASQSISTYLN	207
CDRL1-40	RASQTISIYLN	208
CDRL1-41	RASQSIRSYLN	209
CDRL1-42	RASQTISRYLN	210
CDRL1-43	RASQRISSYLN	211
CDRL1-44	RASQSISRYLN	212
CDRL1-45	RASQSISSYLN	213
CDRL1-46	RASQSISSYLN	213
CDRL1-47	RASQSISSYLN	213
CDRL1-48	RASQSISSYLN	213
CDRL1-49	RASQSISSYLN	213
CDRL1-50	RASQSISSYLN	213
CDRL1-51	RASQSISSYLN	213
CDRL1-52	RASQSISSYLN	213
CDRL1-53	RASQSISSYLN	213
CDRL1-54	QASQDISNYLN	214
CDRL1-55	QASQDISNYLN	214
CDRL1-56	QASQDISNSLN	215
CDRL1-57	QASQDISDYLN	216
CDRL1-58	QASQDISNYLN	214
CDRL1-59	QASQDISNYLN	214
CDRL1-60	QASQDISNSLN	215
CDRL1-61	QASQDISNSLN	215
CDRL1-62	QASQDITNYLN	217
CDRL1-63	QASQDISNYLN	214
CDRL1-64	QASQDISDYLN	216
CDRL1-65	QASQDISNSLN	215
CDRL2-1	KVSNWDS	218
CDRL2-2	KVSNWDS	218
CDRL2-3	KVSNWDS	218
CDRL2-4	KVSNWDS	218
CDRL2-5	EVSNRFS	219
CDRL2-6	EVSNRFS	219

FIGURE 6B

NAME	SEQUENCE	SEQ ID NO:
CDRL2-7	EVSNRFS	219
CDRL2-8	EVSNRFS	219
CDRL2-9	EVSNRFS	219
CDRL2-11	VASTLQS	220
CDRL2-12	AASTLQS	221
CDRL2-13	KISNRFS	222
CDRL2-14	KISNRFS	222
CDRL2-15	KISNRFS	222
CDRL2-16	GASSRAT	223
CDRL2-17	GASRRAT	224
CDRL2-18	AASSLQS	225
CDRL2-19	WASTRES	226
CDRL2-20	WASTRES	226
CDRL2-21	WASTRES	226
CDRL2-22	WASTRES	226
CDRL2-23	WASTRES	226
CDRL2-24	WASTRES	226
CDRL2-25	WASTRES	226
CDRL2-26	WASTRES	226
CDRL2-27	WASTRES	226
CDRL2-28	WASTRKS	227
CDRL2-29	WASTRKS	227
CDRL2-30	WASTRES	226
CDRL2-31	WASTRES	226
CDRL2-32	WASARES	228
CDRL2-33	WASARES	228
CDRL2-34	AASSLQS	225
CDRL2-35	AASSLQS	225
CDRL2-36	GASRRAT	224
CDRL2-37	GASRRAT	224
CDRL2-38	AASSLQS	225
CDRL2-39	AASSLQS	225
CDRL2-40	AASSLQS	225
CDRL2-41	AASSLQS	225
CDRL2-42	AASTLQS	221
CDRL2-43	AESSLQS	229

FIGURE 6C

NAME	SEQUENCE	SEQ ID NO:
CDRL2-44	TASSLQS	230
CDRL2-45	TASSLQS	230
CDRL2-46	TASSLQS	230
CDRL2-47	TASSLQS	230
CDRL2-48	TVSSLQS	231
CDRL2-49	TVSSLQS	231
CDRL2-50	TVSSLQS	231
CDRL2-51	TASSLQS	230
CDRL2-52	TASSLQS	230
CDRL2-53	TASSLQS	230
CDRL2-54	DASNLET	232
CDRL2-55	DASNLET	232
CDRL2-56	DASNLET	232
CDRL2-57	DASNLET	232
CDRL2-58	DASNLET	232
CDRL2-59	DASNLET	232
CDRL2-60	DASILET	233
CDRL2-61	DASNLET	232
CDRL2-62	DASNLET	232
CDRL2-63	DASNLET	232
CDRL2-64	DASNLET	232
CDRL2-65	DASNLET	232
CDRL3-1	MQSTHWPIT	234
CDRL3-2	IQGTHWPTT	235
CDRL3-3	MQGTHWPIT	236
CDRL3-4	MQGTHWPIT	236
CDRL3-5	MQGIQLPCS	237
CDRL3-6	MQSIQLPLT	238
CDRL3-7	MQSIQLPLT	238
CDRL3-8	MQSIQLPIT	239
CDRL3-9	MQSIQLPIT	239
CDRL3-11	QNYNSAPFT	240
CDRL3-12	QKYNSVPLT	241
CDRL3-13	MQATQFPHT	242
CDRL3-14	MQATQFPHT	242
CDRL3-15	MQATQFPHT	242

FIGURE 6D

NAME	SEQUENCE	SEQ ID NO:
CDRL3-16	QQYGSSPRT	243
CDRL3-17	QQYGSSPRS	244
CDRL3-18	LQHNSYPPT	245
CDRL3-19	QQYYSFPWT	246
CDRL3-20	QQYYSFPWT	246
CDRL3-21	QQYYSTTWT	247
CDRL3-22	QQYYGTPRT	248
CDRL3-23	QQYYGTPRT	248
CDRL3-24	QQYYSISRT	249
CDRL3-25	QQYYSISRT	249
CDRL3-26	QQYYSTTWT	247
CDRL3-27	QQYYSTTWT	247
CDRL3-28	QQYYSTMFS	250
CDRL3-29	QQYYSTMFS	250
CDRL3-30	HQYYSTPLT	251
CDRL3-31	HQYYSTPLT	251
CDRL3-32	QQYFITPLT	252
CDRL3-33	QQYFITPLT	252
CDRL3-34	QQYNNYPFT	253
CDRL3-35	QQYNTYPFT	254
CDRL3-36	QQHNNWPPWT	255
CDRL3-37	QQHNNWPPWT	255
CDRL3-38	QQANSFPPT	256
CDRL3-39	QQSHSAPFT	257
CDRL3-40	QQSYSTLT	258
CDRL3-41	QQSYSIPLT	259
CDRL3-42	QQIYSTSIT	260
CDRL3-43	QQSYITPIT	261
CDRL3-44	QQSYFTPIT	262
CDRL3-45	QQSYFSPIT	263
CDRL3-46	QQSFYTPIT	264
CDRL3-47	QQSFYTPIT	264
CDRL3-48	QQSYFTPIT	262
CDRL3-49	QQSYFTPIT	262
CDRL3-50	QQSYFTPIT	262
CDRL3-51	QQSFYAPIT	265

FIGURE 6E

NAME	SEQUENCE	SEQ ID NO:
CDRL3-52	QQSFYAPIT	265
CDRL3-53	QQSYFTPIT	262
CDRL3-54	QQYDYLPFT	266
CDRL3-55	QQYDYLPFT	266
CDRL3-56	QQCDDLPLT	267
CDRL3-57	QHYDNLPLT	268
CDRL3-58	QQYDNLPLT	269
CDRL3-59	QQYDNLPLT	269
CDRL3-60	QQCDILPLS	270
CDRL3-61	QQYDNLPLA	271
CDRL3-62	QQYDSLPIT	272
CDRL3-63	QQYDNLPIT	273
CDRL3-64	QHYDNLPIT	274
CDRL3-65	QHYDNLPIT	274

FIGURE 6F

HEAVY CHAIN CDRS

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-1	CDRH1-10.1	GYTFTSYGIS	275
CDRH1-2	CDRH1-10	GYTFTSYGIS	275
CDRH1-3	CDRH1-42	GYTFTGHYMH	276
CDRH1-4	CDRH1-40	GYTFTGYYMH	277
CDRH1-5	CDRH1-30	GYTLTELSMH	278
CDRH1-6	CDRH1-31	GYTLTELSMH	278
CDRH1-7	CDRH1-29	GFSLSNARMGVS	279
CDRH1-8	CDRH1-20	GFSLSNARMGVS	279
CDRH1-9	CDRH1-65	GFSLSTGGVGVG	280
CDRH1-10	CDRH1-56	GFSLSTGGVGVG	280
CDRH1-11	CDRH1-62	GFSLNTGGVGVG	281
CDRH1-12	CDRH1-2	GFSLSTGGVGVG	280
CDRH1-13	CDRH1-59	GFSLSTGGVGVG	280
CDRH1-14	CDRH1-57	GFSLSTGGVGVG	280
CDRH1-15	CDRH1-64	GFSLSTGGVGVG	280
CDRH1-16	CDRH1-41	GFPFSRYSMN	282
CDRH1-17	CDRH1-45	GFTFSSYAMN	283
CDRH1-18	CDRH1-47	GFTFSSYAMS	284
CDRH1-19	CDRH1-51	GFTFSSYAMS	284
CDRH1-20	CDRH1-52	GFTFSSYAMS	284
CDRH1-21	CDRH1-13	GFTFSSYGMH	285
CDRH1-22	CDRH1-14	GFTFSSYGMH	285
CDRH1-23	CDRH1-1	GFTFSSYGMH	285
CDRH1-24	CDRH1-22	GFTFSSYDMH	286
CDRH1-25	CDRH1-23	GFTFSSYDMH	286
CDRH1-26	CDRH1-12	GFTFSSYGMH	285
CDRH1-27	CDRH1-5	GFTFSSYGMH	285
CDRH1-28	CDRH1-15	GFTFSSYGMH	285
CDRH1-29	CDRH1-7	GFTFSSYGMH	285
CDRH1-30	CDRH1-61	GFTFRSHGMH	287
CDRH1-31	CDRH1-39	GFTFSAYSMN	288
CDRH1-32	CDRH1-34	GFTFSSYSMN	289
CDRH1-33	CDRH1-6	GFTFSSYSMN	289
CDRH1-34	CDRH1-35	GFTFSSYSMN	289
CDRH1-35	CDRH1-21	GGSVSSGGYYWS	290
CDRH1-36	CDRH1-8	GGSISRGGYYWS	291
CDRH1-37	CDRH1-9	GGSISRGGYYWS	291
CDRH1-38	CDRH1-18	GGSISSGGYYWS	292

FIGURE 7A

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-39	CDRH1-24	GGSISSGGYYWS	292
CDRH1-40	CDRH1-25	GGSISSGGYYWS	292
CDRH1-41	CDRH1-26	GGSISSGGYYWS	292
CDRH1-42	CDRH1-27	GGSISSGGYYWS	292
CDRH1-43	CDRH1-38	GGSISSGGYYWS	292
CDRH1-44	CDRH1-54	GGSISSGDYYWN	293
CDRH1-45	CDRH1-55	GGSISSGDYYWN	293
CDRH1-46	CDRH1-43	GGSFSGYYWS	294
CDRH1-47	CDRH1-44	GGSFSGYYWS	294
CDRH1-48	CDRH1-49	GGSFSGYYWS	294
CDRH1-49	CDRH1-50	GGSFSGYYWS	294
CDRH1-50	CDRH1-53	GGSFSGYYWS	294
CDRH1-51	CDRH1-33	GGSISSYYWS	295
CDRH1-52	CDRH1-3	GGSVSSGGSYWS	296
CDRH1-53	CDRH1-4	GGSVSSGGSYWS	296
CDRH1-54	CDRH1-16	GYRFTSYWIG	297
CDRH1-55	CDRH1-17	GYSFTSYWIG	298
CDRH1-56	CDRH1-11	GYSFTSYWIG	298
CDRH1-57	CDRH1-37	GDSVSSYSAAWN	299
CDRH1-58	CDRH1-39.1	GFTFSAYSMN	288
CDRH2-1	CDRH2-10.1	WISASNGNTNYAQKLQD	300
CDRH2-2	CDRH2-10	WISASNGNTNYAQKLQD	300
CDRH2-3	CDRH2-42	WINPNSGGTNCAQKFQG	301
CDRH2-4	CDRH2-40	WINPNSGGTNHTQKFQG	302
CDRH2-5	CDRH2-30	SFDPEDGETIYAQKFQG	303
CDRH2-6	CDRH2-31	SFDPEDGETIYAQKFQG	303
CDRH2-7	CDRH2-29	HIFSNDEKSYSTSLKS	304
CDRH2-8	CDRH2-20	LIFSNDEKSYSTSLKS	305
CDRH2-9	CDRH2-65	LIYWNDDKRYSPSLKS	306
CDRH2-10	CDRH2-56	LIYWNDDKRYSPSLKS	306
CDRH2-11	CDRH2-62	LIYWNDDKRYSPSLKS	306
CDRH2-12	CDRH2-2	LIYWNDDKRYSPSLKS	306
CDRH2-13	CDRH2-59	LIYWNVEKRYSPSLRS	307
CDRH2-14	CDRH2-57	LIYWNDDKRYSPSLKS	306
CDRH2-15	CDRH2-64	LIYWNDDKRYSPSLKS	306
CDRH2-16	CDRH2-41	AISSSSSYIYYADSVKG	308
CDRH2-17	CDRH2-45	AISGSGGSTYYADSVKG	309
CDRH2-18	CDRH2-47	AISGSGGSTYYADSVKG	309
CDRH2-19	CDRH2-51	AISGSGGSTYYADSVKG	309
CDRH2-20	CDRH2-52	AISGSGGSTYYADSVKG	309

FIGURE 7B

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-21	CDRH2-13	FISDDGSTKYYADSVKG	310
CDRH2-22	CDRH2-14	FISDDGSTKYYADSVKG	310
CDRH2-23	CDRH2-1	VIWYDGSNKYYADSVKG	311
CDRH2-24	CDRH2-22	VIWYDGSIKYYADSVKG	312
CDRH2-25	CDRH2-23	VIWYDGSIKYYADSVKG	312
CDRH2-26	CDRH2-12	VIWYDGSNKYYADSVKG	311
CDRH2-27	CDRH2-5	VIWSDGSNKYYADSVKG	313
CDRH2-28	CDRH2-15	VIWDDGSNQYYTDSVKG	314
CDRH2-29	CDRH2-7	VIWYDGSNKRYVDSVKG	315
CDRH2-30	CDRH2-61	VIWYDGSNKNYADSVRG	316
CDRH2-31	CDRH2-39	YISSSGRTIYYADSVKG	317
CDRH2-32	CDRH2-34	HISSSSRTIYYADSVKG	318
CDRH2-33	CDRH2-6	HISRSSRTIYYADSVKG	319
CDRH2-34	CDRH2-35	HISRSSRTIYYADSVKG	319
CDRH2-35	CDRH2-21	YIHSSGSTYYNPSLKS	320
CDRH2-36	CDRH2-8	YIYHSGSTYYNPSLKS	321
CDRH2-37	CDRH2-9	YIYHSGSTYYNPSLKS	321
CDRH2-38	CDRH2-18	YIYYSGSTYYNPSLKS	322
CDRH2-39	CDRH2-24	YIHYSGSTYYNPSLKS	323
CDRH2-40	CDRH2-25	YIHYSGSTYYNPSLKS	323
CDRH2-41	CDRH2-26	YIHSSGSTYYNPSLKS	320
CDRH2-42	CDRH2-27	YIHSSGSTYYNPSLKS	320
CDRH2-43	CDRH2-38	YIHYSGSTYYNPSLKS	323
CDRH2-44	CDRH2-54	YIYYSGGTYYNPSLKS	324
CDRH2-45	CDRH2-55	YIYYSGGTYYNPSLKS	324
CDRH2-46	CDRH2-43	EINHSGSTNYNPSLKS	325
CDRH2-47	CDRH2-44	EINHSGSTNYNPSLKS	325
CDRH2-48	CDRH2-49	EINHSGSTNYNPSLKS	325
CDRH2-49	CDRH2-50	EINHSGSTNYNPSLKS	325
CDRH2-50	CDRH2-53	EINHSGSTNYNPSLKS	325
CDRH2-51	CDRH2-33	RIYTSGTTNYNPSLKS	326
CDRH2-52	CDRH2-3	YIYYSGSTNYNPSLKS	327
CDRH2-53	CDRH2-4	YIYYSGSTNYNPSLKS	327
CDRH2-54	CDRH2-16	IIYPDDSDTRYSPSFQG	328
CDRH2-55	CDRH2-17	IIYPDDSDARYSPSFQG	329
CDRH2-56	CDRH2-11	IIYPGDSDIRYSPSFQG	330
CDRH2-57	CDRH2-37	RTYCRSKWYNDYAVSVKS	331
CDRH2-58	CDRH2-39.1	YISSSGRTIYYADSVKG	317
CDRH3-1	CDRH3-10.1	EDNWNYGFFDY	332
CDRH3-2	CDRH3-10	EDNWNYGFFDY	332

FIGURE 7C

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-3	CDRH3-42	SIAVALDY	333
CDRH3-4	CDRH3-40	SIAVALDY	333
CDRH3-5	CDRH3-30	EGDGGYYYYGMDV	334
CDRH3-6	CDRH3-31	EGDGGYYYYGMDV	334
CDRH3-7	CDRH3-29	MYSSGWYGVFDY	335
CDRH3-8	CDRH3-20	VYSSGWSFYGMDV	336
CDRH3-9	CDRH3-65	RRELPFDY	337
CDRH3-10	CDRH3-56	RNWTPFDY	338
CDRH3-11	CDRH3-62	RLELPFDY	339
CDRH3-12	CDRH3-2	RREVPFDY	340
CDRH3-13	CDRH3-59	RHTNPFEY	341
CDRH3-14	CDRH3-57	RGELPFDY	342
CDRH3-15	CDRH3-64	RGELPFDY	342
CDRH3-16	CDRH3-41	DRVGATPDAFDI	343
CDRH3-17	CDRH3-45	EGIAVAGTAEYYYYYAMDV	344
CDRH3-18	CDRH3-47	EGIAARDSYYYYAMDV	345
CDRH3-19	CDRH3-51	EGIAGRDSYYYYGMDV	346
CDRH3-20	CDRH3-52	EGIAGRDSYYYYGMDV	346
CDRH3-21	CDRH3-13	SYYDSSGYYYGFDY	347
CDRH3-22	CDRH3-14	SYYDSSGYYYGFDY	347
CDRH3-23	CDRH3-1	NVIDY	348
CDRH3-24	CDRH3-22	GGATGAEYFQH	349
CDRH3-25	CDRH3-23	GGATGAEYFQH	349
CDRH3-26	CDRH3-12	LWFGETFDY	350
CDRH3-27	CDRH3-5	NLPFDY	351
CDRH3-28	CDRH3-15	SHYGGDYDYYGMDV	352
CDRH3-29	CDRH3-7	DGWQQQAPFDY	353
CDRH3-30	CDRH3-61	WGISAPFDC	354
CDRH3-31	CDRH3-39	WAPFDY	355
CDRH3-32	CDRH3-34	DGYNWNGGGNYYGMDV	356
CDRH3-33	CDRH3-6	DGYNWNNGGYYYGMDV	357
CDRH3-34	CDRH3-35	DGYNWNNGGYYYGMDV	357
CDRH3-35	CDRH3-21	GPYYGMDV	358
CDRH3-36	CDRH3-8	ALRGIVLMVYVLGALDI	359
CDRH3-37	CDRH3-9	ALRGIVLMVYVLGALDI	359
CDRH3-38	CDRH3-18	DETVVRGLIRYCYGMDV	360
CDRH3-39	CDRH3-24	DRGGGDYGRMDV	361
CDRH3-40	CDRH3-25	DRGGGDYGRMDV	361
CDRH3-41	CDRH3-26	SNNYGCFAL	362
CDRH3-42	CDRH3-27	SNNYGCFAL	362

FIGURE 7D

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-43	CDRH3-38	GYNYGLYYYDSSGYPSYYYGMDV	363
CDRH3-44	CDRH3-54	TYYDILTGYPFYFDY	364
CDRH3-45	CDRH3-55	TYYDILTGYPFYFDY	364
CDRH3-46	CDRH3-43	GGYSSSWYWFDP	365
CDRH3-47	CDRH3-44	GGYSSSWFWFDP	366
CDRH3-48	CDRH3-49	GGYSSSWFWFDP	366
CDRH3-49	CDRH3-50	GGYSSSWFWFDP	366
CDRH3-50	CDRH3-53	GGYSSSWFWFDP	366
CDRH3-51	CDRH3-33	DGYSYGHYYYYGMDV	367
CDRH3-52	CDRH3-3	SALRYFDWLFSDVSDI	368
CDRH3-53	CDRH3-4	SALRYFDWLFSDVSDI	368
CDRH3-54	CDRH3-16	QKSYGYSYFDY	369
CDRH3-55	CDRH3-17	QGYGSGWGYFDY	370
CDRH3-56	CDRH3-11	QGLAVAGTSYYYYYGMDV	371
CDRH3-57	CDRH3-37	DRAVAGYYYGMDV	372
CDRH3-58	CDRH3-39.1	WAPFDY	355

FIGURE 7E

LIGHT CHAIN FRS

NAME	SEQUENCE	SEQ ID NO:
FRL1-1	DVVMTQSPLSLPVTLGQPASISC	388
FRL1-2	DVVMTQSPLSLPVTLGQPASISC	388
FRL1-3	DVVMTQSPLSLPVTLGQPASISC	389
FRL1-4	DVVMTQSPLSLPVTLGQPASISC	389
FRL1-5	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-6	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-7	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-8	DIVMTQTPLSLSVTPGQPASISC	391
FRL1-9	DIVMTQTPLSLSVTPGQPASISC	391
FRL1-11	DIQMTQSPSSLSASVGDRVTITC	392
FRL1-12	DIQMTQSPSSLSASVGDRVTIIC	392
FRL1-13	NIVMTQTPLSSPVTLGQPASISC	393
FRL1-14	NIVMTQTPLSSPVTLGQPASISC	393
FRL1-15	EIVMTQTPLSSPVTLGQPASISC	393
FRL1-16	EIVLTQSPGTLSLSPGERATLSC	394
FRL1-17	EIVLTQSPGTLSLSPGERATLSC	395
FRL1-18	DIQMTQSPSSLSASVGDRVTITC	396
FRL1-19	DIVMTQSPDSLAVSLGERATINC	397
FRL1-20	DIVMTQSPDSLAVSLGERATINC	397
FRL1-21	DIVMTQSPDSLAVSLGERATINC	398
FRL1-22	DIVMTQSPDSLAVSLGERATINC	398
FRL1-23	DIVMTQSPDSLAVSLGERATINC	398
FRL1-24	DIVMTQSPDSLTVSLGERATINC	398
FRL1-25	DIVMTQSPDSLTVSLGERATINC	398
FRL1-26	DIVMTQSPDSLAVSLGERATINC	398
FRL1-27	DIVMTQSPDSLAVSLGERATINC	398
FRL1-28	DIVMTQSPDSLAVSLGERATINC	399
FRL1-29	DIVMTQSPDSLAVSLGERATINC	399
FRL1-30	DIVMTQSPDSLAVSLGERATINC	398
FRL1-31	DIVMTQSPDSLAVSLGERATINC	398
FRL1-32	DIVMTQSPDSLAVSLGERATINC	398
FRL1-33	DIVMTQSPDSLAVSLGERATINC	398
FRL1-34	DIQMTQSPSSLSASVGDRVTITC	400
FRL1-35	DIQMTQSPSSLSASVGDRVAITC	401

FIGURE 8A

NAME	SEQUENCE	SEQ ID NO:
FRL1-36	EIVMTQSPATLSVSPGERATLSC	402
FRL1-37	EIVMTQSPATLSVSPGERATLSC	402
FRL1-38	DIQMTQSPSSVSASVGDRVTITC	403
FRL1-39	DIQMTQSPSSLSASVGDRVTITC	404
FRL1-40	DIQMTQSPSSLSASLGDRVTITC	403
FRL1-41	DIQMTQSPSSLSASVGDRVTITC	405
FRL1-42	DIQMTQSPSSRSASVGDRVTITC	403
FRL1-43	DIQMTQSPSSLSASVGDRVTITC	406
FRL1-44	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-45	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-46	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-47	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-48	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-49	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-50	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-51	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-52	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-53	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-54	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-55	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-56	DIQMTQSPSSLSASVGDRVTITC	407
FRL1-57	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-58	DIQMTQSPSSLSASVGDRVAITC	403
FRL1-59	DIQMTQSPSSLSASVGDRVAITC	403
FRL1-60	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-61	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-62	DIQMTQSPSSLSASVGDGVTITC	403
FRL1-63	DIQMTQSPSSLSASVGDRVTITC	408
FRL1-64	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-65	DIQMTQSPSSLSASVGDRVTITC	403
FRL2-1	WFQQRPGQSPRRLIY	408
FRL2-2	WFQQRPGQSPRRLIY	408
FRL2-3	WLQQRPGQSPRRLIY	409
FRL2-4	WLQQRPGQSPRRLIY	409
FRL2-5	WYLQKPGQPPQLLIY	410
FRL2-6	WYLQKPGQPPQLLIY	410

FIGURE 8B

NAME	SEQUENCE	SEQ ID NO:
FRL2-7	WYLQKPGQPPQLLIY	410
FRL2-8	WFLQKPGQPPQPLIY	411
FRL2-9	WFLQKPGQPPQPLIY	411
FRL2-11	WYQQKPGKVPKLLIY	412
FRL2-12	WYQQKPGKVPKLLIY	412
FRL2-13	WLQQRPGQPPRLLIY	413
FRL2-14	WLQQRPGQPPRLLIY	413
FRL2-15	WLQQRPGQPPRLLIY	413
FRL2-16	WYQQKPGQAPRLLIS	414
FRL2-17	WYQQKPGQAPRLLIY	415
FRL2-18	WYQQKPGKAPKRLIY	416
FRL2-19	WYQQKPGQPPKLFIY	417
FRL2-20	WYQQKPGQPPKLFIY	417
FRL2-21	WYQQKPGQPPKLLIY	418
FRL2-22	WYQQKPGQPPKLLIY	418
FRL2-23	WYQQKPGQPPKLLIY	418
FRL2-24	WYQQKPGQPPKLLIY	418
FRL2-25	WYQQKPGQPPKLLIY	418
FRL2-26	WYQQKPGQPPKLLIY	418
FRL2-27	WYQQKPGQPPKLLIY	418
FRL2-28	WYQQKPGQPPKVLIY	419
FRL2-29	WYQQKPGQPPKVLIY	419
FRL2-30	WYQQKPGQPPKLLIY	418
FRL2-31	WYQQKPGQPPKLLIY	418
FRL2-32	WYQQKPGQPPKLLIY	418
FRL2-33	WYQQKPGQPPKLLIY	418
FRL2-34	WFQQKPGKAPKSLIY	420
FRL2-35	WLQQKPGKAPKSLIY	421
FRL2-36	WYQQDPGQAPRLLIY	422
FRL2-37	WYQQDPGQAPRLLIY	422
FRL2-38	WYQQKPGKAPKLLIY	423
FRL2-39	WYQQKPGKAPKFLIY	424
FRL2-40	WYQQKPGKAPKLLIY	423
FRL2-41	WYQQRPGNAPKLLIY	425
FRL2-42	WYQQKPGKAPKLLIY	423
FRL2-43	WYQQKPGKAPKVLIY	426

FIGURE 8C

NAME	SEQUENCE	SEQ ID NO:
FRL2-44	WYQQKPGKAPKLLIY	423
FRL2-45	WYQQKPGKAPKLLIY	423
FRL2-46	WYQQKPGKAPKLLIY	423
FRL2-47	WYQQKPGKAPKLLIY	423
FRL2-48	WYQQKPGKAPKLLIY	423
FRL2-49	WYQQKPGKAPKLLIY	423
FRL2-50	WYQQKPGKAPKLLIY	423
FRL2-51	WYQQKPGKAPKLLIY	423
FRL2-52	WYQQKPGKAPKLLIY	423
FRL2-53	WYQQKPGKAPKLLIY	423
FRL2-54	WYQQKPGKAPKLLIY	423
FRL2-55	WYQQKPGKAPKLLIY	423
FRL2-56	WYQQKPGKAPELLIY	427
FRL2-57	WYQQKPGKAPKLLIY	423
FRL2-58	WYQQKPGKAPKLLIY	423
FRL2-59	WYQQKPGKAPKLLIY	423
FRL2-60	WYQQKPGKAPKLLIY	423
FRL2-61	WYQQKPGKAPKLLIY	423
FRL2-62	WYQQKPGKAPKLLIY	423
FRL2-63	WYQQKLGKAPKLLIH	428
FRL2-64	WYQQKPGKAPKLLIY	423
FRL2-65	WYQQKPGKAPKLLIY	423
FRL3-1	GVPDRFNGSGSGTDFTLKISRVEAEDVGVYYC	429
FRL3-2	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-3	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-4	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-5	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-6	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-7	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-8	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-9	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-11	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	431
FRL3-12	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	431
FRL3-13	GVPDRFSGSGAGTDFTLKISRVEAEDVGVYYC	432
FRL3-14	GVPDRFSGSGAGTDFTLKISRVEAEDVGVYYC	432

FIGURE 8D

NAME	SEQUENCE	SEQ ID NO:
FRL3-15	GVPDRFSGTGAGTDFTLKISRVEAEDVGVYYC	433
FRL3-16	GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC	434
FRL3-17	GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC	434
FRL3-18	GVPSRFSGSGSGTEFTLTISSLQPEDFATYYC	435
FRL3-19	GVPDRFTGSGSGTDFTLTISSLQAEDVAVYYC	436
FRL3-20	GVPDRFTGSGSGTDFTLTISSLQAEDVAVYYC	436
FRL3-21	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	437
FRL3-22	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-23	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-24	GVPDRFGGSGSGTDFTLTISSLQAEDVAVYYC	439
FRL3-25	GVPDRFGGSGSGTDFTLTISSLQAEDVAVYYC	439
FRL3-26	GVPDRFSGSGSGTDFTLTISSLQADDVAVYYC	440
FRL3-27	GVPDRFSGSGSGTDFTLTISSLQADDVAVYYC	440
FRL3-28	GVPDRFSGSGSGTDFTLTISGLQAEDVALYYC	441
FRL3-29	GVPDRFSGSGSGTDFTLTISGLQAEDVALYYC	441
FRL3-30	GVPDRFSGSGSGTDFTLTISSLQAEDVAVFYC	442
FRL3-31	GVPDRFSGSGSGTDFTLTISSLQAEDVAVFYC	442
FRL3-32	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-33	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-34	GVPSKFSGSGSGTDFTLTISSLQPEDFATYYC	443
FRL3-35	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-36	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC	445
FRL3-37	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC	445
FRL3-38	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-39	GVPSRFSGSGSGTDFTLTISSLQPEDFAAYYC	446
FRL3-40	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-41	GVPSRVSGSGSGTDFTLTIRSLQPEDFATYYC	447
FRL3-42	GVPSRFSGSGSGTDFTLTLSSLQPEDFATYYC	448
FRL3-43	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-44	GVPSRFSGSGSGTDFTLTISSLQPENFATYYC	449
FRL3-45	GVPSRFSGSGSGTDFTLTFSSLQPEDFATYYC	450
FRL3-46	GVPSRFSGSGSGTDFTLTLSSLQPEDFASYYC	451
FRL3-47	GVPSRFSGSGSGTDFTLTLSSLQPEDFASYYC	451
FRL3-48	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-49	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-50	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444

FIGURE 8E

NAME	SEQUENCE	SEQ ID NO:
FRL3-51	GVPSRFSGSGSGTDFTLTISSLQPEDFASYYC	452
FRL3-52	GVPSRFSGSGSGTDFTLTISSLQPEDFASYYC	452
FRL3-53	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-54	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-55	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-56	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-57	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-58	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-59	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-60	GVPSRFSGSGSETDFTFTISSLQPEDIATYYC	454
FRL3-61	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-62	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-63	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-64	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-65	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL4-1	FGQGTRLEIK	455
FRL4-2	FGQGTRLEIK	455
FRL4-3	FGQGTRLEIK	455
FRL4-4	FGQGTRLEIK	455
FRL4-5	FGQGTKLEIK	457
FRL4-6	FGGGTKVEIK	458
FRL4-7	FGGGTKVEIK	458
FRL4-8	FGHGTRLEIK	459
FRL4-9	FGHGTRLEIK	459
FRL4-11	FGPGTKVDIK	460
FRL4-12	FGGGTKVEIK	458
FRL4-13	FGPGTKVDIK	460
FRL4-14	FGPGTKVDIK	460
FRL4-15	FGGGTKVEIK	458
FRL4-16	FGQGTKVEIK	461
FRL4-17	FGQGTKLEIK	457
FRL4-18	FGQGTKVEIK	461
FRL4-19	FGQGTKVEIK	461
FRL4-20	FGQGTKVEIK	461
FRL4-21	FGQGTKVEIK	461
FRL4-22	FGQGTKVEIK	461

FIGURE 8F

NAME	SEQUENCE	SEQ ID NO:
FRL4-23	FGQGTKVEIK	461
FRL4-24	FGQGTKVEIK	461
FRL4-25	FGQGTKVEIK	461
FRL4-26	FGPGTKVEIK	462
FRL4-27	FGPGTKVEIK	462
FRL4-28	FGQGTKLEIK	457
FRL4-29	FGQGTKLEIK	457
FRL4-30	FGGGTKVAIK	463
FRL4-31	FGGGTKVAIK	463
FRL4-32	FGGGTKVEIK	458
FRL4-33	FGGGTKVEIK	458
FRL4-34	FGPGTKVDIK	460
FRL4-35	FGPGTKMDIK	464
FRL4-36	FGQGTKVEIK	461
FRL4-37	FGQGTKVEIK	461
FRL4-38	FGQGTKVEFK	465
FRL4-39	FGPGTKVDIK	460
FRL4-40	FGGGTKVEIK	458
FRL4-41	FGGGTKVEIK	458
FRL4-42	FGQGTRLEIK	455
FRL4-43	FGQGTRLEII	456
FRL4-44	FGQGTRLEIK	455
FRL4-45	FGQGTRLEIK	455
FRL4-46	FGQGTRLEIK	455
FRL4-47	FGQGTRLEIK	455
FRL4-48	FGQGTRLEIK	455
FRL4-49	FGQGTRLEIK	455
FRL4-50	FGQGTRLEIK	455
FRL4-51	FGQGTRLEIK	455
FRL4-52	FGQGTRLEIK	455
FRL4-53	FGQGTRLEIK	455
FRL4-54	FGPGTKVDIK	460
FRL4-55	FGPGTKVDIK	460
FRL4-56	FGGGTKVEIK	458
FRL4-57	FGGGTKVEIK	458
FRL4-58	FGGGTKVEIK	458

FIGURE 8G

NAME	SEQUENCE	SEQ ID NO:
FRL4-59	FGGGTKVEIK	458
FRL4-60	FGGGTKVEIK	458
FRL4-61	FGGGTKVEIR	466
FRL4-62	FGQGTRLEIK	455
FRL4-63	FGQGTRLEIK	455
FRL4-64	FGQGTRLEIK	455
FRL4-65	FGQGTRLEIK	455

FIGURE 8H

HEAVY CHAIN FRS

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-1	FRH1-10.1	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-2	FRH1-10	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-3	FRH1-42	QVHLVQSGAEVKKPGASVKVSCKVS	468
FRH1-4	FRH1-40	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-5	FRH1-30	QVQLVQSGAEVRKPGASVKVSCKVS	469
FRH1-6	FRH1-31	QVQLVQSGAEVRKPGASVKVSCKVS	469
FRH1-7	FRH1-29	QVTLKESGPVLVKPTETLTLTCTVS	470
FRH1-8	FRH1-20	QVTLKESGPVLVKPTETLTLTCTVS	470
FRH1-9	FRH1-65	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-10	FRH1-56	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-11	FRH1-62	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-12	FRH1-2	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-13	FRH1-59	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-14	FRH1-57	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-15	FRH1-64	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-16	FRH1-41	EVQLVESGGGLVKPGGSLRLSCAAS	472
FRH1-17	FRH1-45	EVQLLESGGGLVQPGGSLRLSCAAS	473
FRH1-18	FRH1-47	EVQLLESGGGLVQPGGSLRLSCAAS	473
FRH1-19	FRH1-51	EVQLLESGGGLVQPGGSLRLSCTAS	474
FRH1-20	FRH1-52	EVQLLESGGGLVQPGGSLRLSCTAS	474
FRH1-21	FRH1-13	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-22	FRH1-14	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-23	FRH1-1	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-24	FRH1-22	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-25	FRH1-23	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-26	FRH1-12	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-27	FRH1-5	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-28	FRH1-15	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-29	FRH1-7	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-30	FRH1-61	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-31	FRH1-39	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-32	FRH1-34	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-33	FRH1-6	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-34	FRH1-35	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-35	FRH1-21	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-36	FRH1-8	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-37	FRH1-9	QVQLQESGPGLVKPSQTLSLTCTVS	477

FIGURE 9A

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-38	FRH1-18	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-39	FRH1-24	QVQLQESGPGLVKPSQTLSLNCTVS	478
FRH1-40	FRH1-25	QVQLQESGPGLVKPSQTLSLNCTVS	478
FRH1-41	FRH1-26	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-42	FRH1-27	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-43	FRH1-38	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-44	FRH1-54	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-45	FRH1-55	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-46	FRH1-43	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-47	FRH1-44	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-48	FRH1-49	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-49	FRH1-50	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-50	FRH1-53	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-51	FRH1-33	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-52	FRH1-3	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-53	FRH1-4	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-54	FRH1-16	EVQLVQSGAELKKPGESLKISCKGS	481
FRH1-55	FRH1-17	EVQLVQSGAEVKKPGESLKISCKGS	482
FRH1-56	FRH1-11	EVQLVQSGAEVKKPGESLKISCKGS	482
FRH1-57	FRH1-37	QVQLQQSGPGLVKPSQTLSLTCAIS	483
FRH1-58	FRH1-39.1	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH2-1	FRH2-10.1	WVRQAPGQGLEWMG	484
FRH2-2	FRH2-10	WVRQAPGQGLEWMG	484
FRH2-3	FRH2-42	WVRQAPGQGLEWMG	484
FRH2-4	FRH2-40	WVRQAPGQGLEWMG	484
FRH2-5	FRH2-30	WVRQAPGKGLEWMG	485
FRH2-6	FRH2-31	WVRQAPGKGLEWMG	485
FRH2-7	FRH2-29	WIRQPPGKALEWLA	486
FRH2-8	FRH2-20	WIRQPPGKALEWLV	487
FRH2-9	FRH2-65	WIRQPPGKALEWLA	486
FRH2-10	FRH2-56	WIRQPPGKALEWLA	486
FRH2-11	FRH2-62	WIRQPPGKALEWLA	486
FRH2-12	FRH2-2	WIRQPPGKALEWLA	486
FRH2-13	FRH2-59	WIRQPPGKALEWLA	486
FRH2-14	FRH2-57	WIRQPPGKALEWLA	486
FRH2-15	FRH2-64	WIRQPPGKALEWLA	486
FRH2-16	FRH2-41	WVRQAPGKGLEWVS	488
FRH2-17	FRH2-45	WVRQAPGKGLEWVS	488
FRH2-18	FRH2-47	WVRQAPGKGLEWVS	488
FRH2-19	FRH2-51	WVRQAPGKGLEWVS	488

FIGURE 9B

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-20	FRH2-52	WVRQAPGKGLEWVS	488
FRH2-21	FRH2-13	WVRQAPGKGLEWVA	489
FRH2-22	FRH2-14	WVRQAPGKGLEWVA	489
FRH2-23	FRH2-1	WVRQAPGKGLEWVA	489
FRH2-24	FRH2-22	WVRQAPGKGLEWVA	489
FRH2-25	FRH2-23	WVRQAPGKGLEWVA	489
FRH2-26	FRH2-12	WVRQAPGKGLEWVA	489
FRH2-27	FRH2-5	WVRQAPGKGLEWVA	489
FRH2-28	FRH2-15	WVRQAPGKGLEWVA	489
FRH2-29	FRH2-7	WVRQAPGKGLEWVA	489
FRH2-30	FRH2-61	WVRQAPGKGLEWVA	489
FRH2-31	FRH2-39	WVRQAPGKGLEWVS	488
FRH2-32	FRH2-34	WVRQAPGKGLEWVS	488
FRH2-33	FRH2-6	WVRQAPGKGLEWVS	488
FRH2-34	FRH2-35	WVRQAPGKGLEWVS	488
FRH2-35	FRH2-21	WIRQHPGKGLEWIG	490
FRH2-36	FRH2-8	WIRQHPGKGLEWIG	490
FRH2-37	FRH2-9	WIRQHPGKGLEWIG	490
FRH2-38	FRH2-18	WIRQHPGKGLEWIG	490
FRH2-39	FRH2-24	WIRQHPGKGLEWIG	490
FRH2-40	FRH2-25	WIRQHPGKGLEWIG	490
FRH2-41	FRH2-26	WIRQHPGKGLEWIG	490
FRH2-42	FRH2-27	WIRQHPGKGLEWIG	490
FRH2-43	FRH2-38	WIRQHPGKGLEWIG	490
FRH2-44	FRH2-54	WVRQHPGKGLEWIG	491
FRH2-45	FRH2-55	WVRQHPGKGLEWIG	491
FRH2-46	FRH2-43	WIRQPPGKGLEWIG	492
FRH2-47	FRH2-44	WIRQPPGKGLEWIG	492
FRH2-48	FRH2-49	WIRQPPGKGLEWIG	492
FRH2-49	FRH2-50	WIRQPPGKGLEWIG	492
FRH2-50	FRH2-53	WIRQPPGKGLEWIG	492
FRH2-51	FRH2-33	WIRQPAGKGLEWIG	493
FRH2-52	FRH2-3	WIRQPPGKGLEWIG	492
FRH2-53	FRH2-4	WIRQPPGKGLEWIG	492
FRH2-54	FRH2-16	WVRQMPGKGLEWMG	494
FRH2-55	FRH2-17	WVRQMPGKGLEWMG	494
FRH2-56	FRH2-11	WVRQMPGKGLEWMG	494
FRH2-57	FRH2-37	WIRQSPSRGLEWLG	495
FRH2-58	FRH2-39.1	WVRQAPGKGLEWVS	488
FRH3-1	FRH3-10.1	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	496

FIGURE 9C

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-2	FRH3-10	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	496
FRH3-3	FRH3-42	RVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	497
FRH3-4	FRH3-40	RVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	497
FRH3-5	FRH3-30	RVTMLEDTSTDTAYMELSSLRSEDTAVYYCAT	498
FRH3-6	FRH3-31	RVTMLEDTSTDTAYMELSSLRSEDTAVYYCAT	498
FRH3-7	FRH3-29	RLTISKDTSKSQVVLTMTNMDPVDTATYYCAR	499
FRH3-8	FRH3-20	RLTISKDTSKSQVVLTMTNMDPVDTATYYCAR	499
FRH3-9	FRH3-65	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-10	FRH3-56	RLTITKDTSKTQVVLTVTDMDPVDTATYYCAH	501
FRH3-11	FRH3-62	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-12	FRH3-2	RLTITKDTSKNQVVLTMTNLDPVDTATYYCAH	502
FRH3-13	FRH3-59	RLTITKATSKNQVVLTMTNMDPVDTATYYCAH	503
FRH3-14	FRH3-57	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-15	FRH3-64	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-16	FRH3-41	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR	504
FRH3-17	FRH3-45	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	505
FRH3-18	FRH3-47	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	505
FRH3-19	FRH3-51	RFTISRDNSKNTLYLQMNSLRAEDTAEYYCAK	506
FRH3-20	FRH3-52	RFTISRDNSKNTLYLQMNSLRAEDTAEYYCAK	506
FRH3-21	FRH3-13	RFTISRDNSMNTLYLQMNSLRAEDTAVYYCAR	507
FRH3-22	FRH3-14	RFTISRDNSMNTLYLQMNSLRAEDTAVYYCAR	507
FRH3-23	FRH3-1	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-24	FRH3-22	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-25	FRH3-23	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-26	FRH3-12	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCVL	509
FRH3-27	FRH3-5	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-28	FRH3-15	RFTVSRDNSKNTLFLQMNSLRAEDTAVYYCAR	510
FRH3-29	FRH3-7	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-30	FRH3-61	RFTISRDNSKNTLDLQMNSLRAEDTAVYYCAR	510
FRH3-31	FRH3-39	RFTISRDNAKNSLFLQMNSLRDEDTAVYYCAL	511
FRH3-32	FRH3-34	RFTISRDNAKNSVYLQMNSLRDEDTAVYYCAR	512
FRH3-33	FRH3-6	RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR	513
FRH3-34	FRH3-35	RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR	513
FRH3-35	FRH3-21	RVTISVDTSKNQFSLNLSSVTAADTAVYYCAR	514
FRH3-36	FRH3-8	RVNMSVDTSKNQFSLKLSSVTAADTAVYYCAR	515
FRH3-37	FRH3-9	RVNMSVDTSKNQFSLKLSSVTAADTAVYYCAR	515
FRH3-38	FRH3-18	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-39	FRH3-24	RITISADTSKNQFSLKLNSVTAADTAVYYCAR	517
FRH3-40	FRH3-25	RITISADTSKNQFSLKLNSVTAADTAVYYCAR	517
FRH3-41	FRH3-26	RITKSVDTSKNQFSLKLSSVTAADTAVYYCAR	518

FIGURE 9D

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-42	FRH3-27	RITKSVDTSKNQFSLKLSSVTAADTAVYYCAR	518
FRH3-43	FRH3-38	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAS	519
FRH3-44	FRH3-54	RVTISVDTSKNQFSLKLFSVTAADTAVYFCAR	520
FRH3-45	FRH3-55	RVTISVDTSKNQFSLKLFSVTAADTAVYFCAR	520
FRH3-46	FRH3-43	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-47	FRH3-44	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-48	FRH3-49	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-49	FRH3-50	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-50	FRH3-53	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-51	FRH3-33	RVTMSVDTSKNQFSLKLSSVTAADTAVYYCAR	521
FRH3-52	FRH3-3	RVTISIVTSRNQFSLKLSSVTAADTAVYYCAR	522
FRH3-53	FRH3-4	RVTISIVTSRNQFSLKLSSVTAADTAVYYCAR	522
FRH3-54	FRH3-16	QVTISADKSISTAYLQWSSLKASDTAMYYCAR	523
FRH3-55	FRH3-17	QVTISADKSINTAYLQWSSLKASDTAMYYCAR	524
FRH3-56	FRH3-11	QVTISADKSISTAYLQWSSLKASDTAMYYCAR	523
FRH3-57	FRH3-37	RITINPDTSKNQFSLQLNSVTPEDTAVYYCAR	525
FRH3-58	FRH3-39.1	RFTISRDNAKNSLFLQMNSLRDEDTAVYYCAL	511
FRH4-1	FRH4-10.1	WGQGTLVTVSS	526
FRH4-2	FRH4-10	WGQGTLVTVSS	526
FRH4-3	FRH4-42	WGQGTLVTVSS	526
FRH4-4	FRH4-40	WGQGTLVTVSS	526
FRH4-5	FRH4-30	WGQGTTVTVSS	527
FRH4-6	FRH4-31	WGQGTTVTVSS	527
FRH4-7	FRH4-29	WGQGTLVTVSS	526
FRH4-8	FRH4-20	WGQGTTVTVSS	527
FRH4-9	FRH4-65	WGQGTLVTVSS	526
FRH4-10	FRH4-56	WGQGTLVTVSS	526
FRH4-11	FRH4-62	WGQGTLVTVSS	526
FRH4-12	FRH4-2	WGQGTLVTVSS	526
FRH4-13	FRH4-59	WGQGTLVTVSS	526
FRH4-14	FRH4-57	WGQGTLVTVSS	526
FRH4-15	FRH4-64	WGQGTLVTVSS	526
FRH4-16	FRH4-41	WGQGTMVTVSS	528
FRH4-17	FRH4-45	WGQGTTVTVSS	527
FRH4-18	FRH4-47	WGQGTTVTVSS	527
FRH4-19	FRH4-51	WGQGTTVTVSS	527
FRH4-20	FRH4-52	WGQGTTVTVSS	527
FRH4-21	FRH4-13	WGQGTLVTVSS	526
FRH4-22	FRH4-14	WGQGTLVTVSS	526
FRH4-23	FRH4-1	WGQGTLVTVSS	526

FIGURE 9E

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH4-24	FRH4-22	WGQGTLVTVSS	526
FRH4-25	FRH4-23	WGQGTLVTVSS	526
FRH4-26	FRH4-12	WGQGSLVTVSP	529
FRH4-27	FRH4-5	WGQGTLVTVSS	526
FRH4-28	FRH4-15	WGQGTTVTVSS	527
FRH4-29	FRH4-7	WGQGTLVTVSS	526
FRH4-30	FRH4-61	WGQGTLVTVSS	526
FRH4-31	FRH4-39	WGQGTLVTVSS	526
FRH4-32	FRH4-34	WGQGTTVTVSS	527
FRH4-33	FRH4-6	WGQGTTVTVSS	527
FRH4-34	FRH4-35	WGQGTTVTVSS	527
FRH4-35	FRH4-21	WGQGTTVTVSS	527
FRH4-36	FRH4-8	WGQGTKVTVSS	530
FRH4-37	FRH4-9	WGQGTKVTVSS	530
FRH4-38	FRH4-18	WGQGTTVTVSS	527
FRH4-39	FRH4-24	WGQGTTVTVSS	527
FRH4-40	FRH4-25	WGQGTTVTVSS	527
FRH4-41	FRH4-26	WGRGTLVTVSS	531
FRH4-42	FRH4-27	WGRGTLVTVSS	531
FRH4-43	FRH4-38	WGQGTTVTVSS	527
FRH4-44	FRH4-54	WGQGTLVTVSS	526
FRH4-45	FRH4-55	WGQGTLVTVSS	526
FRH4-46	FRH4-43	WGQGTLVTVSS	526
FRH4-47	FRH4-44	WGQGTLVTVSS	526
FRH4-48	FRH4-49	WGQGTLVTVSS	526
FRH4-49	FRH4-50	WGQGTLVTVSS	526
FRH4-50	FRH4-53	WGQGTLVTVSS	526
FRH4-51	FRH4-33	WGQGTTVTVSS	527
FRH4-52	FRH4-3	WGQGTMVTVSS	528
FRH4-53	FRH4-4	WGQGTMVTVSS	528
FRH4-54	FRH4-16	WGQGTLVTVSS	526
FRH4-55	FRH4-17	WGQGTLVTVSS	526
FRH4-56	FRH4-11	WGQGTTVTVSS	527
FRH4-57	FRH4-37	WGQGTTVTVSS	527
FRH4-58	FRH4-39.1	WGQGTLVTVSS	526

FIGURE 9F

FIGURE 10A: Light Chain Variable Regions

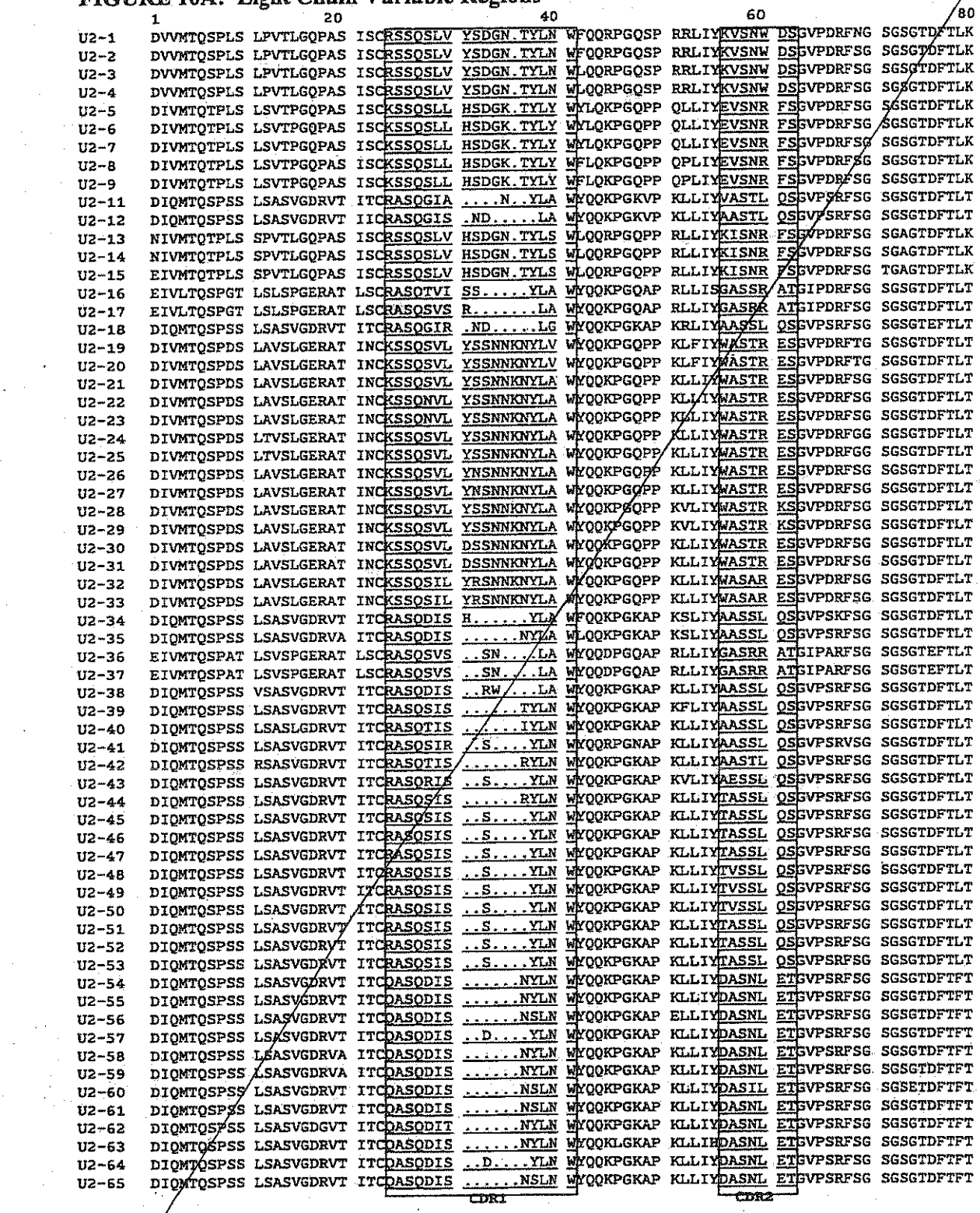


FIGURE 10B

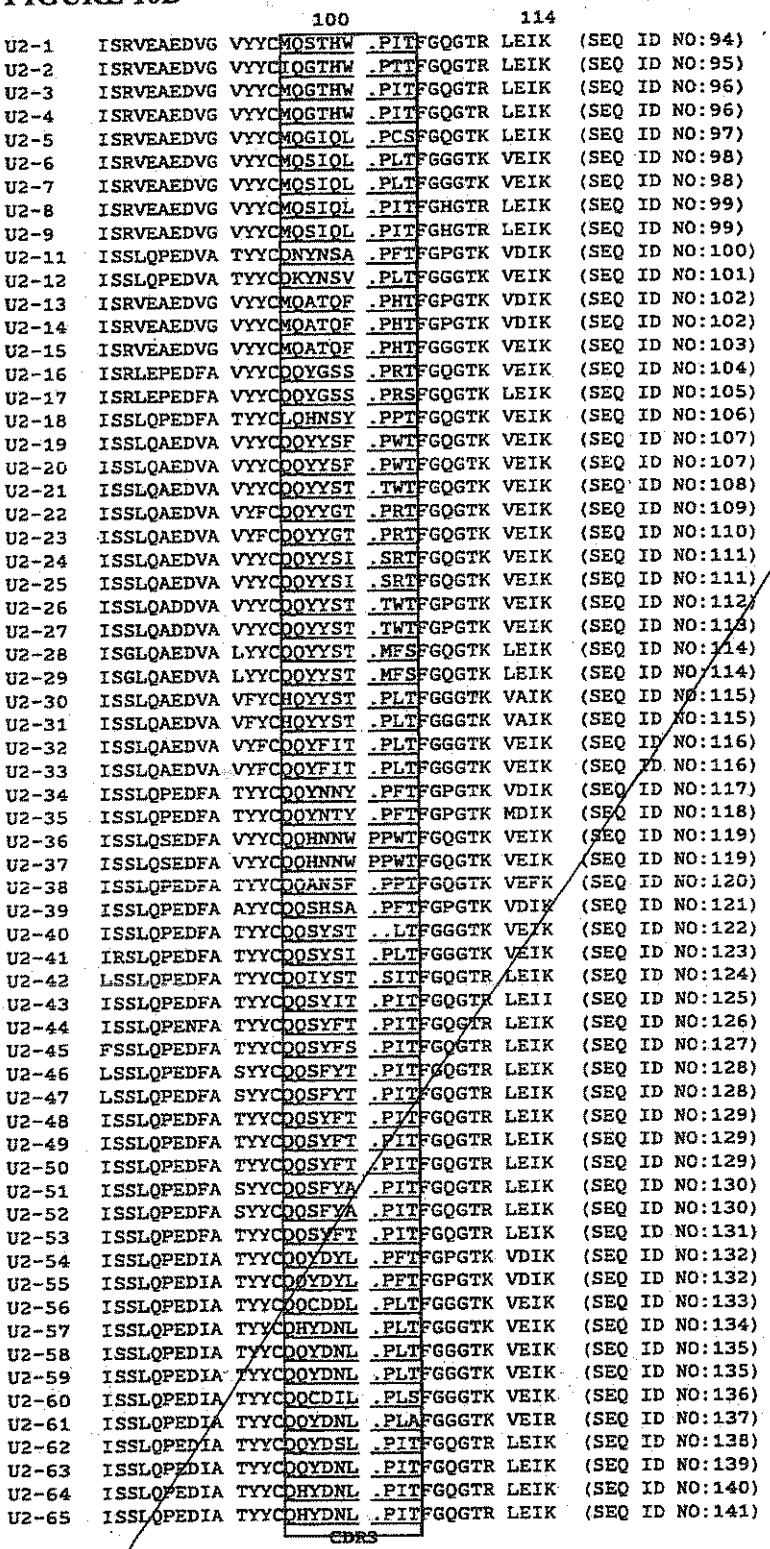

100
114
U2-1 ISRVEAEDVG VYYCMQSTHW .PITFGQGTR LEIK (SEQ ID NO:94)
U2-2 ISRVEAEDVG VYYCIQGTHW .PTTFGQGTR LEIK (SEQ ID NO:95)
U2-3 ISRVEAEDVG VYYCMQGTHW .PITFGQGTR LEIK (SEQ ID NO:96)
U2-4 ISRVEAEDVG VYYCMQGTHW .PITFGQGTR LEIK (SEQ ID NO:96)
U2-5 ISRVEAEDVG VYYCMQGIQL .PCSFGQGTK LEIK (SEQ ID NO:97)
U2-6 ISRVEAEDVG VYYCMQSIQL .PLTFGGGTK VEIK (SEQ ID NO:98)
U2-7 ISRVEAEDVG VYYCMQSIQL .PLTFGGGTK VEIK (SEQ ID NO:98)
U2-8 ISRVEAEDVG VYYCMQSIQL .PITFGHGTR LEIK (SEQ ID NO:99)
U2-9 ISRVEAEDVG VYYCMQSIQL .PITFGHGTR LEIK (SEQ ID NO:99)
U2-11 ISSLQPEDVA TYYCQNYNSA .PFTFGPGTK VDIK (SEQ ID NO:100)
U2-12 ISSLQPEDVA TYYCQKYNSV .PLTFGGGTK VEIK (SEQ ID NO:101)
U2-13 ISRVEAEDVG VYYCMQATQF .PHTFGPGTK VDIK (SEQ ID NO:102)
U2-14 ISRVEAEDVG VYYCMQATQF .PHTFGPGTK VDIK (SEQ ID NO:102)
U2-15 ISRVEAEDVG VYYCMQATQF .PHTFGGGTK VEIK (SEQ ID NO:103)
U2-16 ISRLEPEDFA VYYCQQYGSS .PRTFGQGTK VEIK (SEQ ID NO:104)
U2-17 ISRLEPEDFA VYYCQQYGSS .PRSFGQGTK LEIK (SEQ ID NO:105)
U2-18 ISSLQPEDFA TYYCLQHNSY .PPTFGQGTK VEIK (SEQ ID NO:106)
U2-19 ISSLQAEDVA VYYCQQYYSF .PWTFGQGTK VEIK (SEQ ID NO:107)
U2-20 ISSLQAEDVA VYYCQQYYSF .PWTFGQGTK VEIK (SEQ ID NO:107)
U2-21 ISSLQAEDVA VYYCQQYYST .TWTFGQGTK VEIK (SEQ ID NO:108)
U2-22 ISSLQAEDVA VYFCQQYYGT .PRTFGQGTK VEIK (SEQ ID NO:109)
U2-23 ISSLQAEDVA VYFCQQYYGT .PRTFGQGTK VEIK (SEQ ID NO:110)
U2-24 ISSLQAEDVA VYYCQQYYSI .SRTFGQGTK VEIK (SEQ ID NO:111)
U2-25 ISSLQAEDVA VYYCQQYYSI .SRTFGQGTK VEIK (SEQ ID NO:111)
U2-26 ISSLQADDVA VYYCQQYYST .TWTFGPGTK VEIK (SEQ ID NO:112)
U2-27 ISSLQADDVA VYYCQQYYST .TWTFGPGTK VEIK (SEQ ID NO:113)
U2-28 ISGLQAEDVA LYYCQQYYST .MFSFGQGTK LEIK (SEQ ID NO:114)
U2-29 ISGLQAEDVA LYYCQQYYST .MFSFGQGTK LEIK (SEQ ID NO:114)
U2-30 ISSLQAEDVA VFYCHQYYST .PLTFGGGTK VAIK (SEQ ID NO:115)
U2-31 ISSLQAEDVA VFYCHQYYST .PLTFGGGTK VAIK (SEQ ID NO:115)
U2-32 ISSLQAEDVA VYFCQQYFIT .PLTFGGGTK VEIK (SEQ ID NO:116)
U2-33 ISSLQAEDVA VYFCQQYFIT .PLTFGGGTK VEIK (SEQ ID NO:116)
U2-34 ISSLQPEDFA TYYCQQYNNY .PFTFGPGTK VDIK (SEQ ID NO:117)
U2-35 ISSLQPEDFA TYYCQQYNTY .PFTFGPGTK MDIK (SEQ ID NO:118)
U2-36 ISSLQSEDFA VYYCQQHNNW PPWTFGQGTK VEIK (SEQ ID NO:119)
U2-37 ISSLQSEDFA VYYCQQHNNW PPWTFGQGTK VEIK (SEQ ID NO:119)
U2-38 ISSLQPEDFA TYYCQQANSF .PPTFGQGTK VEFK (SEQ ID NO:120)
U2-39 ISSLQPEDFA AYYCQQSHSA .PFTFGPGTK VDIK (SEQ ID NO:121)
U2-40 ISSLQPEDFA TYYCQQSYST ..LTFGGGTK VEIK (SEQ ID NO:122)
U2-41 IRSLQPEDFA TYYCQQSYSI .PLTFGGGTK VEIK (SEQ ID NO:123)
U2-42 LSSLQPEDFA TYYCQQIYST .SITFGQGTR LEIK (SEQ ID NO:124)
U2-43 ISSLQPEDFA TYYCQQSYIT .PITFGQGTR LEII (SEQ ID NO:125)
U2-44 ISSLQPENFA TYYCQQSYFT .PITFGQGTR LEIK (SEQ ID NO:126)
U2-45 FSSLQPEDFA TYYCQQSYFS .PITFGQGTR LEIK (SEQ ID NO:127)
U2-46 LSSLQPEDFA SYYCQQSFYT .PITFGQGTR LEIK (SEQ ID NO:128)
U2-47 LSSLQPEDFA SYYCQQSFYT .PITFGQGTR LEIK (SEQ ID NO:128)
U2-48 ISSLQPEDFA TYYCQQSYFT .PITFGQGTR LEIK (SEQ ID NO:129)
U2-49 ISSLQPEDFA TYYCQQSYFT .PITFGQGTR LEIK (SEQ ID NO:129)
U2-50 ISSLQPEDFA TYYCQQSYFT .PITFGQGTR LEIK (SEQ ID NO:129)
U2-51 ISSLQPEDFA SYYCQQSFYA .PITFGQGTR LEIK (SEQ ID NO:130)
U2-52 ISSLQPEDFA SYYCQQSFYA .PITFGQGTR LEIK (SEQ ID NO:130)
U2-53 ISSLQPEDFA TYYCQQSYFT .PITFGQGTR LEIK (SEQ ID NO:131)
U2-54 ISSLQPEDIA TYYCQQYDYL .PFTFGPGTK VDIK (SEQ ID NO:132)
U2-55 ISSLQPEDIA TYYCQQYDYL .PFTFGPGTK VDIK (SEQ ID NO:132)
U2-56 ISSLQPEDIA TYYCQQCDDL .PLTFGGGTK VEIK (SEQ ID NO:133)
U2-57 ISSLQPEDIA TYYCQHYDNL .PLTFGGGTK VEIK (SEQ ID NO:134)
U2-58 ISSLQPEDIA TYYCQQYDNL .PLTFGGGTK VEIK (SEQ ID NO:135)
U2-59 ISSLQPEDIA TYYCQQYDNL .PLTFGGGTK VEIK (SEQ ID NO:135)
U2-60 ISSLQPEDIA TYYCQQCDIL .PLSFGGGTK VEIK (SEQ ID NO:136)
U2-61 ISSLQPEDIA TYYCQQYDNL .PLAFGGGTK VEIR (SEQ ID NO:137)
U2-62 ISSLQPEDIA TYYCQQYDSL .PITFGQGTR LEIK (SEQ ID NO:138)
U2-63 ISSLQPEDIA TYYCQQYDNL .PITFGQGTR LEIK (SEQ ID NO:139)
U2-64 ISSLQPEDIA TYYCQHYDNL .PITFGQGTR LEIK (SEQ ID NO:140)
U2-65 ISSLQPEDIA TYYCQHYDNL .PITFGQGTR LEIK (SEQ ID NO:141)
CDR3

FIGURE 11A: Heavy Chain Variable Regions

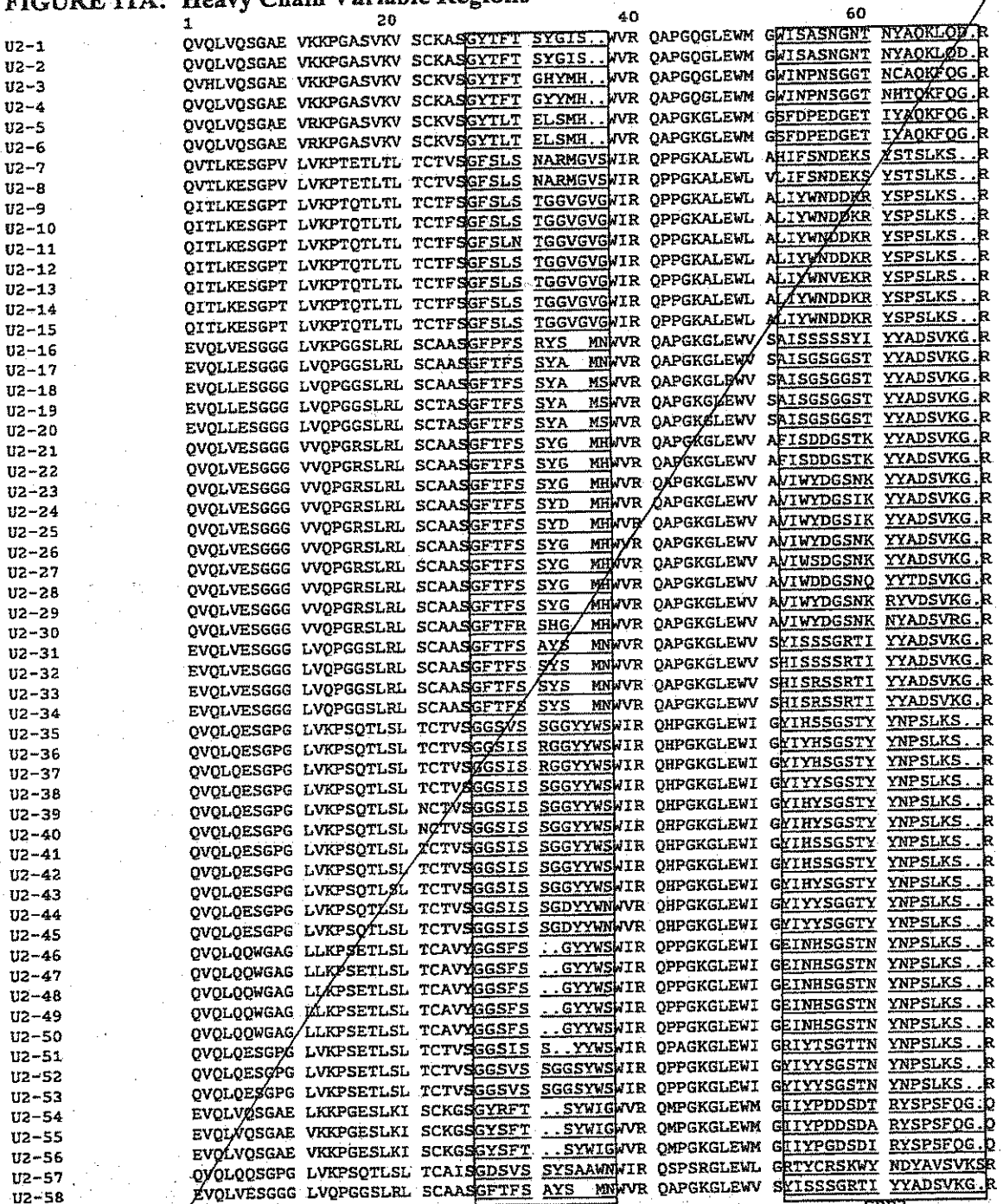
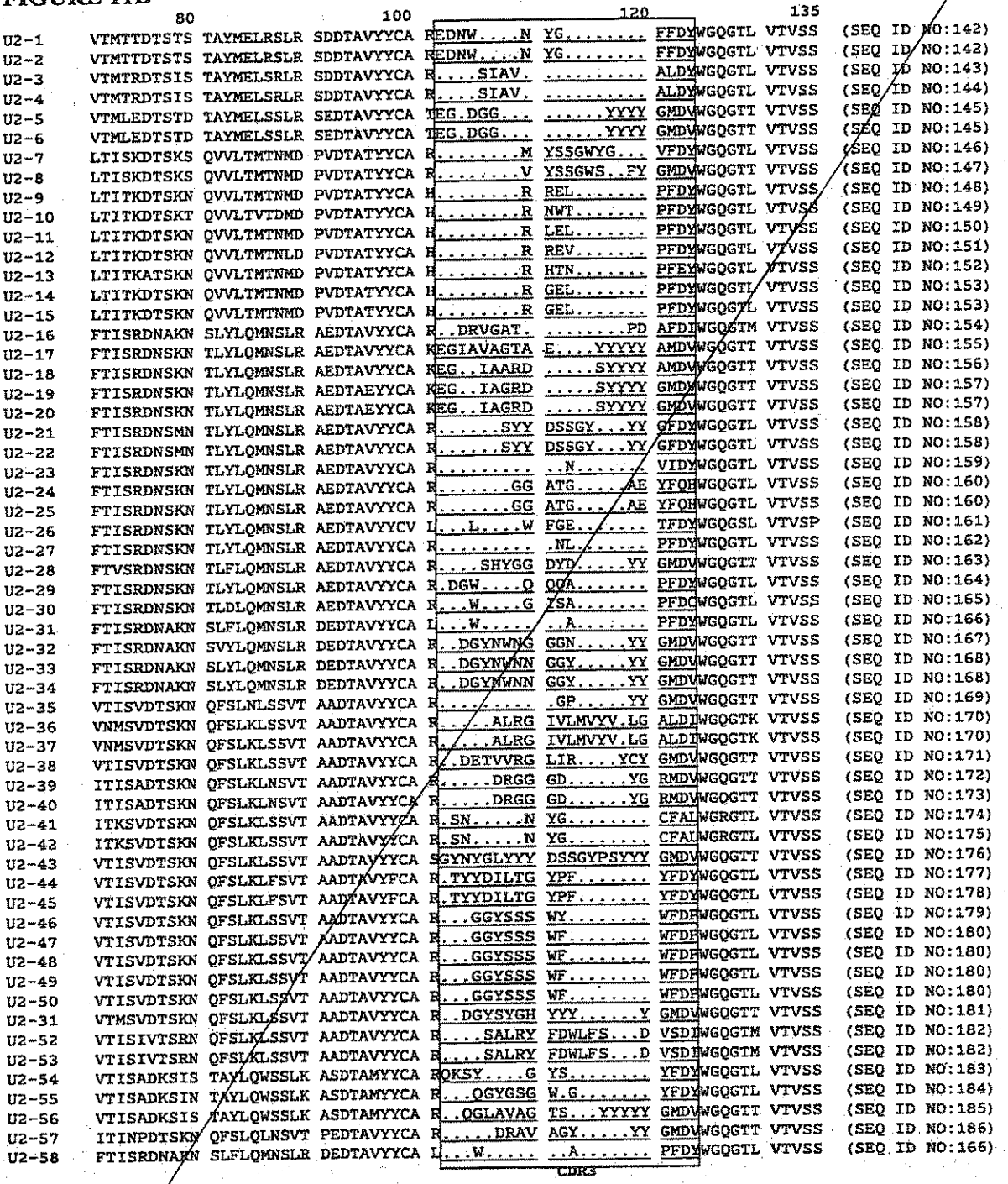


FIGURE 11B



U2-1	VTMTTDTSTS	TAYMELRSLR	SDDTAVYYCA	REDNW....N	YG.....	FFDYWGQGTL	VTVSS	(SEQ ID NO:142)
U2-2	VTMTTDTSTS	TAYMELRSLR	SDDTAVYYCA	REDNW....N	YG.....	FFDYWGQGTL	VTVSS	(SEQ ID NO:142)
U2-3	VTMTRDTSIS	TAYMELSRLR	SDDTAVYYCA	R....SIAV.	.....	ALDYWGQGTL	VTVSS	(SEQ ID NO:143)
U2-4	VTMTRDTSIS	TAYMELSRLR	SDDTAVYYCA	R....SIAV.	.....	ALDYWGQGTL	VTVSS	(SEQ ID NO:144)
U2-5	VTMLEDTSTD	TAYMELSSLR	SEDTAVYYCA	TEG.DGG...	.....YYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:145)
U2-6	VTMLEDTSTD	TAYMELSSLR	SEDTAVYYCA	TEG.DGG...	.....YYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:145)
U2-7	LTISKDTSKS	QVVLTMTNMD	PVDTATYYCA	R.....M	YSSGWYG...	VFDYWGQGTL	VTVSS	(SEQ ID NO:146)
U2-8	LTISKDTSKS	QVVLTMTNMD	PVDTATYYCA	R.....V	YSSGWS..FY	GMDVWGQGTT	VTVSS	(SEQ ID NO:147)
U2-9	LTITKDTSKN	QVVLTMTNMD	PVDTATYYCA	H.....R	REL.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:148)
U2-10	LTITKDTSKT	QVVLTVTDMD	PVDTATYYCA	H.....R	NWT.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:149)
U2-11	LTITKDTSKN	QVVLTMTNMD	PVDTATYYCA	H.....R	LEL.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:150)
U2-12	LTITKDTSKN	QVVLTMTNLD	PVDTATYYCA	H.....R	REV.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:151)
U2-13	LTITKATSKN	QVVLTMTNMD	PVDTATYYCA	H.....R	HTN.....	PFEYWGQGTL	VTVSS	(SEQ ID NO:152)
U2-14	LTITKDTSKN	QVVLTMTNMD	PVDTATYYCA	H.....R	GEL.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:153)
U2-15	LTITKDTSKN	QVVLTMTNMD	PVDTATYYCA	H.....R	GEL.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:153)
U2-16	FTISRDNAKN	SLYLQMNSLR	AEDTAVYYCA	R..DRVGAT.	.....PD	AFDIWGQGTM	VTVSS	(SEQ ID NO:154)
U2-17	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	KEGIAVAGTA	E....YYYYY	AMDVWGQGTT	VTVSS	(SEQ ID NO:155)
U2-18	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	KEG..IAARD	.....SYYYY	AMDVWGQGTT	VTVSS	(SEQ ID NO:156)
U2-19	FTISRDNSKN	TLYLQMNSLR	AEDTAEYYCA	KEG..IAGRD	.....SYYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:157)
U2-20	FTISRDNSKN	TLYLQMNSLR	AEDTAEYYCA	KEG..IAGRD	.....SYYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:157)
U2-21	FTISRDNSMN	TLYLQMNSLR	AEDTAVYYCA	R.....SYY	DSSGY...YY	GFDYWGQGTL	VTVSS	(SEQ ID NO:158)
U2-22	FTISRDNSMN	TLYLQMNSLR	AEDTAVYYCA	R.....SYY	DSSGY...YY	GFDYWGQGTL	VTVSS	(SEQ ID NO:158)
U2-23	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	R.....	..N.....	VIDYWGQGTL	VTVSS	(SEQ ID NO:159)
U2-24	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	R.....GG	ATG....AE	YFQHWGQGTL	VTVSS	(SEQ ID NO:160)
U2-25	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	R.....GG	ATG....AE	YFQHWGQGTL	VTVSS	(SEQ ID NO:160)
U2-26	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCV	L...L....W	FGE.....	TFDYWGQGSL	VTVSP	(SEQ ID NO:161)
U2-27	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	R.....	.NL.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:162)
U2-28	FTVSRDNSKN	TLFLQMNSLR	AEDTAVYYCA	R....SHYGG	DYD.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:163)
U2-29	FTISRDNSKN	TLYLQMNSLR	AEDTAVYYCA	R.DGW....Q	QQA.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:164)
U2-30	FTISRDNSKN	TLDLQMNSLR	AEDTAVYYCA	R...W....G	YSA.....	PFDCWGQGTL	VTVSS	(SEQ ID NO:165)
U2-31	FTISRDNAKN	SLFLQMNSLR	DEDTAVYYCA	L...W.....	..A.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:166)
U2-32	FTISRDNAKN	SVYLQMNSLR	DEDTAVYYCA	R..DGYNWNG	GGN.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:167)
U2-33	FTISRDNAKN	SLYLQMNSLR	DEDTAVYYCA	R..DGYNWNN	GGY.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:168)
U2-34	FTISRDNAKN	SLYLQMNSLR	DEDTAVYYCA	R..DGYNWNN	GGY.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:168)
U2-35	VTISVDTSKN	QFSLNLSSVT	AADTAVYYCA	R.....	.GP.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:169)
U2-36	VNMSVDTSKN	QFSLKLSSVT	AADTAVYYCA	R.....ALRG	IVLMVYV.LG	ALDIWGQGTK	VTVSS	(SEQ ID NO:170)
U2-37	VNMSVDTSKN	QFSLKLSSVT	AADTAVYYCA	R.....ALRG	IVLMVYV.LG	ALDIWGQGTK	VTVSS	(SEQ ID NO:170)
U2-38	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R..DETVVRG	LIR....YCY	GMDVWGQGTT	VTVSS	(SEQ ID NO:171)
U2-39	ITISADTSKN	QFSLKLNSVT	AADTAVYYCA	R.....DRGG	GD.....YG	RMDVWGQGTT	VTVSS	(SEQ ID NO:172)
U2-40	ITISADTSKN	QFSLKLNSVT	AADTAVYYCA	R.....DRGG	GD.....YG	RMDVWGQGTT	VTVSS	(SEQ ID NO:173)
U2-41	ITKSVDTSKN	QFSLKLSSVT	AADTAVYYCA	R.SN.....N	YG.....	CFALWGRGTL	VTVSS	(SEQ ID NO:174)
U2-42	ITKSVDTSKN	QFSLKLSSVT	AADTAVYYCA	R.SN.....N	YG.....	CFALWGRGTL	VTVSS	(SEQ ID NO:175)
U2-43	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	SGYNYGLYYY	DSSGYPSYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:176)
U2-44	VTISVDTSKN	QFSLKLFSVT	AADTAVYFCA	R.TYYDILTG	YPF.....	YFDYWGQGTL	VTVSS	(SEQ ID NO:177)
U2-45	VTISVDTSKN	QFSLKLFSVT	AADTAVYFCA	R.TYYDILTG	YPF.....	YFDYWGQGTL	VTVSS	(SEQ ID NO:178)
U2-46	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R...GGYSSS	WY.....	WFDPWGQGTL	VTVSS	(SEQ ID NO:179)
U2-47	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R...GGYSSS	WF.....	WFDPWGQGTL	VTVSS	(SEQ ID NO:180)
U2-48	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R...GGYSSS	WF.....	WFDPWGQGTL	VTVSS	(SEQ ID NO:180)
U2-49	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R...GGYSSS	WF.....	WFDPWGQGTL	VTVSS	(SEQ ID NO:180)
U2-50	VTISVDTSKN	QFSLKLSSVT	AADTAVYYCA	R...GGYSSS	WF.....	WFDPWGQGTL	VTVSS	(SEQ ID NO:180)
U2-31	VTMSVDTSKN	QFSLKLSSVT	AADTAVYYCA	R..DGYSYGH	YYY.....Y	GMDVWGQGTT	VTVSS	(SEQ ID NO:181)
U2-52	VTISIVTSRN	QFSLKLSSVT	AADTAVYYCA	R....SALRY	FDWLFS...D	VSDIWGQGTM	VTVSS	(SEQ ID NO:182)
U2-53	VTISIVTSRN	QFSLKLSSVT	AADTAVYYCA	R....SALRY	FDWLFS...D	VSDIWGQGTM	VTVSS	(SEQ ID NO:182)
U2-54	VTISADKSIS	TAYLQWSSLK	ASDTAMYYCA	RQKSY....G	YS.....	YFDYWGQGTL	VTVSS	(SEQ ID NO:183)
U2-55	VTISADKSIN	TAYLQWSSLK	ASDTAMYYCA	R...QGYGSG	W.G.....	YFDYWGQGTL	VTVSS	(SEQ ID NO:184)
U2-56	VTISADKSIS	TAYLQWSSLK	ASDTAMYYCA	R..QGLAVAG	TS...YYYYY	GMDVWGQGTT	VTVSS	(SEQ ID NO:185)
U2-57	ITINPDTSKN	QFSLQLNSVT	PEDTAVYYCA	R.....DRAV	AGY.....YY	GMDVWGQGTT	VTVSS	(SEQ ID NO:186)
U2-58	FTISRDNAKN	SLFLQMNSLR	DEDTAVYYCA	L...W.....	..A.....	PFDYWGQGTL	VTVSS	(SEQ ID NO:166)

Cladogram of the Light Chain Variable Regions

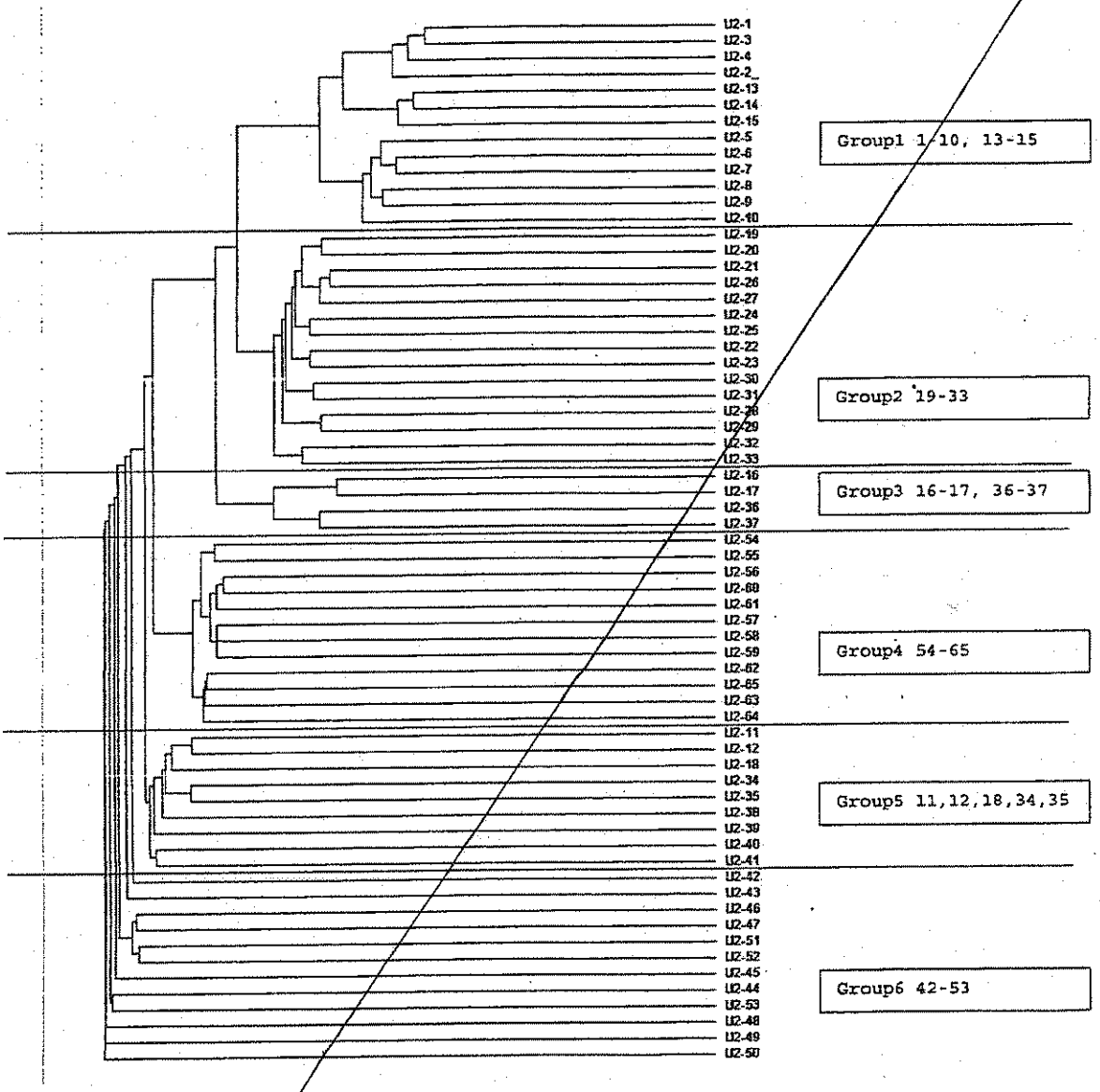


FIG 12A

CDRL3-Cladogram

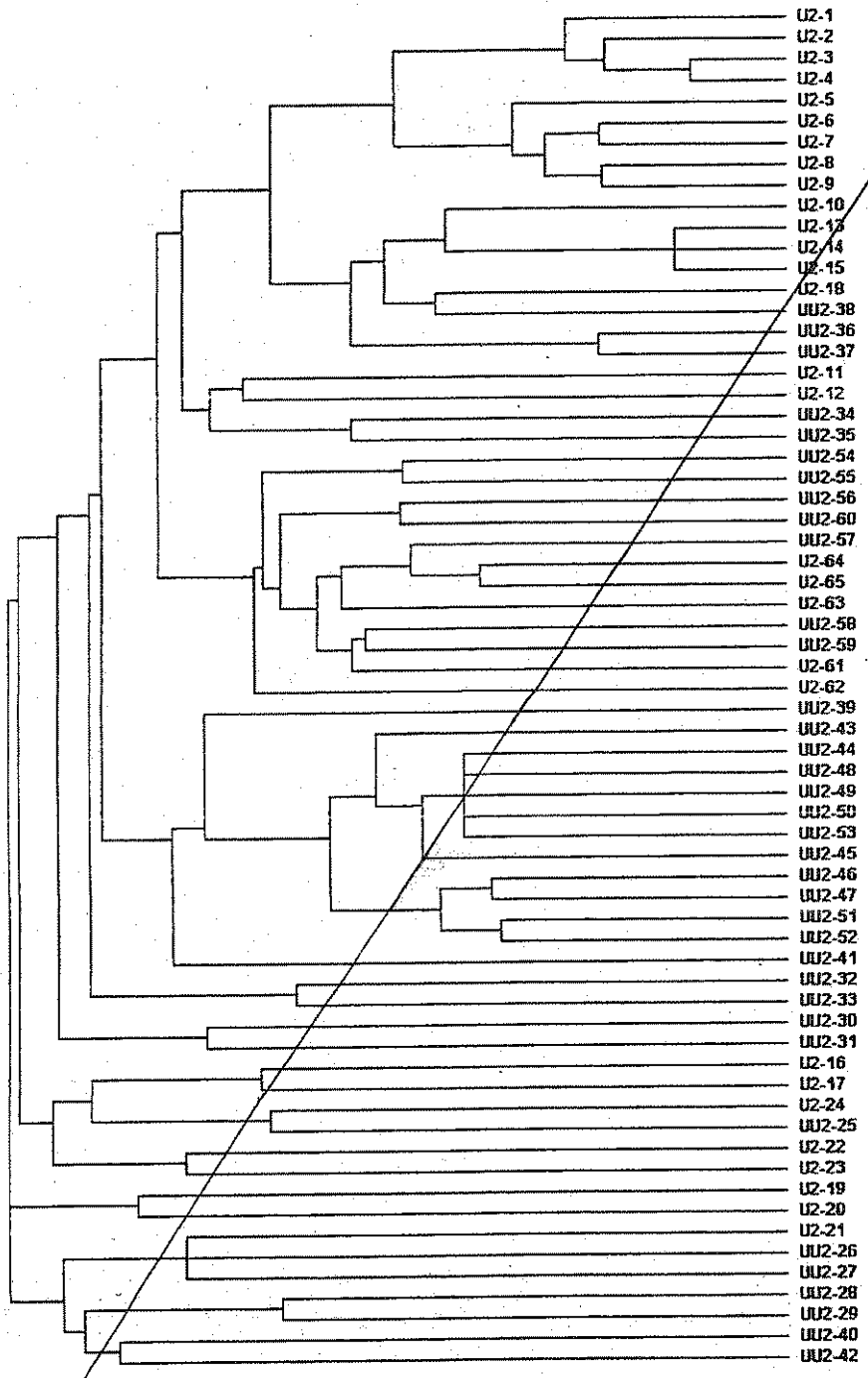


FIG 12B

Cladogram of the Heavy Chain Variable Regions

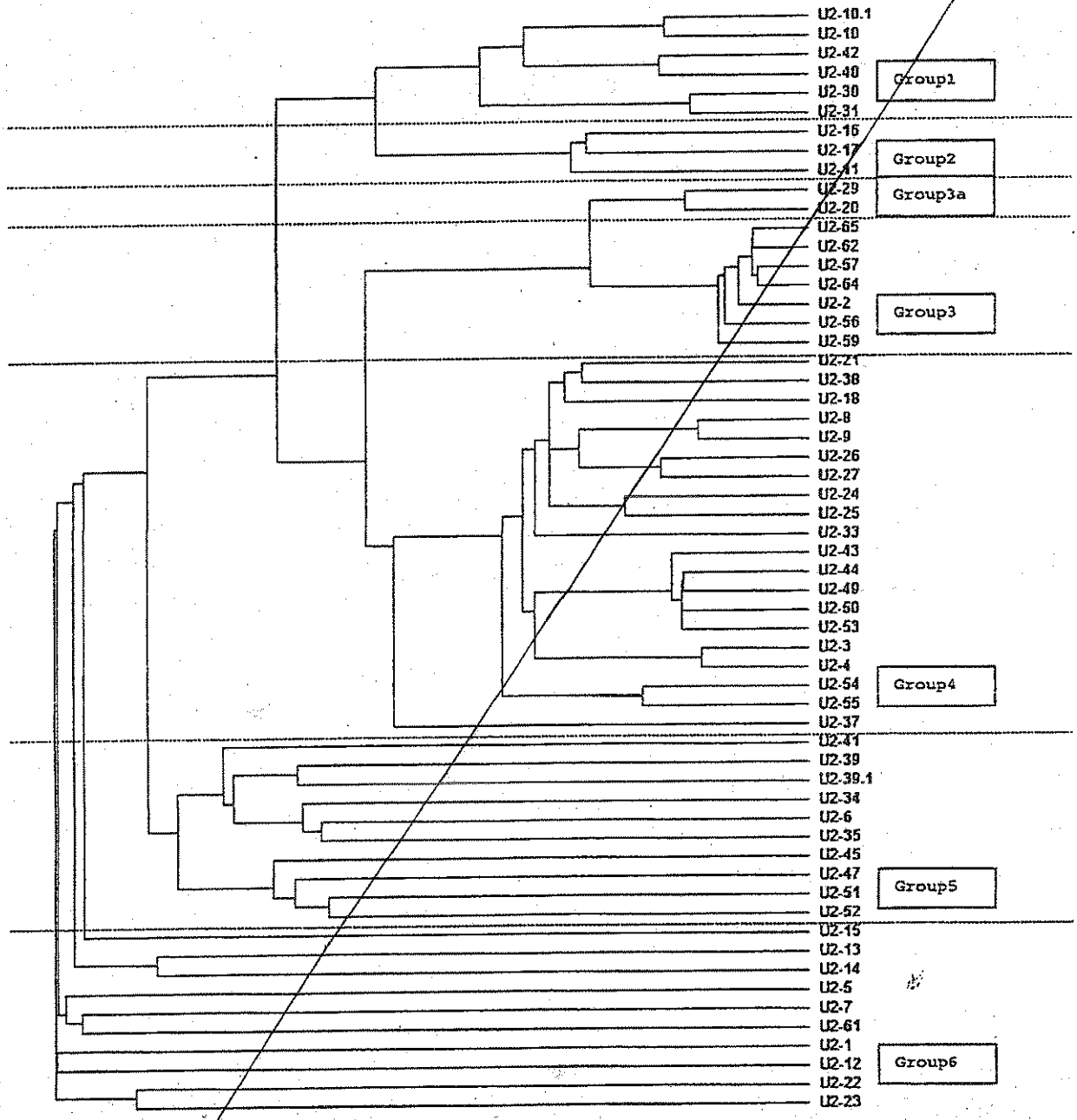


FIGURE 12C

U_L-1 light chain nucleotide sequence (SEQ ID NO:532)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttyaayggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-2 light chain nucleotide sequence (SEQ ID NO:533)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyathcarggnacncaytggccnacnacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-3 light chain nucleotide sequence (SEQ ID NO:534)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggmtncarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13A

U_L-4 light chain nucleotide sequence (SEQ ID NO:534)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggmtncarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-5 light chain nucleotide sequence (SEQ ID NO:535)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnathcarmtnccntgywsnttyggncarggnac
naarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-6 light chain nucleotide sequence (SEQ ID NO:536)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnmtnacnttyggnggnggnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13B

U_L-7 light chain nucleotide sequence (SEQ ID NO:536)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnmtnacnttyggnggngnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-8 light chain nucleotide sequence (SEQ ID NO:537)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggttymtnca
raarccnggncarccnccncarccnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnathacnttyggncayggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-9 light chain nucleotide sequence (SEQ ID NO:537)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggttymtnca
raarccnggncarccnccncarccnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnathacnttyggncayggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13C

U_L-11 light chain nucleotide sequence (SEQ ID NO:538)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarggnathgcnaaytaymtngcntggtaycarcaraarccnggnaargt
nccnaarmtnmtnathtaygtngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargaygtngcnacnt
aytaytgycaraaytayaaywsngcnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-12 light chain nucleotide sequence (SEQ ID NO:539)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
thtgymgngcnwsncarggnathwsnaaygaymtngcntggtaycarcaraarccnggnaargt
nccnaarmtnmtnathtaygcngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargaygtngcnacnt
aytaytgycaraartayaaywsngtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-13 light chain nucleotide sequence (SEQ ID NO:540)

aayathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnccnggnac
naargtngayathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13D

U_L-14 light chain nucleotide sequence (SEQ ID NO:540)

aayathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnccnggnac
naargtngayathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-15 light chain nucleotide sequence (SEQ ID NO:541)

garathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnacnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnggnggnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-16 light chain nucleotide sequence (SEQ ID NO:542)

garathgtnmtnacncarwsnccnggnacnmtnwsnmtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncaracngtnathwsnwsntaymtngcntggtaycarcaraarccnggnca
rgcnccnmgnmtnmtnathwsnggngcnwsnwsnmgngcnacnggnathccngaymgnttywsn
ggnwsnggnwsnggnacngayttyacnmtnacnathwsnmgnmtngarccngargayttygcng
tntaytaytgycarcartayggnwsnwsnccnmgnacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

FIGURE 13E

U_L-17 light chain nucleotide sequence (SEQ ID NO:543)

garathgtnmtnacncarwsnccnggnacnmtnwsnmtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnmgnmtngcntggtaycarcaraarccnggncargcncc
nmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngaymgnttywsnggnwsn
ggnwsnggnacngayttyacnmtnacnathwsnmgnmtngarccngargayttygcngtntayt
aytgycarcartayggnwsnwsnccnmgnwsnttyggncarggnacnaarmtngarathaarmg
nacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggnacn
gcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaargtng
ayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargaywsnac
ntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntaygcn
tgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngartgy

U_L-18 light chain nucleotide sequence (SEQ ID NO:544)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarggnathmgnaaygaymtnggntggtaycarcaraarccnggnaargc
nccnaarmgnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgymtncarcayaaywsntayccnccnacnttyggncarggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-19 light chain nucleotide sequence (SEQ ID NO:545)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngtntggtayca
rcaraarccnggncarccnccnaarmtnttyathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyacnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13F

U_L-20 light chain nucleotide sequence (SEQ ID NO:545)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngtntggtayca
rcaraarccnggncarccnccnaarmtnttyathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyacnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-21 light chain nucleotide sequence (SEQ ID NO:546)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-22 light chain nucleotide sequence (SEQ ID NO:547)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncaraaygtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartaytayggnacnccnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13G

U_L-23 light chain nucleotide sequence (SEQ ID NO:548)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncaraaygtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartaytayggnacnccnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-24 light chain nucleotide sequence (SEQ ID NO:549)

gayathgtnatgacncarwsnccngaywsnmtnacngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-25 light chain nucleotide sequence (SEQ ID NO:549)

gayathgtnatgacncarwsnccngaywsnmtnacngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13H

U_L-26 light chain nucleotide sequence (SEQ ID NO:550)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntayaaywsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggnccngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-27 light chain nucleotide sequence (SEQ ID NO:551)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntayaaywsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggnccngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-28 light chain nucleotide sequence (SEQ ID NO:552)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaargtnmtnathtaytgggcnwsnacnmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnggnmtncarg
cngargaygtngcnmtntaytaytgycarcartaytaywsnacnatgttywsnttyggncargg
nacnaarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13I

U_L-29 light chain nucleotide sequence (SEQ ID NO:552)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaargtnmtnathtaytgggcnwsnacnmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnggnmtncarg
cngargaygtngcnmtntaytaytgycarcartaytaywsnacnatgttywsnttyggncargg
nacnaarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-30 light chain nucleotide sequence (SEQ ID NO:553)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtngaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtnttytaytgycaycartaytaywsnacnccnmtnacnttyggnggngg
nacnaargtngcnathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-31 light chain nucleotide sequence (SEQ ID NO:553)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtngaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtnttytaytgycaycartaytaywsnacnccnmtnacnttyggnggngg
nacnaargtngcnathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13J

U_L-32 light chain nucleotide sequence (SEQ ID NO:554)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsnathmtntaymgnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartayttyathacnccnmtnacnttyggnggngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-33 light chain nucleotide sequence (SEQ ID NO:554)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsnathmtntaymgnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartayttyathacnccnmtnacnttyggnggngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-34 light chain nucleotide sequence (SEQ ID NO:555)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncargayathwsncaytaymtngcntggttycarcaraarccnggnaargc
nccnaarwsnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnaarttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcartayaayaaytayccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13K

U_L-35 light chain nucleotide sequence (SEQ ID NO:556)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgymgngcnwsncargayathwsnaaytaymtngcntggmtncarcaraarccnggnaargc
nccnaarwsnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcartayaayacntayccnttyacnttyggnccnggnacnaaratggayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-36 light chain nucleotide sequence (SEQ ID NO:557)

garathgtnatgacncarwsnccngcnacnmtnwsngtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnwsnaaymtngcntggtaycarcargayccnggncargc
nccnmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngcnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

U_L-37 light chain nucleotide sequence (SEQ ID NO:557)

garathgtnatgacncarwsnccngcnacnmtnwsngtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnwsnaaymtngcntggtaycarcargayccnggncargc
nccnmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngcnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

FIGURE 13L

U_L-38 light chain nucleotide sequence (SEQ ID NO:558)

gayathcaratgacncarwsnccnwsnwsngtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncargayathwsnmgntggmtngcntggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcargcnaaywsnttyccnccnacnttyggncarggnacnaargtngarttyaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-39 light chain nucleotide sequence (SEQ ID NO:559)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnacntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarttymtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcngcnt
aytaytgycarcarwsncaywsngcnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttygcnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-40 light chain nucleotide sequence (SEQ ID NO:560)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsnmtnggngaymgngtnacnatha
cntgymgngcnwsncaracnathwsnathtaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntaywsnacnmtnacnttyggnggnggnacnaargtngarathaarmg
nacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggnacn
gcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaargtng
ayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargaywsnac
ntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntaygcn
tgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngartgy

FIGURE 13M

U_L-41 light chain nucleotide sequence (SEQ ID NO:561)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathmgnwsntaymtnaaytggtaycarcarmgnccnggnaaygc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgngtnwsnggn
wsnggnwsnggnacngayttyacnmtnacnathmgnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntaywsnathccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-42 light chain nucleotide sequence (SEQ ID NO:562)

gayathcaratgacncarwsnccnwsnwsnmgnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncaracnathwsnmgntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarathtaywsnacnwsnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-43 light chain nucleotide sequence (SEQ ID NO:563)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarmgnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaargtnmtnathtaygcngarwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayathacnccnathacnttyggncarggnacnmgnmtngarathat
hmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13N

U_L-44 light chain nucleotide sequence (SEQ ID NO:564)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnmgntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngaraayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-45 light chain nucleotide sequence (SEQ ID NO:565)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnttywsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttywsnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-46 light chain nucleotide sequence (SEQ ID NO:566)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytayacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13O

U_L-47 light chain nucleotide sequence (SEQ ID NO:566)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytayacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-48 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-49 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13P

U_L-50 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-51 light chain nucleotide sequence (SEQ ID NO:568)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-52 light chain nucleotide sequence (SEQ ID NO:568)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13Q

U_L-53 light chain nucleotide sequence (SEQ ID NO:569)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-54 light chain nucleotide sequence (SEQ ID NO:570)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaytaymtnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-55 light chain nucleotide sequence (SEQ ID NO:570)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaytaymtnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13R

U_L-56 light chain nucleotide sequence (SEQ ID NO:571)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccngarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartgygaygaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-57 light chain nucleotide sequence (SEQ ID NO:572)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsngaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-58 light chain nucleotide sequence (SEQ ID NO:573)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13S

U_L-59 light chain nucleotide sequence (SEQ ID NO:573)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-60 light chain nucleotide sequence (SEQ ID NO:574)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnathmtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsngaracngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartgygayathmtnccnmtnwsnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-61 light chain nucleotide sequence (SEQ ID NO:575)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtngcnttyggnggnggnacnaargtngarathmg
nmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13T

U_L-62 light chain nucleotide sequence (SEQ ID NO:576)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngayggngtnacnatha
cntgycargcnwsncargayathacnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaywsnmtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-63 light chain nucleotide sequence (SEQ ID NO:577)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarmtnggnaargc
nccnaarmtnmtnathcaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-64 light chain nucleotide sequence (SEQ ID NO:578)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsngaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13U

U_L-65 light chain nucleotide sequence (SEQ ID NO:579)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13V

U_H-1 heavy chain nucleotide sequence (SEQ ID NO:580)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnwsntayggnathwsntgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathwsngcnwsnaayggnaayacnaaytaygcncaraarmtn
cargaymgngtnacnatgacnacngayacnwsnacnwsnacngcntayatggarmtnmgnwsnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-2 heavy chain nucleotide sequence (SEQ ID NO:580)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnwsntayggnathwsntgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathwsngcnwsnaayggnaayacnaaytaygcncaraarmtn
cargaymgngtnacnatgacnacngayacnwsnacnwsnacngcntayatggarmtnmgnwsnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14A

U_H-3 heavy chain nucleotide sequence (SEQ ID NO:581)

cargtncaymtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnttyacnggncaytayatgcaytgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathaayccnaaywsnggnggnacnaaytgygcncaraartty
carggnmgngtnacnatgacnmgngayacnwsnathwsnacngcntayatggarmtnwsnmgnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgnwsnathgcngtngcnmtngaytaytg
gggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtn
gcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayt
tyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttycc
ngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaay
ttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaara
cngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnws
ngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacn
tgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggng
tngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngt
nwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsn
aayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarc
cncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntg
ymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngar
aayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarm
tnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargc
nmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-4 heavy chain nucleotide sequence (SEQ ID NO:582)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnggntaytayatgcaytgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathaayccnaaywsnggnggnacnaaycayacncaraartty
carggnmgngtnacnatgacnmgngayacnwsnathwsnacngcntayatggarmtnwsnmgnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgnwsnathgcngtngcnmtngaytaytg
gggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtn
gcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayt
tyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttycc
ngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaay
ttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaara
cngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnws
ngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacn
tgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggng
tngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngt
nwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsn
aayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarc
cncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntg
ymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngar
aayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarm
tnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargc
nmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14B

U_R-5 heavy chain nucleotide sequence (SEQ ID NO:583)

cargtncarmtngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnmtnacngarmtnwsnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartggatgggnwsnttygayccngargayggngaracnathtaygcncaraartty
carggnmgngtnacnatgmtngargayacnwsnacngayacngcntayatggarmtnwsnwsnm
tnmgnwsngargayacngcngtntaytaytgygcnacngarggngayggnggntaytaytayta
yggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcnggnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_R-6 heavy chain nucleotide sequence (SEQ ID NO:583)

cargtncarmtngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnmtnacngarmtnwsnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartggatgggnwsnttygayccngargayggngaracnathtaygcncaraartty
carggnmgngtnacnatgmtngargayacnwsnacngayacngcntayatggarmtnwsnwsnm
tnmgnwsngargayacngcngtntaytaytgygcnacngarggngayggnggntaytaytayta
yggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14C

U_H-7 heavy chain nucleotide sequence (SEQ ID NO:584)

cargtnacnmtnaargarwsnggnccngtnmtngtnaarccnacngaracnmtnacnmtnacnt
gyacngtnwsnggnttywsnmtnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnmtngartggmtngcncayathttywsnaaygaygaraarwsntaywsnacnwsn
mtnaarwsnmgnmtnacnathwsnaargayacnwsnaarwsncargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcnmgnatgtaywsnwsnggntggtaygg
ngtnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcnggnmtnggntgym
tngtnaargaytaytttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aaygggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-8 heavy chain nucleotide sequence (SEQ ID NO:585)

cargtnacnmtnaargarwsnggnccngtnmtngtnaarccnacngaracnmtnacnmtnacnt
gyacngtnwsnggnttywsnmtnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnmtngartggmtngtnmtnathttywsnaaygaygaraarwsntaywsnacnwsn
mtnaarwsnmgnmtnacnathwsnaargayacnwsnaarwsncargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcnmgngtntaywsnwsnggntggwsntt
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaaygggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14D

U_R-9 heavy chain nucleotide sequence (SEQ ID NO:586)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnmgngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_R-10 heavy chain nucleotide sequence (SEQ ID NO:587)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaracncargtngtnmtnacngtnacng
ayatggayccngtngayacngcnacntaytaytgygcncaymgnaaytggacnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14E

U_B-11 heavy chain nucleotide sequence (SEQ ID NO:588)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnaayacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnmtngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-12 heavy chain nucleotide sequence (SEQ ID NO:589)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
aymtngayccngtngayacngcnacntaytaytgygcncaymgnmgngargtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14F

U_R-13 heavy chain nucleotide sequence (SEQ ID NO:590)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygtngaraarmgntaywsnccnwsn
mtnmgnwsnmgnmtnacnathacnaargcnacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgncayacnaayccnttygarta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_R-14 heavy chain nucleotide sequence (SEQ ID NO:591)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnggngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14G

UH-15 heavy chain nucleotide sequence (SEQ ID NO:591)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnggngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-16 heavy chain nucleotide sequence (SEQ ID NO:592)

gargtncarmtngtngarwsnggnggnggnmtngtnaarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyccnttywsnmgntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnwsnwsnwsnwsntayathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgngaymgngtnggngcnacnccngaygc
nttygayathtggggncarggnacnatggtnacngtnwsnwsngcnwsnacnaarggnccnwsn
gtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtng
tnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngt
ncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtn
ccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacna
argtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngt
ngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacn
ccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggt
aygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnac
nttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaar
tgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggnc
arccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargt
nwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaay
ggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttym
tntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngt
natgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14H

U_B-17 heavy chain nucleotide sequence (SEQ ID NO:593)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygcnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnaargarggnathgcngtngcnggnacngc
ngartaytaytaytaytaygcnatggaygtntggggncarggnacnacngtnacngtnwsnwsn
gcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsna
cngcngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaayws
nggngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsn
mtnwsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtng
aycayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgycc
nccntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargay
acnmtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayc
cngargtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmg
ngargarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytgg
mtnaayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraara
cnathwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgnga
rgaratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayath
gcngtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtng
aywsngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcargg
naaygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtn
wsnmtnwsnccnggnaar

U_B-18 heavy chain nucleotide sequence (SEQ ID NO:594)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnaargarggnathgcngcnmgngaywsnta
ytaytaytaygcnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14I

U_R-19 heavy chain nucleotide sequence (SEQ ID NO:595)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gyacngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_R-20 heavy chain nucleotide sequence (SEQ ID NO:595)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gyacngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14J

U_R-21 heavy chain nucleotide sequence (SEQ ID NO:596)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcnttyathwsngaygayggnwsnacnaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnatgaaayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

U_R-22 heavy chain nucleotide sequence (SEQ ID NO:596)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcnttyathwsngaygayggnwsnacnaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnatgaaayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14K

U_B-23 heavy chain nucleotide sequence (SEQ ID NO:597)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnaaygtnathgaytaytggggncargg
nacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgy
wsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccngarc
cngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngtnmt
ncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggnacn
caracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtngarm
gnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtnttymt
nttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtngtn
gtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngargtnc
ayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngtnmt
nacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaarggn
mtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncargtnt
ayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngtnaa
rggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaaytay
aaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacngtng
ayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtncayaa
ycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-24 heavy chain nucleotide sequence (SEQ ID NO:598)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnggnggngcnacnggngcngartaytt
ycarcaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carcngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14L

U_H-25 heavy chain nucleotide sequence (SEQ ID NO:598)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnggnggngcnacnggngcngartaytt
ycarcaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-26 heavy chain nucleotide sequence (SEQ ID NO:599)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygtnmtnmtntggttyggngaracnttygayta
ytggggncarggnwsnmtngtnacngtnwsnccngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14M

U_H-27 heavy chain nucleotide sequence (SEQ ID NO:600)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggwsngayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnaaymtnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-28 heavy chain nucleotide sequence (SEQ ID NO:601)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtgggaygayggnwsnaaycartaytayacngaywsngtn
aarggnmgnttyacngtnwsnmgngayaaywsnaaraayacnmtnttymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsncaytayggnggngaytaygayta
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14N

U_R-29 heavy chain nucleotide sequence (SEQ ID NO:602)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaarmgntaygtngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgngayggntggcarcarcargcnccntt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_R-30 heavy chain nucleotide sequence (SEQ ID NO:603)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttymgnwsncayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaaraaytaygcngaywsngtn
mgnggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtngaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgntggggnathwsngcnccnttygaytg
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14O

U_B-31 heavy chain nucleotide sequence (SEQ ID NO:604)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsntayathwsnwsnwsnggnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtnttymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmtntgggcnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-32 heavy chain nucleotide sequence (SEQ ID NO:605)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnwsnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsngtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayggnggngg
naaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14P

U_B-33 heavy chain nucleotide sequence (SEQ ID NO:606)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnmgnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntgggngncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_B-34 heavy chain nucleotide sequence (SEQ ID NO:606)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnmgnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntgggngncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14Q

U_R-35 heavy chain nucleotide sequence (SEQ ID NO:607)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaaymtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnggnccntaytayggnatggaygt
ntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_R-36 heavy chain nucleotide sequence (SEQ ID NO:608)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaycaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnaayatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngcnmtnmgnggnathgtnmtnat
ggtntaygtnmtnggngcnmtngayathtggggncarggnacnaargtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14R

U_B-37 heavy chain nucleotide sequence (SEQ ID NO:608)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaycaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnaayatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngcnmtnmgnggnathgtnmtnat
ggtntaygtnmtnggngcnmtngayathtggggncarggnacnaargtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

U_B-38 heavy chain nucleotide sequence (SEQ ID NO:609)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaygaracngtngtnmgnggnmt
nathmgntaytgytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14S

U_B-39 heavy chain nucleotide sequence (SEQ ID NO:610)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnaayt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnathwsngcngayacnwsnaaraaycarttywsnmtnaarmtnaayw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-40 heavy chain nucleotide sequence (SEQ ID NO:611)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnaayt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnathwsngcngayacnwsnaaraaycarttywsnmtnaarmtnaayw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14T

U_H-41 heavy chain nucleotide sequence (SEQ ID NO:612)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnaarwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nmtntggggnmgnggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtntty
ccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaarg
aytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayac
nttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsn
wsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtng
ayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcngg
nccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngar
gtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtng
ayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymg
ngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaar
gtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnm
gngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmt
nacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncar
ccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntayw
snaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgca
ygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-42 heavy chain nucleotide sequence (SEQ ID NO:613)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnaarwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nmtntggggnmgnggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtntty
ccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaarg
aytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayac
nttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsn
wsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtng
ayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcngg
nccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngar
gtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtng
ayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymg
ngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaar
gtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnm
gngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmt
nacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncar
ccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntayw
snaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgca
ygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14U

U_B-43 heavy chain nucleotide sequence (SEQ ID NO:614)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaaygcnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnwsnggntayaaytayggnmtntayta
ytaygaywsnwsnggntayccnwsntaytaytayggnatggaygtntggggncarggnacnacn
gtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnw
snacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccngarccngtnac
ngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsn
wsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaaytttyggnacncaracnt
ayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtngarmgnaartg
ytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccn
ccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtngtngtngayg
tnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngargtncayaaygc
naaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtn
gtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaarggnmtnccng
cnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncargtntayacnmt
nccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngtnaarggntty
tayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaaytayaaracna
cnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacngtngayaarws
nmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytay
acncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-44 heavy chain nucleotide sequence (SEQ ID NO:615)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnggnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnttyw
sngtnacngcngcngayacngcngtntayttytgygcnmgnacntaytaygayathmtnacngg
ntayccnttytayttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14V

U_B-45 heavy chain nucleotide sequence (SEQ ID NO:616)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnggnacntaytayaaygcnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnttyw
sngtnacngcngcngayacngcngtntayttytgygcnmgnacntaytaygayathmtnacngg
ntayccnttytayttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_B-46 heavy chain nucleotide sequence (SEQ ID NO:617)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaaygccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggtaytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14W

U_B-47 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-48 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14X

U_H-49 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-50 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14Y

U_R-51 heavy chain nucleotide sequence (SEQ ID NO:619)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsntaytaytggwsntggathmgncarccngcnggnaa
rggnmtngartggathggnmgnathtayacnwsnggnacnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgngayggntaywsntayggncaytaytayta
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgygcnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

U_R-52 heavy chain nucleotide sequence (SEQ ID NO:620)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacnaaytayaayccnwsn
mtnaarwsnmgngtnacnathwsnathgtnacnwsnmgnaaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsngcnmtnmgntayttygaytg
gmtnttywsngaygtnwsngayathtggggncarggnacnatggtnacngtnwsnwsngcnwsn
acnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcng
cnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngc
nmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsn
wsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycaya
arccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntg
yccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtn
atgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngarg
tncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngarga
rcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaay
ggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathw
snaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargarat
gacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtn
gartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsng
ayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygt
nttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtn
wsnccnggnaar

FIGURE 14Z

U_H-53 heavy chain nucleotide sequence (SEQ ID NO:620)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacnaaytayaaygcnwsn
mtnaarwsnmgngtnacnathwsnathgtnacnwsnmgnaaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsngcnmtnmgntayttygaytg
gmtnttywsngaygtnwsngayathtggggncarggnacnatggtnacngtnwsnwsngcnwsn
acnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcng
cnmtnggntgymtngtnaargaytaytttyccngarccngtnacngtnwsntggaaywsnggngc
nmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsn
wsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycaya
arccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntg
yccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtn
atgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngarg
tncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngarga
rcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaay
ggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathw
snaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargarat
gacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtn
gartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsng
ayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygt
nttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtn
wsnccnggnaar

U_H-54 heavy chain nucleotide sequence (SEQ ID NO:621)

gargtncarmtngtncarwsnggngcngarmtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaymgnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccngaygaywsngayacnmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathwsnacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncaraarwsntayggntaywsntaytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngargcncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14AA

U_B-55 heavy chain nucleotide sequence (SEQ ID NO:622)

gargtncarmtngtncarwsnggngcngargtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaywsnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccngaygaywsngaygcnmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathaayacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncarggntayggnwsnggntggggnta
yttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsn
gtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtng
tnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngt
ncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtn
ccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacna
argtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngt
ngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacn
ccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggt
aygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnac
nttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaar
tgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggnc
arccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargt
nwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaay
ggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttym
tntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngt
natgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_B-56 heavy chain nucleotide sequence (SEQ ID NO:623)

gargtncarmtngtncarwsnggngcngargtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaywsnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccnggngaywsngayathmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathwsnacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncarggnmtngcngtngcnggnacnws
ntaytaytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14AB

U_R-57 heavy chain nucleotide sequence (SEQ ID NO:624)

cargtncarmtncarcarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gygcnathwsnggngaywsngtnwsnwsntaywsngcngcntggaaytggathmgncarwsncc
nwsnmgnggnmtngartggmtnggnmgnacntaytgymgnwsnaartggtayaaygaytaygcn
gtnwsngtnaarwsnmgnathacnathaayccngayacnwsnaaraaycarttywsnmtncarm
tnaaywsngtnacnccngargayacngcngtntaytaytgygcnmgngaymgngcngtngcngg
ntaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_R-58 heavy chain nucleotide sequence (SEQ ID NO:604)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnggntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsntayathwsnwsnwsnggnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtnttymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmtntgggcnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14AC

U-V_L-1 light chain variable region nucleotide sequence (SEQ ID NO:625)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttyaayggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-2 light chain variable region nucleotide sequence (SEQ ID NO:626)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyathcarggncancaytggccncancanttyggncarggnca
nmgnytngarathaar

U-V_L-3 light chain variable region nucleotide sequence (SEQ ID NO:627)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggytncarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-4 light chain variable region nucleotide sequence (SEQ ID NO:627)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggytncarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-5 light chain variable region nucleotide sequence (SEQ ID NO:628)

Gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnathcarytnccntgywsnttyggncarggnca
naarytngarathaar

FIGURE 15A

U-V_L-6 light chain variable region nucleotide sequence (SEQ ID NO:629)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnytncanttyggnggnggnca
naargtngarathaar

U-V_L-7 light chain variable region nucleotide sequence (SEQ ID NO:629)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnytncanttyggnggnggnca
naargtngarathaar

U-V_L-8 light chain variable region nucleotide sequence (SEQ ID NO:630)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggttyytnca
raarccnggncarccnccncarccnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnathcanttyggncayggnca
nmgnytngarathaar

U-V_L-9 light chain variable region nucleotide sequence (SEQ ID NO:630)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggttyytnca
raarccnggncarccnccncarccnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnathcanttyggncayggnca
nmgnytngarathaar

U-V_L-11 light chain variable region nucleotide sequence (SEQ ID NO:631)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarggnathgcnaaytayytngcntggtaycarcaraarccnggnaargt
nccnaarytnytnathtaygtngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargaygtngcncant
aytaytgycaraaytayaaywsngcnccnttycanttyggnccnggncanaargtngayathaar

FIGURE 15B

U-V_L-12 light chain variable region nucleotide sequence (SEQ ID NO:632)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanatha
thtgymgngcnwsncarggnathwsnaaygayytngcntggtaycarcaraarccnggnaargt
nccnaarytnytnathtaygcngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargaygtngcncant
aytaytgycaraartayaaywsngtnccnytncanttyggnggnggncanaargtngarathaar

U-V_L-13 light chain variable region nucleotide sequence (SEQ ID NO:633)

aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnccnggnca
naargtngayathaar

U-V_L-14 light chain variable region nucleotide sequence (SEQ ID NO:633)

aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnccnggnca
naargtngayathaar

U-V_L-15 light chain variable region nucleotide sequence (SEQ ID NO:634)

garathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggncanggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnggnggnca
naargtngarathaar

U-V_L-16 light chain variable region nucleotide sequence (SEQ ID NO:635)

garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarcangtnathwsnwsntayytngcntggtaycarcaraarccnggnca
rgcnccnmgnytnytnathwsnggngcnwsnwsnmgngcncanggnathccngaymgnttywsn
ggnwsnggnwsnggncangayttycanytncanathwsnmgnytngarccngargayttygcng
tntaytaytgycarcartayggnwsnwsnccnmgncanttyggncarggncanaargtngarat
haar

FIGURE 15C

U-V_L-17 light chain variable region nucleotide sequence (SEQ ID NO:636)

garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnmgnytngcntggtaycarcaraarccnggncargcncc
nmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngaymgnttywsnggnwsn
ggnwsnggncangayttycanytncanathwsnmgnytngarccngargayttygcngtntayt
aytgycarcartayggnwsnwsnccnmgnwsnttyggncarggncanaarytngarathaar

U-V_L-18 light chain variable region nucleotide sequence (SEQ ID NO:637)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarggnathmgnaaygayytnggntggtaycarcaraarccnggnaargc
nccnaarmgnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgyytncarcayaaywsntayccnccncanttyggncarggncanaargtngarathaar

U-V_L-19 light chain variable region nucleotide sequence (SEQ ID NO:638)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtntggtayca
rcaraarccnggncarccnccnaarytnttyathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttycanggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggcanttyggncargg
ncanaargtngarathaar

U-V_L-20 light chain variable region nucleotide sequence (SEQ ID NO:638)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtntggtayca
rcaraarccnggncarccnccnaarytnttyathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttycanggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggcanttyggncargg
ncanaargtngarathaar

U-V_L-21 light chain variable region nucleotide sequence (SEQ ID NO:639)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggncargg
ncanaargtngarathaar

FIGURE 15D

U-V_L-22 light chain variable region nucleotide sequence (SEQ ID NO:640)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartaytayggncanccnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-23 light chain variable region nucleotide sequence (SEQ ID NO:641)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartaytayggncanccnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-24 light chain variable region nucleotide sequence (SEQ ID NO:642)

gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-25 light chain variable region nucleotide sequence (SEQ ID NO:642)

gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-26 light chain variable region nucleotide sequence (SEQ ID NO:643)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggnccngg
ncanaargtngarathaar

FIGURE 15E

U-V_L-27 light chain variable region nucleotide sequence (SEQ ID NO:644)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggnccngg
ncanaargtngarathaar

U-V_L-28 light chain variable region nucleotide sequence (SEQ ID NO:645)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaargtnytnathtaytgggcnwsncanmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnggnytncarg
cngargaygtngcnytntaytaytgycarcartaytaywsncanatgttywsnttyggncargg
ncanaarytngarathaar

U-V_L-29 light chain variable region nucleotide sequence (SEQ ID NO:645)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaargtnytnathtaytgggcnwsncanmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnggnytncarg
cngargaygtngcnytntaytaytgycarcartaytaywsncanatgttywsnttyggncargg
ncanaarytngarathaar

U-V_L-30 light chain variable region nucleotide sequence (SEQ ID NO:646)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtnttytaytgycaycartaytaywsncanccnytncanttyggnggngg
ncanaargtngcnathaar

U-V_L-31 light chain variable region nucleotide sequence (SEQ ID NO:646)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtnttytaytgycaycartaytaywsncanccnytncanttyggnggngg
ncanaargtngcnathaar

FIGURE 15F

U-V_L-32 light chain variable region nucleotide sequence (SEQ ID NO:647)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartayttyathcanccnytncanttyggnggngg
ncanaargtngarathaar

U-V_L-33 light chain variable region nucleotide sequence (SEQ ID NO:647)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartayttyathcanccnytncanttyggnggngg
ncanaargtngarathaar

U-V_L-34 light chain variable region nucleotide sequence (SEQ ID NO:648)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncargayathwsncaytayytngcntggttycarcaraarccnggnaargc
nccnaarwsnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnaarttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcartayaayaaytayccnttycanttyggnccnggncanaargtngayathaar

U-V_L-35 light chain variable region nucleotide sequence (SEQ ID NO:649)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgymgngcnwsncargayathwsnaaytayytngcntggytncarcaraarccnggnaargc
nccnaarwsnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcartayaaygcantayccnttycanttyggnccnggncanaaratggayathaar

U-V_L-36 light chain variable region nucleotide sequence (SEQ ID NO:650)

garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnwsnaayytngcntggtaycarcargayccnggncargc
nccnmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngcnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggcanttyggncarggncanaargtngarat
haar

FIGURE 15G

U-V_L-37 light chain variable region nucleotide sequence (SEQ ID NO:650)

garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnwsnaayytngcntggtaycarcargayccnggncargc
nccnmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngcnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggcanttyggncarggncanaargtngarat
haar

U-V_L-38 light chain variable region nucleotide sequence (SEQ ID NO:651)

Gayathcaratgcancarwsnccnwsnwsngtnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncargayathwsnmgntggytngcntggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcargcnaaywsnttyccnccncanttyggncarggncanaargtngarttyaar

U-V_L-39 light chain variable region nucleotide sequence (SEQ ID NO:652)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsncantayytnaaytggtaycarcaraarccnggnaargc
nccnaarttyytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcngcnt
aytaytgycarcarwsncaywsngcnccnttycanttyggnccnggncanaargtngayathaar

U-V_L-40 light chain variable region nucleotide sequence (SEQ ID NO:653)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsnytnggngaymgngtncanathc
antgymgngcnwsncarcanathwsnathtayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntaywsncanytncanttyggnggnggncanaargtngarathaar

U-V_L-41 light chain variable region nucleotide sequence (SEQ ID NO:654)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathmgnwsntayytnaaytggtaycarcarmgnccnggnaaygc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgngtnwsnggn
wsnggnwsnggncangayttycanytncanathmgnwsnytncarccngargayttygcncant
aytaytgycarcarwsntaywsnathccnytncanttyggnggnggncanaargtngarathaar

FIGURE 15H

U-V_L-42 light chain variable region nucleotide sequence (SEQ ID NO:655)

gayathcaratgcancarwsnccnwsnwsnmgnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarcanathwsnmgntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcncant
aytaytgycarcarathtaywsncanwsnathcanttyggncarggncanmgnytngarathaar

U-V_L-43 light chain variable region nucleotide sequence (SEQ ID NO:656)

Gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarmgnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaargtnytnathtaygcngarwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayathcanccnathcanttyggncarggncanmgnytngarathath

U-V_L-44 light chain variable region nucleotide sequence (SEQ ID NO:657)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnmgntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngaraayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-45 light chain variable region nucleotide sequence (SEQ ID NO:658)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanttywsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttywsnccnathcanttyggncarggncanmgnytngarathaar

U-V_L-46 light chain variable region nucleotide sequence (SEQ ID NO:659)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaycanccnathcanttyggncarggncanmgnytngarathaar

FIGURE 15I

U-V_L-47 light chain variable region nucleotide sequence (SEQ ID NO:659)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-48 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-49 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-50 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-51 light chain variable region nucleotide sequence (SEQ ID NO:661)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathcanttyggncarggncanmgnytngarathaar

FIGURE 15J

U-V_L-52 light chain variable region nucleotide sequence (SEQ ID NO:661)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathcanttyggncarggncanmgnytngarathaar

U-V_L-53 light chain variable region nucleotide sequence (SEQ ID NO:662)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaar

U-V_L-54 light chain variable region nucleotide sequence (SEQ ID NO:663)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaytayytnccnttycanttyggnccnggncanaargtngayathaar

U-V_L-55 light chain variable region nucleotide sequence (SEQ ID NO:663)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaytayytnccnttycanttyggnccnggncanaargtngayathaar

U-V_L-56 light chain variable region nucleotide sequence (SEQ ID NO:664)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccngarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartgygaygayytnccnytncanttyggnggnggncanaargtngarathaar

FIGURE 15K

U-V_L-57 light chain variable region nucleotide sequence (SEQ ID NO:665)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsngaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnytncanttyggnggnggncanaargtngarathaar

U-V_L-58 light chain variable region nucleotide sequence (SEQ ID NO:666)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytncanttyggnggnggncanaargtngarathaar

U-V_L-59 light chain variable region nucleotide sequence (SEQ ID NO:666)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytncanttyggnggnggncanaargtngarathaar

U-V_L-60 light chain variable region nucleotide sequence (SEQ ID NO:667)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnathytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsngarcangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartgygayathytnccnytnwsnttyggnggnggncanaargtngarathaar

U-V_L-61 light chain variable region nucleotide sequence (SEQ ID NO:668)

Gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytngcnttyggnggnggncanaargtngarathmgn

FIGURE 15L

U-V_L-62 light chain variable region nucleotide sequence (SEQ ID NO:669)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngayggngtncanathc
antgycargcnwsncargayathcanaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaywsnytnccnathcanttyggncarggncanmgnytngarathaar

U-V_L-63 light chain variable region nucleotide sequence (SEQ ID NO:670)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarytnggnaargc
nccnaarytnytnathcaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnathcanttyggncarggncanmgnytngarathaar

U-V_L-64 light chain variable region nucleotide sequence (SEQ ID NO:671)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsngaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnathcanttyggncarggncanmgnytngarathaar

U-V_L-65 light chain variable region nucleotide sequence (SEQ ID NO:672)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnathcanttyggncarggncanmgnytngarathaar

FIGURE 15M

U-V_H-1 heavy chain variable region nucleotide sequence (SEQ ID NO:673)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanwsntayggnathwsntgggtnmgncargcnccnggnca
rggnytngartggatgggntggathwsngcnwsnaayggnaaycanaaytaygcncaraarytn
cargaymgngtncanatgcancangaycanwsncanwsncangcntayatggarytnmgnwsny
tnmgnwsngaygaycangcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-2 heavy chain variable region nucleotide sequence (SEQ ID NO:673)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanwsntayggnathwsntgggtnmgncargcnccnggnca
rggnytngartggatgggntggathwsngcnwsnaayggnaaycanaaytaygcncaraarytn
cargaymgngtncanatgcancangaycanwsncanwsncangcntayatggarytnmgnwsny
tnmgnwsngaygaycangcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-3 heavy chain variable region nucleotide sequence (SEQ ID NO:674)

cargtncayytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanttycanggncaytayatgcaytgggtnmgncargcnccnggnca
rggnytngartggatgggntggathaayccnaaywsnggnggncanaaytgygcncaraartty
carggnmgngtncanatgcanmgngaycanwsnathwsncangcntayatggarytnwsnmgny
tnmgnwsngaygaycangcngtntaytaytgygcnmgnwsnathgcngtngcnytngaytaytg
gggncarggncanytngtncangtnwsnwsn

U-V_H-4 heavy chain variable region nucleotide sequence (SEQ ID NO:675)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanggntaytayatgcaytgggtnmgncargcnccnggnca
rggnytngartggatgggntggathaayccnaaywsnggnggncanaaycaycancaraartty
carggnmgngtncanatgcanmgngaycanwsnathwsncangcntayatggarytnwsnmgny
tnmgnwsngaygaycangcngtntaytaytgygcnmgnwsnathgcngtngcnytngaytaytg
gggncarggncanytngtncangtnwsnwsn

U-V_H-5 heavy chain variable region nucleotide sequence (SEQ ID NO:676)

cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanytncangarytnwsnatgcaytgggtnmgncargcnccnggnaa
rggnytngartggatgggnwsnttygayccngargayggngarcanathtaygcncaraartty
carggnmgngtncanatgytngargaycanwsncangaycangcntayatggarytnwsnwsny
tnmgnwsngargaycangcngtntaytaytgygcncangarggngayggnggntaytaytayta
yggnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16A

U-V_H-6 heavy chain variable region nucleotide sequence (SEQ ID NO:676)

cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanytncangarytnwsnatgcaytgggtnmgncargcnccnggnaa
rggnytngartggatgggnwsnttygayccngargayggngarcanathtaygcncaraartty
carggnmgngtncanatgytngargaycanwsncangaycangcntayatggarytnwsnwsny
tnmgnwsngargaycangcngtntaytaytgygcncangarggngayggngngntaytaytayta
yggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-7 heavy chain variable region nucleotide sequence (SEQ ID NO:677)

cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncant
gycangtnwsnggnttywsnytnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnytngartggytngcncayathttywsnaaygaygaraarwsntaywsncanwsn
ytnaarwsnmgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcnmgnatgtaywsnwsnggntggtaygg
ngtnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-8 heavy chain variable region nucleotide sequence (SEQ ID NO:678)

cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncant
gycangtnwsnggnttywsnytnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnytngartggytngtnytnathttywsnaaygaygaraarwsntaywsncanwsn
ytnaarwsnmgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcnmgngtntaywsnwsnggntggwsntt
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-9 heavy chain variable region nucleotide sequence (SEQ ID NO:679)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnmgngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-10 heavy chain variable region nucleotide sequence (SEQ ID NO:680)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaarcancargtngtnytncangtncang
ayatggayccngtngaycangcncantaytaytgygcncaymgnaaytggcanccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16B

U-V_H-11 heavy chain variable region nucleotide sequence (SEQ ID NO:681)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnaaycanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnytngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-12 heavy chain variable region nucleotide sequence (SEQ ID NO:682)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayytngayccngtngaycangcncantaytaytgygcncaymgnmgngargtnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-13 heavy chain variable region nucleotide sequence (SEQ ID NO:683)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygtngaraarmgntaywsnccnwsn
ytnmgnwsnmgnytncanathcanaargcncanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgncaycanaayccnttygarta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-14 heavy chain variable region nucleotide sequence (SEQ ID NO:684)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnggngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-15 heavy chain variable region nucleotide sequence (SEQ ID NO:684)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnggngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16C

U-V_H-16 heavy chain variable region nucleotide sequence (SEQ ID NO:685)

gargtncarytngtngarwsnggnggnggnytngtnaarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttyccnttywsnmgntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnwsnwsnwsntayathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgngaymgngtnggngcncanccngaygc
nttygayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-17 heavy chain variable region nucleotide sequence (SEQ ID NO:686)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygcnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnaargarggnathgcngtngcnggncangc
ngartaytaytaytaytaygcnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-18 heavy chain variable region nucleotide sequence (SEQ ID NO:687)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnaargarggnathgcngcnmgngaywsnta
ytaytaytaygcnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-19 heavy chain variable region nucleotide sequence (SEQ ID NO:688)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gycangcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-20 heavy chain variable region nucleotide sequence (SEQ ID NO:688)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gycangcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16D

U-V_H-21 heavy chain variable region nucleotide sequence (SEQ ID NO:689)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcnttyathwsngaygayggnwsncanaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnatgaaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-22 heavy chain variable region nucleotide sequence (SEQ ID NO:689)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcnttyathwsngaygayggnwsncanaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnatgaaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-23 heavy chain variable region nucleotide sequence (SEQ ID NO:690)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnaaygtnathgaytaytggggncargg
ncanytngtncangtnwsnwsn

U-V_H-24 heavy chain variable region nucleotide sequence (SEQ ID NO:691)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnggnggngcncanggngcngartaytt
ycarcaytggggncarggncanytngtncangtnwsnwsn

U-V_H-25 heavy chain variable region nucleotide sequence (SEQ ID NO:691)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnggnggngcncanggngcngartaytt
ycarcaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16E

U-V_H-26 heavy chain variable region nucleotide sequence (SEQ ID NO:692)

Cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygtnytnytntggttyggngarcanttygayta
ytggggncarggnwsnytngtncangtnwsnccn

U-V_H-27 heavy chain variable region nucleotide sequence (SEQ ID NO:693)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggwsngayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnaayytnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

U-V_H-28 heavy chain variable region nucleotide sequence (SEQ ID NO:694)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtgggaygayggnwsnaaycartaytaycangaywsngtn
aarggnmgnttycangtnwsnmgngayaaywsnaaraaycanytnttyytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsncaytayggnggngaytaygayta
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-29 heavy chain variable region nucleotide sequence (SEQ ID NO:695)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaarmgntaygtngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgngayggntggcarcarcargcnccntt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-30 heavy chain variable region nucleotide sequence (SEQ ID NO:696)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttymgnwsncayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaaraaytaygcngaywsngtn
mgnggnmgnttycanathwsnmgngayaaywsnaaraaycanytngayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgntggggnathwsngcnccnttygaytg
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16F

U-V_H-31 heavy chain variable region nucleotide sequence (SEQ ID NO:697)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsntayathwsnwsnwsnggnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytnttyytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnytntgggcnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

U-V_H-32 heavy chain variable region nucleotide sequence (SEQ ID NO:698)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnwsnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsngtntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayggnggngg
naaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-33 heavy chain variable region nucleotide sequence (SEQ ID NO:699)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnmgnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-34 heavy chain variable region nucleotide sequence (SEQ ID NO:699)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnmgnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-35 heavy chain variable region nucleotide sequence (SEQ ID NO:700)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaayytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnggnccntaytayggnatggaygt
ntggggncarggncancangtncangtnwsnwsn

FIGURE 16G

U-V_H-36 heavy chain variable region nucleotide sequence (SEQ ID NO:701)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncart
gycangtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaycaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtnaayatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngcnytnmgnggnathgtnytnat
ggtntaygtnytnggngcnytngayathtggggncarggncanaargtncangtnwsnwsn

U-V_H-37 heavy chain variable region nucleotide sequence (SEQ ID NO:701)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaycaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtnaayatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngcnytnmgnggnathgtnytnat
ggtntaygtnytnggngcnytngayathtggggncarggncanaargtncangtnwsnwsn

U-V_H-38 heavy chain variable region nucleotide sequence (SEQ ID NO:702)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaygarcangtngtnmgnggnyt
nathmgntaytgytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-39 heavy chain variable region nucleotide sequence (SEQ ID NO:703)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaayt
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanathwsngcngaycanwsnaaraaycarttywsnytnaarytnaayw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-40 heavy chain variable region nucleotide sequence (SEQ ID NO:704)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaayt
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanathwsngcngaycanwsnaaraaycarttywsnytnaarytnaayw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16H

U-V_H-41 heavy chain variable region nucleotide sequence (SEQ ID NO:705)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanaarwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nytntggggnmgnggncanytngtncangtnwsnwsn

U-V_H-42 heavy chain variable region nucleotide sequence (SEQ ID NO:706)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanaarwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nytntggggnmgnggncanytngtncangtnwsnwsn

U-V_H-43 heavy chain variable region nucleotide sequence (SEQ ID NO:707)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnwsnggntayaaytayggnytntayta
ytaygaywsnwsnggntayccnwsntaytaytayggnatggaygtntggggncarggncancan
gtncangtnwsnwsn

U-V_H-44 heavy chain variable region nucleotide sequence (SEQ ID NO:708)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnggncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnttyw
sngtncangcngcngaycangcngtntayttytgygcnmgncantaytaygayathytncangg
ntayccnttytayttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-45 heavy chain variable region nucleotide sequence (SEQ ID NO:709)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnggncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnttyw
sngtncangcngcngaycangcngtntayttytgygcnmgncantaytaygayathytncangg
ntayccnttytayttygaytaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16I

U-V_H-46 heavy chain variable region nucleotide sequence (SEQ ID NO:710)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggtaytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-47 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-48 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-49 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-50 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

FIGURE 16J

U-V_H-51 heavy chain variable region nucleotide sequence (SEQ ID NO:712)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsntaytaytggwsntggathmgncarccngcnggnaa
rggnytngartggathggnmgnathtaycanwsnggncancanaaytayaayccnwsnytnaar
wsnmgngtncanatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgngayggntaywsntayggncaytaytayta
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-52 heavy chain variable region nucleotide sequence (SEQ ID NO:713)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncanaaytayaayccnwsn
ytnaarwsnmgngtncanathwsnathgtncanwsnmgnaaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsngcnytnmgntayttygaytg
gytnttywsngaygtnwsngayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-53 heavy chain variable region nucleotide sequence (SEQ ID NO:713)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncanaaytayaayccnwsn
ytnaarwsnmgngtncanathwsnathgtncanwsnmgnaaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsngcnytnmgntayttygaytg
gytnttywsngaygtnwsngayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-54 heavy chain variable region nucleotide sequence (SEQ ID NO:714)

gargtncarytngtncarwsnggngcngarytnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaymgnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccngaygaywsngaycanmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathwsncangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncaraarwsntayggntaywsntaytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-55 heavy chain variable region nucleotide sequence (SEQ ID NO:715)

gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaywsnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccngaygaywsngaygcnmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathaaycangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncarggntayggnwsnggntggggnta
yttygaytaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16K

U-V_H-56 heavy chain variable region nucleotide sequence (SEQ ID NO:716)

gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaywsnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccnggngaywsngayathmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathwsncangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncarggnytngcngtngcnggncanws
ntaytaytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-57 heavy chain variable region nucleotide sequence (SEQ ID NO:717)

cargtncarytncarcarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gygcnathwsnggngaywsngtnwsnwsntaywsngcngcntggaaytggathmgncarwsncc
nwsnmgnggnytngartggytnggnmgncantaytgymgnwsnaartggtayaaygaytaygcn
gtnwsngtnaarwsnmgnathcanathaayccngaycanwsnaaraaycarttywsnytncary
tnaaywsngtncanccngargaycangcngtntaytaytgygcnmgngaymgngcngtngcngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-58 heavy chain variable region nucleotide sequence (SEQ ID NO:697)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsntayathwsnwsnwsnggnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytnttyytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnytntgggcnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

FIGURE 16L

LIGHT CHAIN CONSTANT REGION NUCLEOTIDE SEQUENCE

CGAACTGTGGCTGCACCATCTGTCTTCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCTAGCGTTGT
GTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGATAACGCCCTCCAATCGGGTAACT
CCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGACAGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCA
GACTACGAGAAACACAAAGTCTACGCCTGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAA
CAGGGGAGAGTGTTAG (SEQ ID NO:718)

FIGURE 17A

HEAVY CHAIN CONSTANT REGION NUCLEOTIDE SEQUENCE

GCCTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCGCCCTGCTCTAGAAGCACCTCCGAGAGCACAGCGGCCCTGGG
CTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCTCTGACCAGCGGCGTGCACA
CCTTCCCAGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAACTTCGGC
ACCCAGACCTACACATGCAACGTAGATCACAAGCCCAGCAACACCAAGGTGGACAAGACAGTTGAGCGCAAATGTTG
TGTCGAGTGCCCACCGTGCCCAGCACCACCTGTGGCAGGACCGTCAGTCTTCCTCTTCCCCCCAAAACCCAAGGACA
CCCTCATGATCTCCCGGACCCCTGAGGTCACGTGCGTGGTGGTGGACGTGAGCCACGAAGACCCCGAGGTCCAGTTC
AACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCACGGGAGGAGCAGTTCAACAGCACGTTCCG
TGTGGTCAGCGTCCTCACCGTTGTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG
GCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAAACCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCC
CCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTACCCCAGCGACATCGC
CGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACACCTCCCATGCTGGACTCCGACGGCTCCT
TCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCAT
GAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATGA (SEQ ID NO:719)

FIGURE 17B

LIGHT CHAIN CDR NUCLEOTIDE SEQUENCES

NAME	SEQUENCE	SEQ ID NO
CDRL1-1	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-2	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-3	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-4	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-5	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-6	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-7	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-8	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-9	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-11	mgngcnwsncarggnathgcnaaytayytngcn	722
CDRL1-12	mgngcnwsncarggnathwsnaaygayytnggn	723
CDRL1-13	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-14	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-15	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-16	mgngcnwsncarcangtnathwsnwsntayytngcn	725
CDRL1-17	mgngcnwsncarwsngtnwsnmgnytngcn	726
CDRL1-18	mgngcnwsncarggnathmgnaaygayytnggn	727
CDRL1-19	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtn	728
CDRL1-20	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtn	728
CDRL1-21	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-22	aarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcn	730
CDRL1-23	aarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcn	730
CDRL1-24	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-25	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-26	aarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcn	731

FIGURE 18A

NAME	SEQUENCE	SEQ ID NO
CDRL1-27	aarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcn	731
CDRL1-28	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-29	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-30	aarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcn	732
CDRL1-31	aarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcn	732
CDRL1-32	aarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcn	733
CDRL1-33	aarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcn	733
CDRL1-34	mgngcnwsncargayathwsncaytayytngcn	734
CDRL1-35	mgngcnwsncargayathwsnaaytayytngcn	735
CDRL1-36	mgngcnwsncarwsngtnwsnwsnaayytngcn	736
CDRL1-37	mgngcnwsncarwsngtnwsnwsnaayytngcn	736
CDRL1-38	mgngcnwsncargayathwsnmgntggytngcn	737
CDRL1-39	mgngcnwsncarwsnathwsncantayytnaay	738
CDRL1-40	mgngcnwsncarcanathwsnathtayytnaay	739
CDRL1-41	mgngcnwsncarwsnathmgnwsntayytnaay	740
CDRL1-42	mgngcnwsncarcanathwsnmgntayytnaay	741
CDRL1-43	mgngcnwsncarmgnathwsnwsntayytnaay	742
CDRL1-44	mgngcnwsncarwsnathwsnmgntayytnaay	743
CDRL1-45	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-46	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-47	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-48	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-49	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-50	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-51	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-52	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-53	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-54	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-55	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-56	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-57	cargcnwsncargayathwsngaytayytnaay	747

FIGURE 18B

NAME	SEQUENCE	SEQ ID NO
CDRL1-58	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-59	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-60	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-61	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-62	cargcnwsncargayathcanaaytayytnaay	748
CDRL1-63	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-64	cargcnwsncargayathwsngaytayytnaay	747
CDRL1-65	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL2-1	aargtnwsnaaytgggaywsn	749
CDRL2-2	aargtnwsnaaytgggaywsn	749
CDRL2-3	aargtnwsnaaytgggaywsn	749
CDRL2-4	aargtnwsnaaytgggaywsn	749
CDRL2-5	gargtnwsnaaymgnttywsn	750
CDRL2-6	gargtnwsnaaymgnttywsn	750
CDRL2-7	gargtnwsnaaymgnttywsn	750
CDRL2-8	gargtnwsnaaymgnttywsn	750
CDRL2-9	gargtnwsnaaymgnttywsn	750
CDRL2-11	gtngcnwsncanytncarwsn	751
CDRL2-12	gcngcnwsncanytncarwsn	752
CDRL2-13	aarathwsnaaymgnttywsn	753
CDRL2-14	aarathwsnaaymgnttywsn	753
CDRL2-15	aarathwsnaaymgnttywsn	753
CDRL2-16	ggngcnwsnwsnmgngcncan	754
CDRL2-17	ggngcnwsnmgnmgngcncan	755
CDRL2-18	gcngcnwsnwsnytncarwsn	756
CDRL2-19	tgggcnwsncanmgngarwsn	757
CDRL2-20	tgggcnwsncanmgngarwsn	757
CDRL2-21	tgggcnwsncanmgngarwsn	757
CDRL2-22	tgggcnwsncanmgngarwsn	757
CDRL2-23	tgggcnwsncanmgngarwsn	757
CDRL2-24	tgggcnwsncanmgngarwsn	757
CDRL2-25	tgggcnwsncanmgngarwsn	757
CDRL2-26	tgggcnwsncanmgngarwsn	757
CDRL2-27	tgggcnwsncanmgngarwsn	757
CDRL2-28	tgggcnwsncanmgnaarwsn	758
CDRL2-29	tgggcnwsncanmgnaarwsn	758

FIGURE 18C

NAME	SEQUENCE	SEQ ID NO
CDRL2-30	tgggcnwsncanmgngarwsn	757
CDRL2-31	tgggcnwsncanmgngarwsn	757
CDRL2-32	tgggcnwsngcnmgngarwsn	759
CDRL2-33	tgggcnwsngcnmgngarwsn	759
CDRL2-34	gcngcnwsnwsnytncarwsn	756
CDRL2-35	gcngcnwsnwsnytncarwsn	756
CDRL2-36	ggngcnwsnmgnmgngcncan	755
CDRL2-37	ggngcnwsnmgnmgngcncan	755
CDRL2-38	gcngcnwsnwsnytncarwsn	756
CDRL2-39	gcngcnwsnwsnytncarwsn	756
CDRL2-40	gcngcnwsnwsnytncarwsn	756
CDRL2-41	gcngcnwsnwsnytncarwsn	756
CDRL2-42	gcngcnwsncanytncarwsn	752
CDRL2-43	gcngarwsnwsnytncarwsn	760
CDRL2-44	cangcnwsnwsnytncarwsn	761
CDRL2-45	cangcnwsnwsnytncarwsn	761
CDRL2-46	cangcnwsnwsnytncarwsn	761
CDRL2-47	cangcnwsnwsnytncarwsn	761
CDRL2-48	cangtnwsnwsnytncarwsn	762
CDRL2-49	cangtnwsnwsnytncarwsn	762
CDRL2-50	cangtnwsnwsnytncarwsn	762
CDRL2-51	cangcnwsnwsnytncarwsn	761
CDRL2-52	cangcnwsnwsnytncarwsn	761
CDRL2-53	cangcnwsnwsnytncarwsn	761
CDRL2-54	gaygcnwsnaayytngarcan	763
CDRL2-55	gaygcnwsnaayytngarcan	763
CDRL2-56	gaygcnwsnaayytngarcan	763
CDRL2-57	gaygcnwsnaayytngarcan	763
CDRL2-58	gaygcnwsnaayytngarcan	763
CDRL2-59	gaygcnwsnaayytngarcan	763
CDRL2-60	gaygcnwsnathytngarcan	764
CDRL2-61	gaygcnwsnaayytngarcan	763
CDRL2-62	gaygcnwsnaayytngarcan	763
CDRL2-63	gaygcnwsnaayytngarcan	763
CDRL2-64	gaygcnwsnaayytngarcan	763
CDRL2-65	gaygcnwsnaayytngarcan	763

FIGURE 18D

NAME	SEQUENCE	SEQ ID NO
CDRL3-1	atgcarwsncancaytggccnathcan	765
CDRL3-2	athcarggncancaytggccncancan	766
CDRL3-3	atgcarggncancaytggccnathcan	767
CDRL3-4	atgcarggncancaytggccnathcan	767
CDRL3-5	atgcarggnathcarytnccntgywsn	768
CDRL3-6	atgcarwsnathcarytnccnytncan	769
CDRL3-7	atgcarwsnathcarytnccnytncan	769
CDRL3-8	atgcarwsnathcarytnccnathcan	770
CDRL3-9	atgcarwsnathcarytnccnathcan	770
CDRL3-11	caraaytayaaywsngcnccnttycan	771
CDRL3-12	caraartayaaywsngtnccnytncan	772
CDRL3-13	atgcargcncancarttyccncaycan	773
CDRL3-14	atgcargcncancarttyccncaycan	773
CDRL3-15	atgcargcncancarttyccncaycan	773
CDRL3-16	carcartayggnwsnwsnccnmgncan	774
CDRL3-17	carcartayggnwsnwsnccnmgnwsn	775
CDRL3-18	ytncarcayaaywsntayccnccncan	776
CDRL3-19	carcartaytaywsnttyccntggcan	777
CDRL3-20	carcartaytaywsnttyccntggcan	777
CDRL3-21	carcartaytaywsncancantggcan	778
CDRL3-22	carcartaytayggncanccnmgncan	779
CDRL3-23	carcartaytayggncanccnmgncan	779
CDRL3-24	carcartaytaywsnathwsnmgncan	780
CDRL3-25	carcartaytaywsnathwsnmgncan	780
CDRL3-26	carcartaytaywsncancantggcan	778
CDRL3-27	carcartaytaywsncancantggcan	778
CDRL3-28	carcartaytaywsncanatgttywsn	781
CDRL3-29	carcartaytaywsncanatgttywsn	781
CDRL3-30	caycartaytaywsncanccnytncan	782
CDRL3-31	caycartaytaywsncanccnytncan	782
CDRL3-32	carcartayttyathcanccnytncan	783
CDRL3-33	carcartayttyathcanccnytncan	783
CDRL3-34	carcartayaayaaytayccnttycan	784
CDRL3-35	carcartayaaycantayccnttycan	785
CDRL3-36	carcarcayaayaaytggccnccntggcan	786
CDRL3-37	carcarcayaayaaytggccnccntggcan	786

FIGURE 18E

NAME	SEQUENCE	SEQ ID NO
CDRL3-38	carcargcnaaywsnttyccncccncan	787
CDRL3-39	carcarwsncaywsngcnccnttycan	788
CDRL3-40	carcarwsntaywsncanytncan	789
CDRL3-41	carcarwsntaywsnathccnytncan	790
CDRL3-42	carcarathtaywsncanwsnathcan	791
CDRL3-43	carcarwsntayathcanccnathcan	792
CDRL3-44	carcarwsntayttycanccnathcan	793
CDRL3-45	carcarwsntayttywsnccnathcan	794
CDRL3-46	carcarwsnttytaycanccnathcan	795
CDRL3-47	carcarwsnttytaycanccnathcan	795
CDRL3-48	carcarwsntayttycanccnathcan	793
CDRL3-49	carcarwsntayttycanccnathcan	793
CDRL3-50	carcarwsntayttycanccnathcan	793
CDRL3-51	carcarwsnttytaygcnccnathcan	796
CDRL3-52	carcarwsnttytaygcnccnathcan	796
CDRL3-53	carcarwsntayttycanccnathcan	793
CDRL3-54	carcartaygaytayytnccnttycan	797
CDRL3-55	carcartaygaytayytnccnttycan	797
CDRL3-56	carcartgygaygayytnccnytncan	798
CDRL3-57	carcaytaygayaayytnccnytncan	799
CDRL3-58	carcartaygayaayytnccnytncan	800
CDRL3-59	carcartaygayaayytnccnytncan	800
CDRL3-60	carcartgygayathytnccnytnwsn	801
CDRL3-61	carcartaygayaayytnccnytngcn	802
CDRL3-62	carcartaygaywsnytnccnathcan	803
CDRL3-63	carcartaygayaayytnccnathcan	804
CDRL3-64	carcaytaygayaayytnccnathcan	805
CDRL3-65	carcaytaygayaayytnccnathcan	805

FIGURE 18F

HEAVY CHAIN CDR NUCLEOTIDE SEQUENCES

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-1	CDRH1-10.1	ggntaycanttycanwsntayggnathwsn	806
CDRH1-2	CDRH1-10	ggntaycanttycanwsntayggnathwsn	806
CDRH1-3	CDRH1-42	ggntaycanttycanggncaytayatgcay	807
CDRH1-4	CDRH1-40	ggntaycanttycanggntaytayatgcay	808
CDRH1-5	CDRH1-30	ggntaycanytncangarytnwsnatgcay	809
CDRH1-6	CDRH1-31	ggntaycanytncangarytnwsnatgcay	809
CDRH1-7	CDRH1-29	ggnttywsnytnwsnaaygcnmgnatgggngtnwsn	810
CDRH1-8	CDRH1-20	ggnttywsnytnwsnaaygcnmgnatgggngtnwsn	810
CDRH1-9	CDRH1-65	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-10	CDRH1-56	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-11	CDRH1-62	ggnttywsnytnaaycanggnggngtnggngtnggn	812
CDRH1-12	CDRH1-2	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-13	CDRH1-59	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-14	CDRH1-57	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-15	CDRH1-64	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-16	CDRH1-41	ggnttyccnttywsnmgntaywsnatgaay	813
CDRH1-17	CDRH1-45	ggnttycanttywsnwsntaygcnatgaay	814
CDRH1-18	CDRH1-47	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-19	CDRH1-51	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-20	CDRH1-52	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-21	CDRH1-13	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-22	CDRH1-14	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-23	CDRH1-1	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-24	CDRH1-22	ggnttycanttywsnwsntaygayatgcay	817
CDRH1-25	CDRH1-23	ggnttycanttywsnwsntaygayatgcay	817
CDRH1-26	CDRH1-12	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-27	CDRH1-5	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-28	CDRH1-15	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-29	CDRH1-7	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-30	CDRH1-61	ggnttycanttymgnwsncayggnatgcay	818
CDRH1-31	CDRH1-39	ggnttycanttywsngcntaywsnatgaay	819
CDRH1-32	CDRH1-34	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-33	CDRH1-6	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-34	CDRH1-35	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-35	CDRH1-21	ggnggnwsngtnwsnwsnggnggntaytaytggwsn	821
CDRH1-36	CDRH1-8	ggnggnwsnathwsnmgnggnggntaytaytggwsn	822
CDRH1-37	CDRH1-9	ggnggnwsnathwsnmgnggnggntaytaytggwsn	822
CDRH1-38	CDRH1-18	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823

FIGURE 19A

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-39	CDRH1-24	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-40	CDRH1-25	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-41	CDRH1-26	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-42	CDRH1-27	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-43	CDRH1-38	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-44	CDRH1-54	ggnggnwsnathwsnwsnggngaytaytaytggaay	824
CDRH1-45	CDRH1-55	ggnggnwsnathwsnwsnggngaytaytaytggaay	824
CDRH1-46	CDRH1-43	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-47	CDRH1-44	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-48	CDRH1-49	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-49	CDRH1-50	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-50	CDRH1-53	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-51	CDRH1-33	ggnggnwsnathwsnwsntaytaytggwsn	826
CDRH1-52	CDRH1-3	ggnggnwsngtnwsnwsnggnggnwsntaytggwsn	827
CDRH1-53	CDRH1-4	ggnggnwsngtnwsnwsnggnggnwsntaytggwsn	827
CDRH1-54	CDRH1-16	ggntaymgnttycanwsntaytggathggn	828
CDRH1-55	CDRH1-17	ggntaywsnttycanwsntaytggathggn	829
CDRH1-56	CDRH1-11	ggntaywsnttycanwsntaytggathggn	829
CDRH1-57	CDRH1-37	ggngaywsngtnwsnwsntaywsngcngcntggaay	830
CDRH1-58	CDRH1-39.1	ggnttycanttywsngcntaywsnatgaay	819
CDRH2-1	CDRH2-10.1	tggathwsngcnwsnaayggnaaycanaaytaygcncaraar ytncargay	831
CDRH2-2	CDRH2-10	tggathwsngcnwsnaayggnaaycanaaytaygcncaraar ytncargay	831
CDRH2-3	CDRH2-42	tggathaayccnaaywsnggnggncanaaytgygcncaraar ttycarggn	832
CDRH2-4	CDRH2-40	tggathaayccnaaywsnggnggncanaaycaycancaraar ttycarggn	833
CDRH2-5	CDRH2-30	wsnttygayccngargayggngarcanathtaygcncaraar ttycarggn	834
CDRH2-6	CDRH2-31	wsnttygayccngargayggngarcanathtaygcncaraar ttycarggn	834
CDRH2-7	CDRH2-29	cayathttywsnaaygaygaraarwsntaywsncanwsnytn aarwsn	835
CDRH2-8	CDRH2-20	ytnathttywsnaaygaygaraarwsntaywsncanwsnytn aarwsn	836
CDRH2-9	CDRH2-65	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837

FIGURE 19B

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-10	CDRH2-56	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-11	CDRH2-62	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-12	CDRH2-2	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-13	CDRH2-59	ytnathtaytggaaygtngaraarmgntaywsnccnwsnytn mgnwsn	838
CDRH2-14	CDRH2-57	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-15	CDRH2-64	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-16	CDRH2-41	gcnathwsnwsnwsnwsnwsntayathtaytaygcngaywsn gtnaarggn	839
CDRH2-17	CDRH2-45	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-18	CDRH2-47	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-19	CDRH2-51	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-20	CDRH2-52	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-21	CDRH2-13	ttyathwsngaygayggnwsncanaartaytaygcngaywsn gtnaarggn	841
CDRH2-22	CDRH2-14	ttyathwsngaygayggnwsncanaartaytaygcngaywsn gtnaarggn	841
CDRH2-23	CDRH2-1	gtnathtggtaygayggnwsnaayaartaytaygcngaywsn gtnaarggn	842
CDRH2-24	CDRH2-22	gtnathtggtaygayggnwsnathaartaytaygcngaywsn gtnaarggn	843
CDRH2-25	CDRH2-23	gtnathtggtaygayggnwsnathaartaytaygcngaywsn gtnaarggn	843
CDRH2-26	CDRH2-12	gtnathtggtaygayggnwsnaayaartaytaygcngaywsn gtnaarggn	842
CDRH2-27	CDRH2-5	gtnathtggwsngayggnwsnaayaartaytaygcngaywsn gtnaarggn	844
CDRH2-28	CDRH2-15	gtnathtgggaygayggnwsnaaycartaytaycangaywsn gtnaarggn	845

FIGURE 19C

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-29	CDRH2-7	gtnathtggtaygayggnwsnaayaarmgntaygtngaywsn gtnaarggn	846
CDRH2-30	CDRH2-61	gtnathtggtaygayggnwsnaayaaraaytaygcngaywsn gtnmgnggn	847
CDRH2-31	CDRH2-39	tayathwsnwsnwsnggnmgncanathtaytaygcngaywsn gtnaarggn	848
CDRH2-32	CDRH2-34	cayathwsnwsnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	849
CDRH2-33	CDRH2-6	cayathwsnmgnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	850
CDRH2-34	CDRH2-35	cayathwsnmgnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	850
CDRH2-35	CDRH2-21	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-36	CDRH2-8	tayathtaycaywsnggnwsncantaytayaayccnwsnytn aarwsn	852
CDRH2-37	CDRH2-9	tayathtaycaywsnggnwsncantaytayaayccnwsnytn aarwsn	852
CDRH2-38	CDRH2-18	tayathtaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	853
CDRH2-39	CDRH2-24	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-40	CDRH2-25	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-41	CDRH2-26	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-42	CDRH2-27	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-43	CDRH2-38	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-44	CDRH2-54	tayathtaytaywsnggnggncantaytayaayccnwsnytn aarwsn	855
CDRH2-45	CDRH2-55	tayathtaytaywsnggnggncantaytayaayccnwsnytn aarwsn	855
CDRH2-46	CDRH2-43	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-47	CDRH2-44	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856

FIGURE 19D

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-48	CDRH2-49	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-49	CDRH2-50	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-50	CDRH2-53	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-51	CDRH2-33	mgnathtaycanwsnggncancanaaytayaayccnwsnytn aarwsn	857
CDRH2-52	CDRH2-3	tayathtaytaywsnggnwsncanaaytayaayccnwsnytn aarwsn	858
CDRH2-53	CDRH2-4	tayathtaytaywsnggnwsncanaaytayaayccnwsnytn aarwsn	858
CDRH2-54	CDRH2-16	athathtayccngaygaywsngaycanmgntaywsnccnwsn ttycarggn	859
CDRH2-55	CDRH2-17	athathtayccngaygaywsngaygcnmgntaywsnccnwsn ttycarggn	860
CDRH2-56	CDRH2-11	athathtayccnggngaywsngayathmgntaywsnccnwsn ttycarggn	861
CDRH2-57	CDRH2-37	mgncantaytgymgnwsnaartggtayaaygaytaygcngtn wsngtnaarwsn	862
CDRH2-58	CDRH2-39.1	tayathwsnwsnwsnggnmgncanathtaytaygcngaywsn gtnaarggn	848
CDRH3-1	CDRH3-10.1	gargayaaytggaaytayggnttyttygaytay	863
CDRH3-2	CDRH3-10	gargayaaytggaaytayggnttyttygaytay	863
CDRH3-3	CDRH3-42	wsnathgcngtngcnytngaytay	864
CDRH3-4	CDRH3-40	wsnathgcngtngcnytngaytay	864
CDRH3-5	CDRH3-30	garggngayggnggntaytaytaytayggnatggaygtn	865
CDRH3-6	CDRH3-31	garggngayggnggntaytaytaytayggnatggaygtn	865
CDRH3-7	CDRH3-29	atgtaywsnwsnggntggtayggngtnttygaytay	866
CDRH3-8	CDRH3-20	gtntaywsnwsnggntggwsnttytayggnatggaygtn	867
CDRH3-9	CDRH3-65	mgnmgngarytnccnttygaytay	868
CDRH3-10	CDRH3-56	mgnaaytggcanccnttygaytay	869
CDRH3-11	CDRH3-62	mgnytngarytnccnttygaytay	870
CDRH3-12	CDRH3-2	mgnmgngargtnccnttygaytay	871
CDRH3-13	CDRH3-59	mgncaycanaayccnttygartay	872
CDRH3-14	CDRH3-57	mgnggngarytnccnttygaytay	873
CDRH3-15	CDRH3-64	mgnggngarytnccnttygaytay	873
CDRH3-16	CDRH3-41	gaymgngtnggngcncanccngaygcnttygayath	874

FIGURE 19E

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-17	CDRH3-45	garggnathgcngtngcnggncangcngartaytaytaytay taygcnatggaygtn	875
CDRH3-18	CDRH3-47	garggnathgcngcnmgngaywsntaytaytaytaygcnatg gaygtn	876
CDRH3-19	CDRH3-51	garggnathgcnggnmgngaywsntaytaytaytayggnatg gaygtn	877
CDRH3-20	CDRH3-52	garggnathgcnggnmgngaywsntaytaytaytayggnatg gaygtn	877
CDRH3-21	CDRH3-13	wsntaytaygaywsnwsnggntaytaytayggnttygaytay	878
CDRH3-22	CDRH3-14	wsntaytaygaywsnwsnggntaytaytayggnttygaytay	878
CDRH3-23	CDRH3-1	aaygtnathgaytay	879
CDRH3-24	CDRH3-22	ggnggngcncanggngcngartayttycarcay	880
CDRH3-25	CDRH3-23	ggnggngcncanggngcngartayttycarcay	880
CDRH3-26	CDRH3-12	ytntggttyggngarcanttygaytay	881
CDRH3-27	CDRH3-5	aayytnccnttygaytay	882
CDRH3-28	CDRH3-15	wsncaytayggnggngaytaygaytaytayggnatggaygtn	883
CDRH3-29	CDRH3-7	gayggntggcarcarcargcnccnttygaytay	884
CDRH3-30	CDRH3-61	tggggnathwsngcngcnttygaytgy	885
CDRH3-31	CDRH3-39	tgggcnccnttygaytay	886
CDRH3-32	CDRH3-34	gayggntayaaytggaayggnggnggnaaytaytayggnatg gaygtn	887
CDRH3-33	CDRH3-6	gayggntayaaytggaayaayggnggntaytaytayggnatg gaygtn	888
CDRH3-34	CDRH3-35	gayggntayaaytggaayaayggnggntaytaytayggnatg gaygtn	888
CDRH3-35	CDRH3-21	ggnccntaytayggnatggaygtn	889
CDRH3-36	CDRH3-8	gcnytnmgnggnathgtnytnatggtntaygtnytnggngcn ytngayath	890
CDRH3-37	CDRH3-9	gcnytnmgnggnathgtnytnatggtntaygtnytnggngcn ytngayath	890
CDRH3-38	CDRH3-18	gaygarcangtngtnmgnggnytnathmgntaytgytayggn atggaygtn	891
CDRH3-39	CDRH3-24	gaymgnggnggnggngaytayggnmgnatggaygtn	892
CDRH3-40	CDRH3-25	gaymgnggnggnggngaytayggnmgnatggaygtn	892
CDRH3-41	CDRH3-26	wsnaayaaytayggntgyttygcnytn	893
CDRH3-42	CDRH3-27	wsnaayaaytayggntgyttygcnytn	893
CDRH3-43	CDRH3-38	ggntayaaytayggnytntaytaytaygaywsnwsnggntay ccnwsntaytaytayggnatggaygtn	894
CDRH3-44	CDRH3-54	cantaytaygayathytncanggntayccnttytayttygay tay	895

FIGURE 19F

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-45	CDRH3-55	cantaytaygayathytncanggntayccnttytayttygay tay	895
CDRH3-46	CDRH3-43	ggnggntaywsnwsnwsntggtaytggttygayccn	896
CDRH3-47	CDRH3-44	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-48	CDRH3-49	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-49	CDRH3-50	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-50	CDRH3-53	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-51	CDRH3-33	gayggntaywsntayggncaytaytaytaytayggnatggay gtn	898
CDRH3-52	CDRH3-3	wsngcnytnmgntayttygaytggytnttywsngaygtnwsn gayath	899
CDRH3-53	CDRH3-4	wsngcnytnmgntayttygaytggytnttywsngaygtnwsn gayath	899
CDRH3-54	CDRH3-16	caraarwsntayggntaywsntayttygaytay	900
CDRH3-55	CDRH3-17	carggntayggnwsnggntggggntayttygaytay	901
CDRH3-56	CDRH3-11	carggnytngcngtngcnggncanwsntaytaytaytaytay ggnatggaygtn	902
CDRH3-57	CDRH3-37	gaymgngcngtngcnggntaytaytayggnatggaygtn	903
CDRH3-58	CDRH3-39.1	tgggcnccnttygaytay	886

FIGURE 19G

LIGHT CHAIN FR NUCLEOTIDE SEQUENCES

NAME	SEQUENCE	SEQ ID NO:
FRL1-1	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	919
FRL1-2	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	919
FRL1-3	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	920
FRL1-4	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	920
FRL1-5	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-6	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-7	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-8	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	922
FRL1-9	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	922
FRL1-11	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	923
FRL1-12	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathathtgy	923
FRL1-13	aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-14	aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-15	garathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-16	garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggn garmgngcncanytnwsntgy	925
FRL1-17	garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggn garmgngcncanytnwsntgy	926
FRL1-18	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	927
FRL1-19	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	928

FIGURE 20A

NAME	SEQUENCE	SEQ ID NO:
FRL1-20	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	928
FRL1-21	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-22	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-23	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-24	gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-25	gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-26	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-27	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-28	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	930
FRL1-29	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	930
FRL1-30	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-31	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-32	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-33	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-34	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	931
FRL1-35	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	932
FRL1-36	garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggn garmgngcncanytnwsntgy	933
FRL1-37	garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggn garmgngcncanytnwsntgy	933
FRL1-38	gayathcaratgcancarwsnccnwsnwsngtnwsngcnwsngtnggn gaymgngtncanathcantgy	934

FIGURE 20B

NAME	SEQUENCE	SEQ ID NO:
FRL1-39	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	935
FRL1-40	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsnytnggn gaymgngtncanathcantgy	934
FRL1-41	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	936
FRL1-42	gayathcaratgcancarwsnccnwsnwsnmgnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-43	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	937
FRL1-44	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-45	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-46	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-47	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-48	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-49	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-50	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-51	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-52	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-53	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-54	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-55	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-56	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	938
FRL1-57	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934

FIGURE 20C

NAME	SEQUENCE	SEQ ID NO:
FRL1-58	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	934
FRL1-59	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	934
FRL1-60	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-61	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-62	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gayggngtncanathcantgy	934
FRL1-63	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	939
FRL1-64	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-65	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL2-1	tggttycarcarmgnccnggncarwsnccnmgnmgnytnathtay	939
FRL2-2	tggttycarcarmgnccnggncarwsnccnmgnmgnytnathtay	939
FRL2-3	tggytncarcarmgnccnggncarwsnccnmgnmgnytnathtay	940
FRL2-4	tggytncarcarmgnccnggncarwsnccnmgnmgnytnathtay	940
FRL2-5	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-6	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-7	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-8	tggttyytncaraarccnggncarccnccncarccnytnathtay	942
FRL2-9	tggttyytncaraarccnggncarccnccncarccnytnathtay	942
FRL2-11	tggtaycarcaraarccnggnaargtnccnaarytnytnathtay	943
FRL2-12	tggtaycarcaraarccnggnaargtnccnaarytnytnathtay	943
FRL2-13	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-14	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-15	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-16	tggtaycarcaraarccnggncargcnccnmgnytnytnathwsn	945
FRL2-17	tggtaycarcaraarccnggncargcnccnmgnytnytnathtay	946
FRL2-18	tggtaycarcaraarccnggnaargcnccnaarmgnytnathtay	947
FRL2-19	tggtaycarcaraarccnggncarccnccnaarytnttyathtay	948
FRL2-20	tggtaycarcaraarccnggncarccnccnaarytnttyathtay	948
FRL2-21	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-22	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-23	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949

FIGURE 20D

NAME	SEQUENCE	SEQ ID NO:
FRL2-24	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-25	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-26	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-27	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-28	tggtaycarcaraarccnggncarccnccnaargtnytnathtay	950
FRL2-29	tggtaycarcaraarccnggncarccnccnaargtnytnathtay	950
FRL2-30	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-31	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-32	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-33	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-34	tggttycarcaraarccnggnaargcnccnaarwsnytnathtay	951
FRL2-35	tggytncarcaraarccnggnaargcnccnaarwsnytnathtay	952
FRL2-36	tggtaycarcargayccnggncargcnccnmgnytnytnathtay	953
FRL2-37	tggtaycarcargayccnggncargcnccnmgnytnytnathtay	953
FRL2-38	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-39	tggtaycarcaraarccnggnaargcnccnaarttyytnathtay	955
FRL2-40	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-41	tggtaycarcarmgnccnggnaaygcnccnaarytnytnathtay	956
FRL2-42	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-43	tggtaycarcaraarccnggnaargcnccnaargtnytnathtay	957
FRL2-44	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-45	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-46	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-47	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-48	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-49	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-50	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-51	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-52	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-53	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-54	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-55	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-56	tggtaycarcaraarccnggnaargcnccngarytnytnathtay	958
FRL2-57	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-58	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-59	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954

FIGURE 20E

NAME	SEQUENCE	SEQ ID NO:
FRL2-60	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-61	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-62	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-63	tggtaycarcaraarytnggnaargcnccnaarytnytnathcay	959
FRL2-64	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-65	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL3-1	ggngtnccngaymgnttyaayggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	960
FRL3-2	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-3	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-4	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-5	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-6	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-7	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-8	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-9	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-11	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargaygtngcncantaytaytgy	962
FRL3-12	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargaygtngcncantaytaytgy	962
FRL3-13	ggngtnccngaymgnttywsnggnwsnggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	963
FRL3-14	ggngtnccngaymgnttywsnggnwsnggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	963
FRL3-15	ggngtnccngaymgnttywsnggncanggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	964
FRL3-16	ggnathccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnmgnytngarccngargayttygcngtntaytaytgy	965
FRL3-17	ggnathccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnmgnytngarccngargayttygcngtntaytaytgy	965

FIGURE 20F

NAME	SEQUENCE	SEQ ID NO:
FRL3-18	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	966
FRL3-19	ggngtnccngaymgnttycanggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	967
FRL3-20	ggngtnccngaymgnttycanggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	967
FRL3-21	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	968
FRL3-22	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-23	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-24	ggngtnccngaymgnttyggnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	970
FRL3-25	ggngtnccngaymgnttyggnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	970
FRL3-26	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	971
FRL3-27	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	971
FRL3-28	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnggnytncargcngargaygtngcnytntaytaytgy	972
FRL3-29	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnggnytncargcngargaygtngcnytntaytaytgy	972
FRL3-30	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtnttytaytgy	973
FRL3-31	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtnttytaytgy	973
FRL3-32	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-33	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-34	ggngtnccnwsnaarttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	974
FRL3-35	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-36	ggnathccngcnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarwsngargayttygcngtntaytaytgy	976

FIGURE 20G

NAME	SEQUENCE	SEQ ID NO:
FRL3-37	ggnathccngcnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarwsngargayttygcngtntaytaytgy	976
FRL3-38	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-39	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcngcntaytaytgy	977
FRL3-40	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-41	ggngtnccnwsnmgngtnwsnggnwsnggnwsnggncangayttycan ytncanathmgnwsnytncarccngargayttygcncantaytaytgy	978
FRL3-42	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcncantaytaytgy	979
FRL3-43	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-44	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngaraayttygcncantaytaytgy	980
FRL3-45	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanttywsnwsnytncarccngargayttygcncantaytaytgy	981
FRL3-46	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcnwsntaytaytgy	982
FRL3-47	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcnwsntaytaytgy	982
FRL3-48	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-49	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-50	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-51	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcnwsntaytaytgy	983
FRL3-52	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcnwsntaytaytgy	983
FRL3-53	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-54	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-55	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984

FIGURE 20H

NAME	SEQUENCE	SEQ ID NO:
FRL3-56	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-57	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-58	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-59	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-60	ggngtnccnwsnmgnttywsnggnwsnggnwsngarcangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	985
FRL3-61	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-62	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-63	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-64	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-65	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL4-1	ttyggncarggncanmgnytngarathaar	986
FRL4-2	ttyggncarggncanmgnytngarathaar	986
FRL4-3	ttyggncarggncanmgnytngarathaar	986
FRL4-4	ttyggncarggncanmgnytngarathaar	986
FRL4-5	ttyggncarggncanaarytngarathaar	988
FRL4-6	ttyggnggnggncanaargtngarathaar	989
FRL4-7	ttyggnggnggncanaargtngarathaar	989
FRL4-8	ttyggncayggncanmgnytngarathaar	990
FRL4-9	ttyggncayggncanmgnytngarathaar	990
FRL4-11	ttyggnccnggncanaargtngayathaar	991
FRL4-12	ttyggnggnggncanaargtngarathaar	989
FRL4-13	ttyggnccnggncanaargtngayathaar	991
FRL4-14	ttyggnccnggncanaargtngayathaar	991
FRL4-15	ttyggnggnggncanaargtngarathaar	989
FRL4-16	ttyggncarggncanaargtngarathaar	992
FRL4-17	ttyggncarggncanaarytngarathaar	988
FRL4-18	ttyggncarggncanaargtngarathaar	992
FRL4-19	ttyggncarggncanaargtngarathaar	992
FRL4-20	ttyggncarggncanaargtngarathaar	992

FIGURE 20I

NAME	SEQUENCE	SEQ ID NO:
FRL4-21	ttyggncarggncanaargtngarathaar	992
FRL4-22	ttyggncarggncanaargtngarathaar	992
FRL4-23	ttyggncarggncanaargtngarathaar	992
FRL4-24	ttyggncarggncanaargtngarathaar	992
FRL4-25	ttyggncarggncanaargtngarathaar	992
FRL4-26	ttyggnccnggncanaargtngarathaar	993
FRL4-27	ttyggnccnggncanaargtngarathaar	993
FRL4-28	ttyggncarggncanaarytngarathaar	988
FRL4-29	ttyggncarggncanaarytngarathaar	988
FRL4-30	ttyggnggnggncanaargtngcnathaar	994
FRL4-31	ttyggnggnggncanaargtngcnathaar	994
FRL4-32	ttyggnggnggncanaargtngarathaar	989
FRL4-33	ttyggnggnggncanaargtngarathaar	989
FRL4-34	ttyggnccnggncanaargtngayathaar	991
FRL4-35	ttyggnccnggncanaaratggayathaar	995
FRL4-36	ttyggncarggncanaargtngarathaar	992
FRL4-37	ttyggncarggncanaargtngarathaar	992
FRL4-38	ttyggncarggncanaargtngarttyaar	996
FRL4-39	ttyggnccnggncanaargtngayathaar	991
FRL4-40	ttyggnggnggncanaargtngarathaar	989
FRL4-41	ttyggnggnggncanaargtngarathaar	989
FRL4-42	ttyggncarggncanmgnytngarathaar	986
FRL4-43	ttyggncarggncanmgnytngarathath	987
FRL4-44	ttyggncarggncanmgnytngarathaar	986
FRL4-45	ttyggncarggncanmgnytngarathaar	986
FRL4-46	ttyggncarggncanmgnytngarathaar	986
FRL4-47	ttyggncarggncanmgnytngarathaar	986
FRL4-48	ttyggncarggncanmgnytngarathaar	986
FRL4-49	ttyggncarggncanmgnytngarathaar	986
FRL4-50	ttyggncarggncanmgnytngarathaar	986
FRL4-51	ttyggncarggncanmgnytngarathaar	986
FRL4-52	ttyggncarggncanmgnytngarathaar	986
FRL4-53	ttyggncarggncanmgnytngarathaar	986
FRL4-54	ttyggnccnggncanaargtngayathaar	991
FRL4-55	ttyggnccnggncanaargtngayathaar	991
FRL4-56	ttyggnggnggncanaargtngarathaar	989

FIGURE 20J

NAME	SEQUENCE	SEQ ID NO:
FRL4-57	ttyggnggnggncanaargtngarathaar	989
FRL4-58	ttyggnggnggncanaargtngarathaar	989
FRL4-59	ttyggnggnggncanaargtngarathaar	989
FRL4-60	ttyggnggnggncanaargtngarathaar	989
FRL4-61	ttyggnggnggncanaargtngarathmgn	997
FRL4-62	ttyggncarggncanmgnytngarathaar	986
FRL4-63	ttyggncarggncanmgnytngarathaar	986
FRL4-64	ttyggncarggncanmgnytngarathaar	986
FRL4-65	ttyggncarggncanmgnytngarathaar	986

FIGURE 20K

HEAVY CHAIN FR NUCLEOTIDE SEQUENCES

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-1	FRH1-1	cargtncarytngtncarwsnggngcngargtnaaraarccngg ngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-2	FRH1-2	cargtncarytngtncarwsnggngcngargtnaaraarccngg ngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-3	FRH1-3	cargtncayytngtncarwsnggngcngargtnaaraarccngg ngcnwsngtnaargtnwsntgyaargtnwsn	999
FRH1-4	FRH1-4	cargtncarytngtncarwsnggngcngargtnaaraarccngg ngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-5	FRH1-5	cargtncarytngtncarwsnggngcngargtnmgnaarccngg ngcnwsngtnaargtnwsntgyaargtnwsn	1000
FRH1-6	FRH1-6	cargtncarytngtncarwsnggngcngargtnmgnaarccngg ngcnwsngtnaargtnwsntgyaargtnwsn	1000
FRH1-7	FRH1-7	cargtncanytnaargarwsnggnccngtnytngtnaarccnca ngarcanytncanytncantgycangtnwsn	1001
FRH1-8	FRH1-8	cargtncanytnaargarwsnggnccngtnytngtnaarccnca ngarcanytncanytncantgycangtnwsn	1001
FRH1-9	FRH1-9	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-10	FRH1-10	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-11	FRH1-11	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-12	FRH1-12	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-13	FRH1-13	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-14	FRH1-14	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-15	FRH1-15	carathcanytnaargarwsnggnccncanytngtnaarccnca ncarcanytncanytncantgycanttywsn	1002
FRH1-16	FRH1-16	gargtncarytngtngarwsnggnggnggnytngtnaarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1003
FRH1-17	FRH1-17	gargtncarytnytngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1004
FRH1-18	FRH1-18	gargtncarytnytngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1004

FIGURE 21A

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-19	FRH1-19	gargtncarytnytngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgycangcnwsn	1005
FRH1-20	FRH1-20	gargtncarytnytngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgycangcnwsn	1005
FRH1-21	FRH1-21	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-22	FRH1-22	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-23	FRH1-23	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-24	FRH1-24	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-25	FRH1-25	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-26	FRH1-26	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-27	FRH1-27	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-28	FRH1-28	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-29	FRH1-29	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-30	FRH1-30	cargtncarytngtngarwsnggnggnggngtngtncarccngg nmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-31	FRH1-31	gargtncarytngtngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-32	FRH1-32	gargtncarytngtngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-33	FRH1-33	gargtncarytngtngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-34	FRH1-34	gargtncarytngtngarwsnggnggnggnytngtncarccngg nggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-35	FRH1-35	cargtncarytncargarwsnggnccnggnytngtnaarccnws ncarcanytnwsnytncantgycangtnwsn	1008
FRH1-36	FRH1-36	cargtncarytncargarwsnggnccnggnytngtnaarccnws ncarcanytnwsnytncantgycangtnwsn	1008
FRH1-37	FRH1-37	cargtncarytncargarwsnggnccnggnytngtnaarccnws ncarcanytnwsnytncantgycangtnwsn	1008

FIGURE 21B

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-38	FRH1-38	Cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-39	FRH1-39	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaaytgycangtnwsn	1009
FRH1-40	FRH1-40	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaaytgycangtnwsn	1009
FRH1-41	FRH1-41	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-42	FRH1-42	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-43	FRH1-43	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-44	FRH1-44	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-45	FRH1-45	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-46	FRH1-46	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-47	FRH1-47	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-48	FRH1-48	gargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-49	FRH1-49	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-50	FRH1-50	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-51	FRH1-51	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-52	FRH1-52	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-53	FRH1-53	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-54	FRH1-54	gargtncarytngtncarwsnggngcngarytnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1012
FRH1-55	FRH1-55	gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1013
FRH1-56	FRH1-56	gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1013
FRH1-57	FRH1-57	cargtncarytncarcarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgygcnathwsn	1014
FRH1-58	FRH1-58	gargtncarytngtngarwsnggnggnggnytngtncarccngg	1007

FIGURE 21C

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-1	FRH2-1	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-2	FRH2-2	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-3	FRH2-3	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-4	FRH2-4	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-5	FRH2-5	tgggtnmgncargcnccnggnaarggnytngartggatgggn	1016
FRH2-6	FRH2-6	tgggtnmgncargcnccnggnaarggnytngartggatgggn	1016
FRH2-7	FRH2-7	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-8	FRH2-20	tggathmgncarccnccnggnaargcnytngartggytngtn	1018
FRH2-9	FRH2-65	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-10	FRH2-56	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-11	FRH2-62	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-12	FRH2-2	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-13	FRH2-59	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-14	FRH2-57	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-15	FRH2-64	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-16	FRH2-41	Tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-17	FRH2-45	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-18	FRH2-47	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-19	FRH2-51	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-20	FRH2-52	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-21	FRH2-13	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-22	FRH2-14	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-23	FRH2-1	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-24	FRH2-22	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-25	FRH2-23	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-26	FRH2-12	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-27	FRH2-5	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-28	FRH2-15	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-29	FRH2-7	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-30	FRH2-61	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-31	FRH2-39	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-32	FRH2-34	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-33	FRH2-6	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-34	FRH2-35	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-35	FRH2-21	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-36	FRH2-8	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-37	FRH2-9	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-38	FRH2-18	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-39	FRH2-24	tggathmgncarcayccnggnaarggnytngartggathggn	1021

FIGURE 21D

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-40	FRH2-25	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-41	FRH2-26	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-42	FRH2-27	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-43	FRH2-38	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-44	FRH2-54	tgggtnmgncarcayccnggnaarggnytngartggathggn	1022
FRH2-45	FRH2-55	tgggtnmgncarcayccnggnaarggnytngartggathggn	1022
FRH2-46	FRH2-43	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-47	FRH2-44	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-48	FRH2-49	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-49	FRH2-50	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-50	FRH2-53	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-51	FRH2-33	tggathmgncarccngcnggnaarggnytngartggathggn	1024
FRH2-52	FRH2-3	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-53	FRH2-4	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-54	FRH2-16	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-55	FRH2-17	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-56	FRH2-11	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-57	FRH2-37	tggathmgncarwsngcnwsnmgnggnytngartggytnggn	1026
FRH2-58	FRH2-39.1	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH3-1	FRH3-10.1	mgngtncanatgcancangaycanwsncanwsncangcntayat ggarytnmgnwsnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1027
FRH3-2	FRH3-10	mgngtncanatgcancangaycanwsncanwsncangcntayat ggarytnmgnwsnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1027
FRH3-3	FRH3-42	mgngtncanatgcanmgngaycanwsnathwsncangcntayat ggarytnwsnmgnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1028
FRH3-4	FRH3-40	mgngtncanatgcanmgngaycanwsnathwsncangcntayat ggarytnwsnmgnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1028
FRH3-5	FRH3-30	mgngtncanatgytngargaycanwsncangaycangcntayat ggarytnwsnwsnytnmgnwsngargaycangcngtntaytayt gygcncan	1029

FIGURE 21E

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-6	FRH3-31	mgngtncanatgytngargaycanwsncangaycangcntayat ggarytnwsnwsnytnmgnwsngargaycangcngtntaytayt gygcncan	1029
FRH3-7	FRH3-29	mgnytncanathwsnaargaycanwsnaarwsncargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcnmgn	1030
FRH3-8	FRH3-20	mgnytncanathwsnaargaycanwsnaarwsncargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcnmgn	1030
FRH3-9	FRH3-65	mgnytncanathcanaargaycanwsnaaraaycargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcncay	1031
FRH3-10	FRH3-56	mgnytncanathcanaargaycanwsnaarcancargtngtnyt ncangtncangayatggayccngtngaycangcncantaytayt gygcncay	1032
FRH3-11	FRH3-62	mgnytncanathcanaargaycanwsnaaraaycargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcncay	1031
FRH3-12	FRH3-2	mgnytncanathcanaargaycanwsnaaraaycargtngtnyt ncanatgcanaayytngayccngtngaycangcncantaytayt gygcncay	1033
FRH3-13	FRH3-59	mgnytncanathcanaargcncanwsnaaraaycargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcncay	1034
FRH3-14	FRH3-57	mgnytncanathcanaargaycanwsnaaraaycargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcncay	1031
FRH3-15	FRH3-64	mgnytncanathcanaargaycanwsnaaraaycargtngtnyt ncanatgcanaayatggayccngtngaycangcncantaytayt gygcncay	1031
FRH3-16	FRH3-41	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1035
FRH3-17	FRH3-45	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnaar	1036

FIGURE 21F

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-18	FRH3-47	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnaar	1036
FRH3-19	FRH3-51	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngartaytayt gygcnaar	1037
FRH3-20	FRH3-52	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngartaytayt gygcnaar	1037
FRH3-21	FRH3-13	mgnttycanathwsnmgngayaaywsnatgaaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1038
FRH3-22	FRH3-14	mgnttycanathwsnmgngayaaywsnatgaaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1038
FRH3-23	FRH3-1	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-24	FRH3-22	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-25	FRH3-23	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-26	FRH3-12	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygtnytn	1040
FRH3-27	FRH3-5	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-28	FRH3-15	mgnttycangtnwsnmgngayaaywsnaaraaycanytnttyyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1041
FRH3-29	FRH3-7	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039

FIGURE 21G

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-30	FRH3-61	mgnttycanathwsnmgngayaaywsnaaraaycanytngayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1041
FRH3-31	FRH3-39	mgnttycanathwsnmgngayaaygcnaaraaywsnytnttyyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnytn	1042
FRH3-32	FRH3-34	mgnttycanathwsnmgngayaaygcnaaraaywsngtntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1043
FRH3-33	FRH3-6	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1044
FRH3-34	FRH3-35	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1044
FRH3-35	FRH3-21	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naayytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1045
FRH3-36	FRH3-8	mgngtnaayatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1046
FRH3-37	FRH3-9	mgngtnaayatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1046
FRH3-38	FRH3-18	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-39	FRH3-24	mgnathcanathwsngcngaycanwsnaaraaycarttywsnyt naarytnaaywsngtncangcngcngaycangcngtntaytayt gygcnmgn	1048
FRH3-40	FRH3-25	mgnathcanathwsngcngaycanwsnaaraaycarttywsnyt naarytnaaywsngtncangcngcngaycangcngtntaytayt gygcnmgn	1048
FRH3-41	FRH3-26	mgnathcanaarwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1049

FIGURE 21H

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-42	FRH3-27	mgnathcanaarwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1049
FRH3-43	FRH3-38	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnwsn	1050
FRH3-44	FRH3-54	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnttywsngtncangcngcngaycangcngtntayttyt gygcnmgn	1051
FRH3-45	FRH3-55	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnttywsngtncangcngcngaycangcngtntayttyt gygcnmgn	1051
FRH3-46	FRH3-43	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-47	FRH3-44	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-48	FRH3-49	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-49	FRH3-50	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-50	FRH3-53	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-51	FRH3-33	mgngtncanatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1052
FRH3-52	FRH3-3	mgngtncanathwsnathgtncanwsnmgnaaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1053
FRH3-53	FRH3-4	mgngtncanathwsnathgtncanwsnmgnaaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1053

FIGURE 21I

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-54	FRH3-16	cargtncanathwsngcngayaarwsnathwsncangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1054
FRH3-55	FRH3-17	cargtncanathwsngcngayaarwsnathaaycangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1055
FRH3-56	FRH3-11	cargtncanathwsngcngayaarwsnathwsncangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1054
FRH3-57	FRH3-37	mgnathcanathaayccngaycanwsnaaraaycarttywsnyt ncarytnaaywsngtncanccngargaycangcngtntaytayt gygcnmgn	1056
FRH3-58	FRH3-39.1	mgnttycanathwsnmgngayaaygcnaaraaywsnytnttyyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnytn	1042
FRH4-1	FRH4-10.1	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-2	FRH4-10	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-3	FRH4-42	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-4	FRH4-40	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-5	FRH4-30	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-6	FRH4-31	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-7	FRH4-29	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-8	FRH4-20	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-9	FRH4-65	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-10	FRH4-56	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-11	FRH4-62	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-12	FRH4-2	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-13	FRH4-59	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-14	FRH4-57	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-15	FRH4-64	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-16	FRH4-41	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-17	FRH4-45	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-18	FRH4-47	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-19	FRH4-51	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-20	FRH4-52	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-21	FRH4-13	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-22	FRH4-14	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-23	FRH4-1	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-24	FRH4-22	tggggncarggncanytngtncangtnwsnwsn	1057

FIGURE 21J

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH4-25	FRH4-23	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-26	FRH4-12	tggggncarggnwsnytngtncangtnwsnccn	1060
FRH4-27	FRH4-5	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-28	FRH4-15	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-29	FRH4-7	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-30	FRH4-61	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-31	FRH4-39	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-32	FRH4-34	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-33	FRH4-6	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-34	FRH4-35	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-35	FRH4-21	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-36	FRH4-8	tggggncarggncanaargtncangtnwsnwsn	1061
FRH4-37	FRH4-9	tggggncarggncanaargtncangtnwsnwsn	1061
FRH4-38	FRH4-18	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-39	FRH4-24	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-40	FRH4-25	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-41	FRH4-26	tggggnmgnggncanytngtncangtnwsnwsn	1062
FRH4-42	FRH4-27	tggggnmgnggncanytngtncangtnwsnwsn	1062
FRH4-43	FRH4-38	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-44	FRH4-54	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-45	FRH4-55	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-46	FRH4-43	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-47	FRH4-44	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-48	FRH4-49	tggggncarggncanytngtncangtnwsnwsn	1057
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FRH4-51	FRH4-33	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-52	FRH4-3	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-53	FRH4-4	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-54	FRH4-16	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-55	FRH4-17	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-56	FRH4-11	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-57	FRH4-37	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-58	FRH4-39.1	tggggncarggncanytngtncangtnwsnwsn	1057

FIGURE 21K

Inhibition of HBEGF-induced EGFR tyrosine phosphorylation

Fig 22a

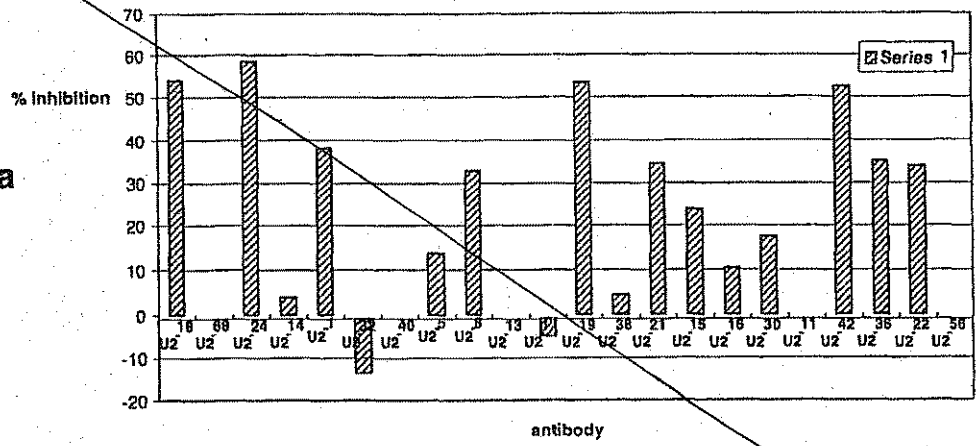
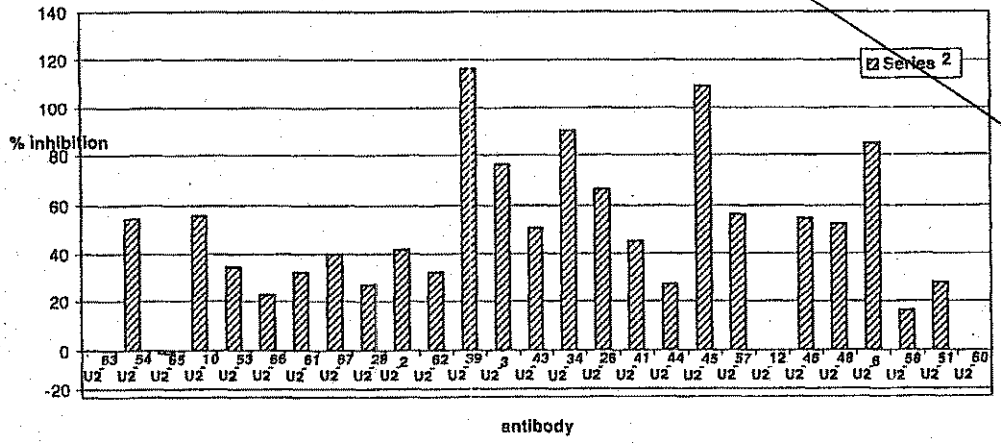


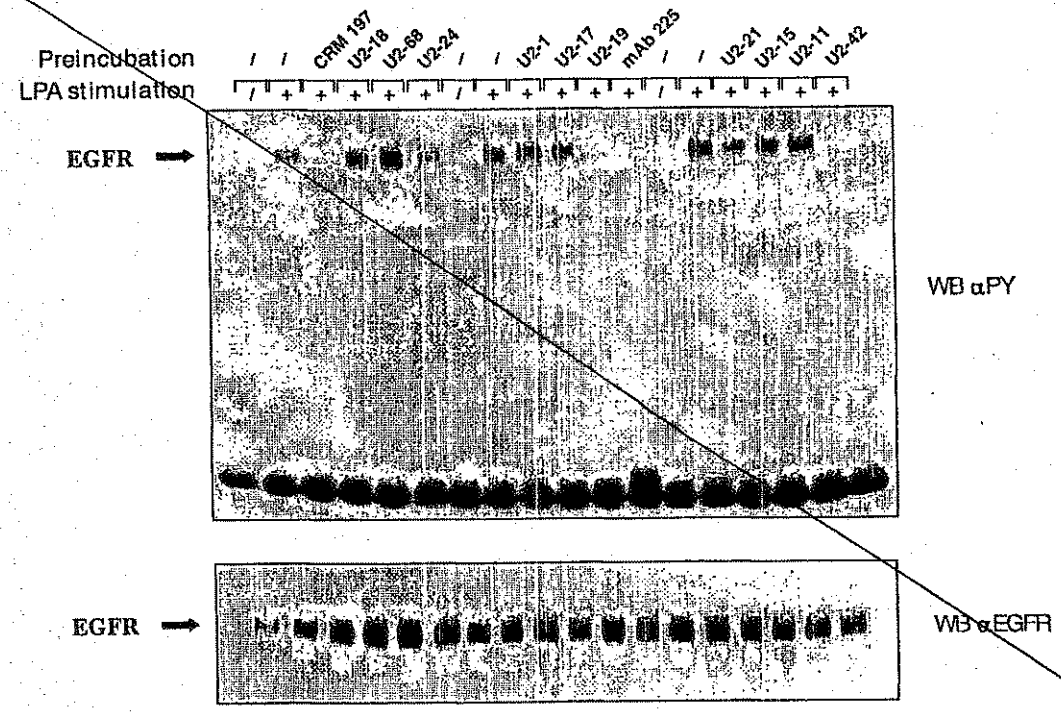
Fig 22b



ZU51/Z55

Inhibition of LPA-induced EGFR tyrosine phosphorylation

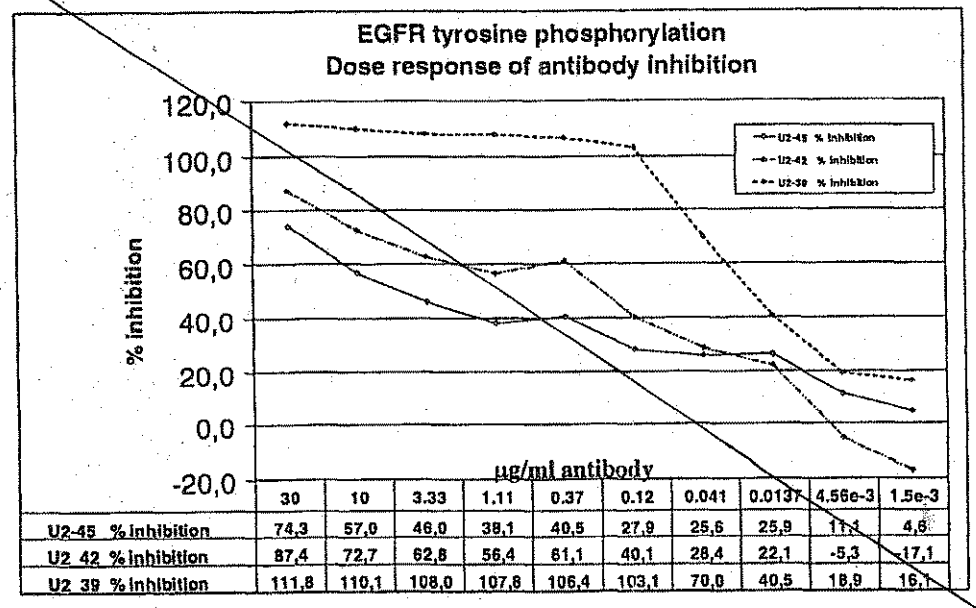
Fig 23



2044/233

Inhibition of HBEGF-induced EGFR tyrosine phosphorylation - Dose response

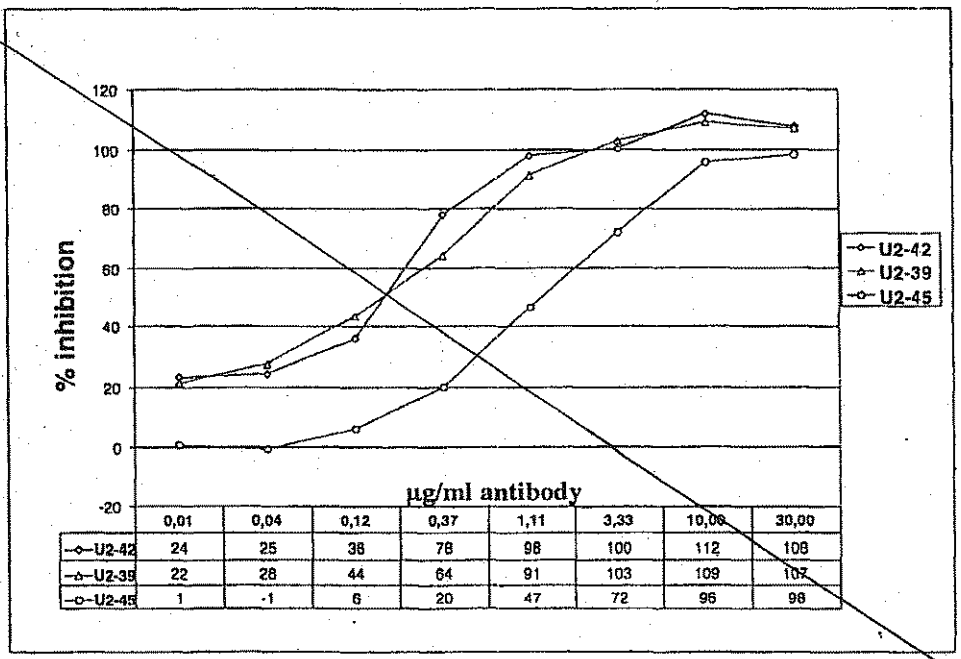
Fig 24



	30	10	3.33	1.11	0.37	0.12	0.041	0.0137	4.56e-3	1.5e-3
U2-45 % inhibition	74,3	57,0	46,0	38,1	40,5	27,9	25,6	25,9	11,1	4,6
U2 42 % inhibition	87,4	72,7	62,8	56,4	61,1	40,1	28,4	22,1	-5,3	-17,1
U2 39 % inhibition	111,8	110,1	108,0	107,8	106,4	103,1	70,0	40,5	18,9	16,1

Fig 25

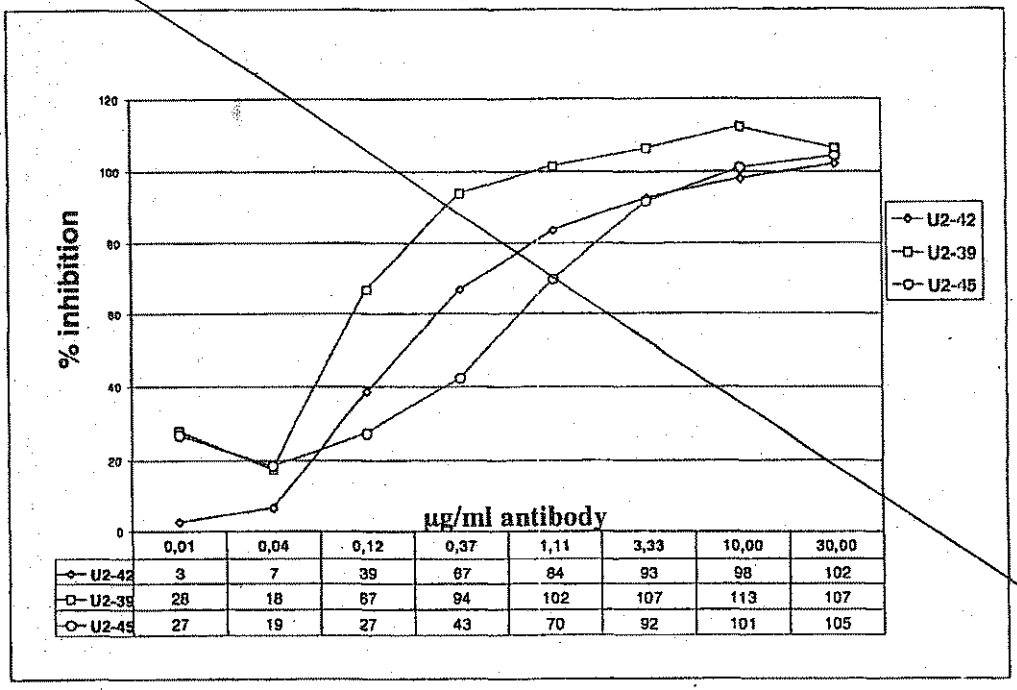
Inhibition of Thrombin-induced EGFR tyrosine phosphorylation in MDA-MB231 cells - Dose response



	0,01	0,04	0,12	0,37	1,11	3,33	10,00	30,00
U2-42	24	25	36	78	98	100	112	108
U2-39	22	28	44	64	91	103	109	107
U2-45	1	-1	6	20	47	72	96	98

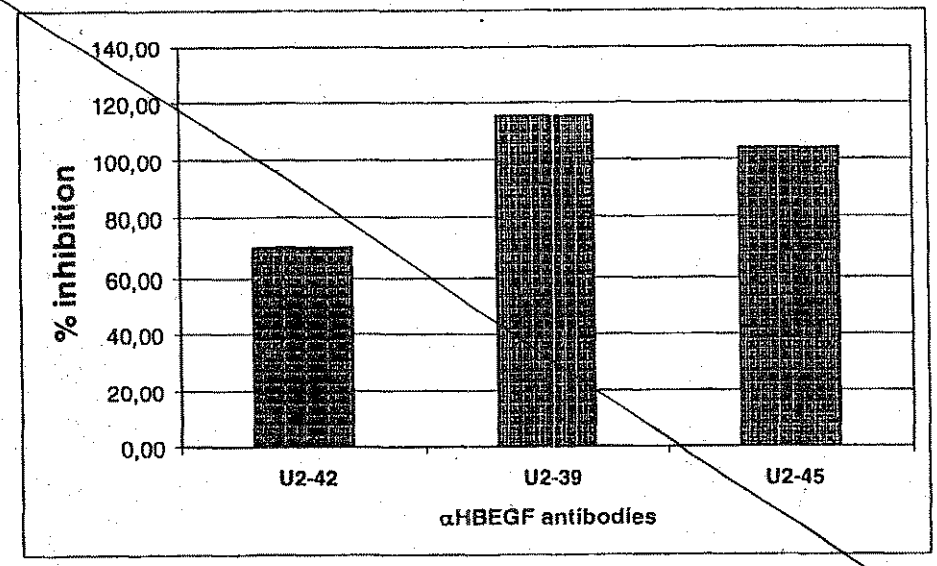
Fig 26

Inhibition of LPA-induced EGFR tyrosine phosphorylation in PPC-1 cells - Dose response



	0,01	0,04	0,12	0,37	1,11	3,33	10,00	30,00
U2-42	3	7	39	67	84	93	98	102
U2-39	28	18	67	94	102	107	113	107
U2-45	27	19	27	43	70	92	101	105

Fig 27


Inhibition of Sphingosine-1-phosphate-induced migration of MDA-MB231 cells
% inhibition
140,00
120,00
100,00
80,00
60,00
40,00
20,00
0,00
U2-42
U2-39
U2-45
αHBEGF antibodies

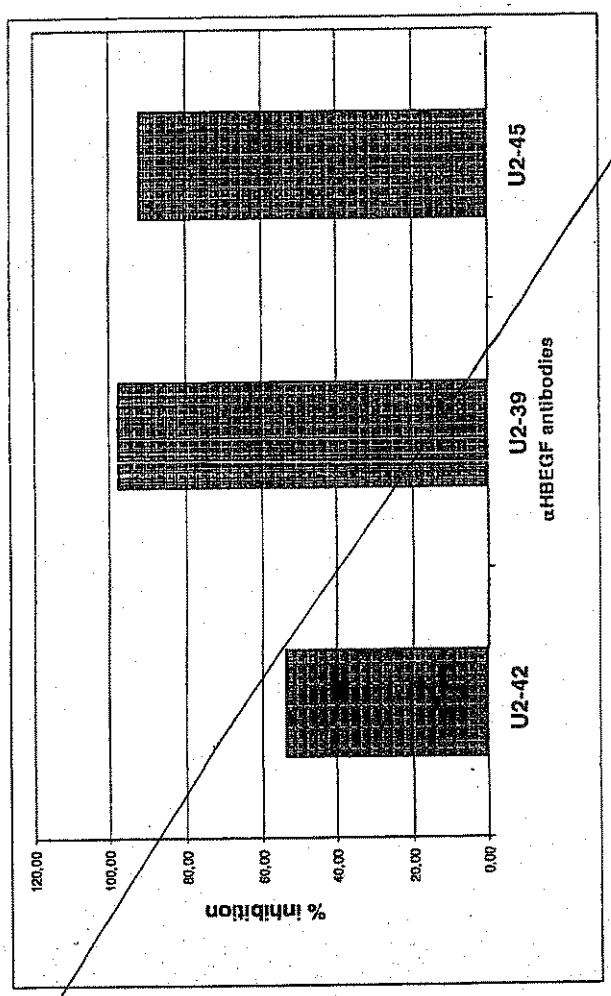
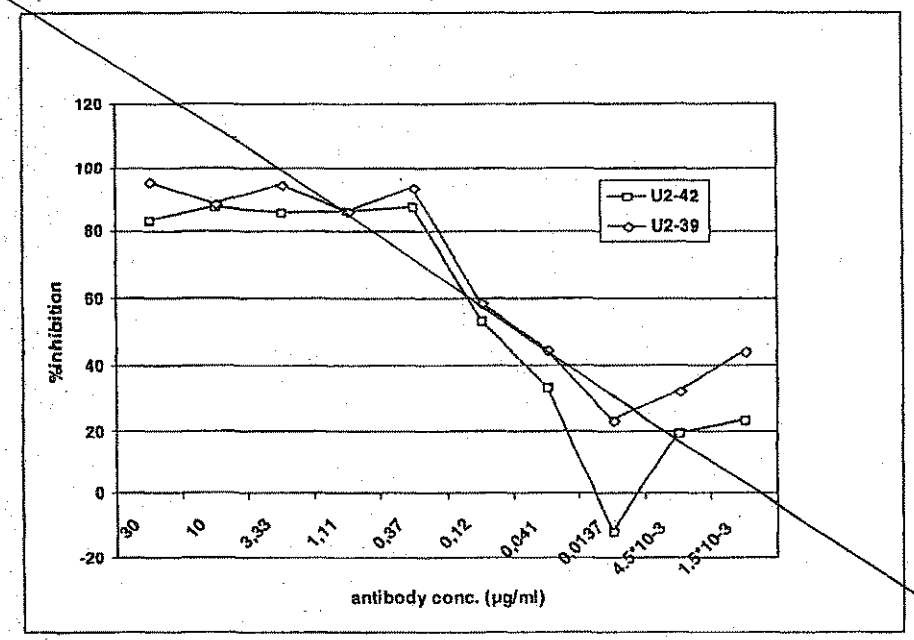

Inhibition of HBEGF-induced migration of MCF-7 cells
% inhibition
120,00
100,00
80,00
60,00
40,00
20,00
0,00
U2-45
U2-39
U2-42
αHBEGF antibodies

Fig 28

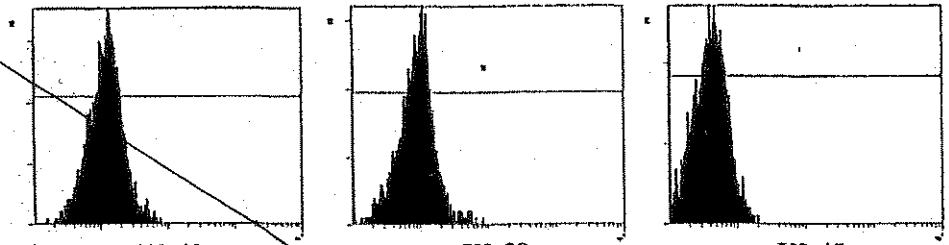
Inhibition of HBEGF-induced HER4 tyrosine phosphorylation - Dose response

Fig 29



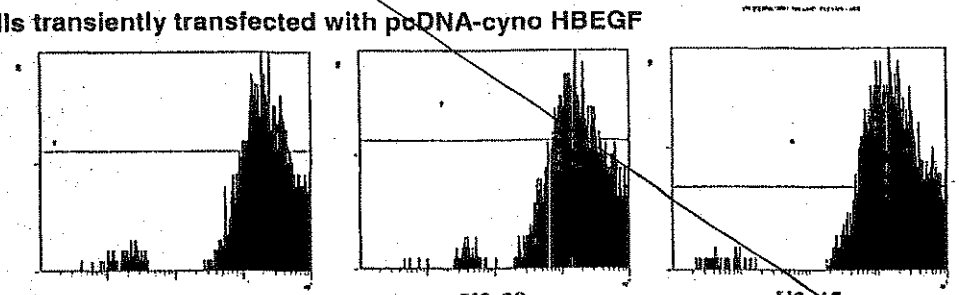
Cyno and mouse cross reactivity of HBEGF antibodies

HEK 293 cells transiently transfected with pcDNA (empty vector)



U2-42 X-mean: 1.5 | U2-39 X-mean: 1.2 | U2-45 X-mean: 0.6

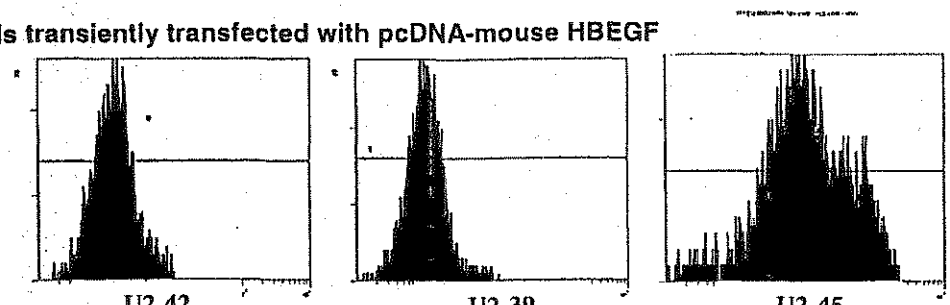
HEK 293 cells transiently transfected with pcDNA-cyno HBEGF



U2-42 X-mean: 292.3 | U2-39 X-mean: 255.7 | U2-45 X-mean: 246.3

Fig 30 A

HEK 293 cells transiently transfected with pcDNA-mouse HBEGF

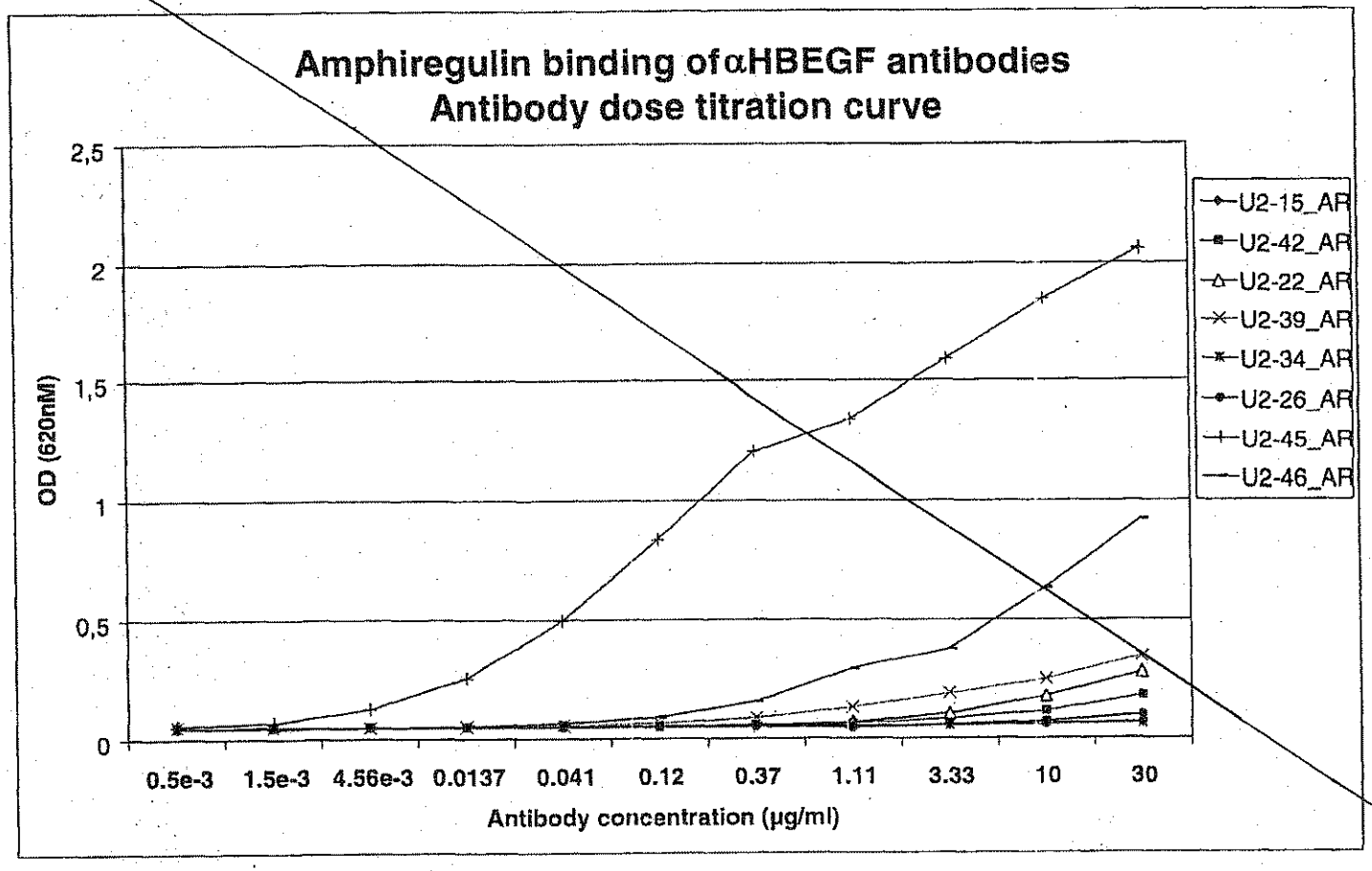


U2-42 X-mean: 1.9 | U2-39 X-mean: 1.5 | U2-45 X-mean: 33.7

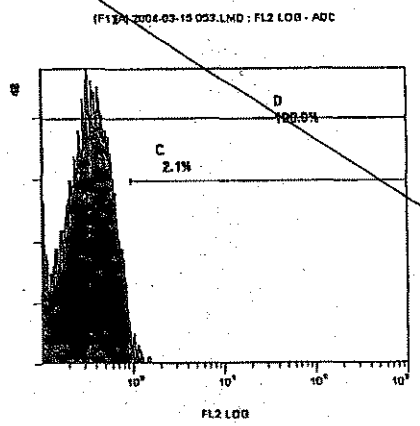
Fig 30 B

Amphiregulin cross reactivity of HBEGF antibodies

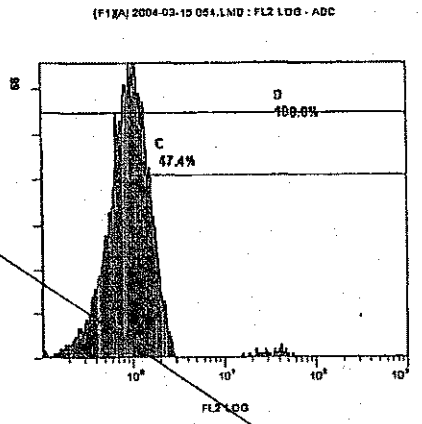
Fig 30 C



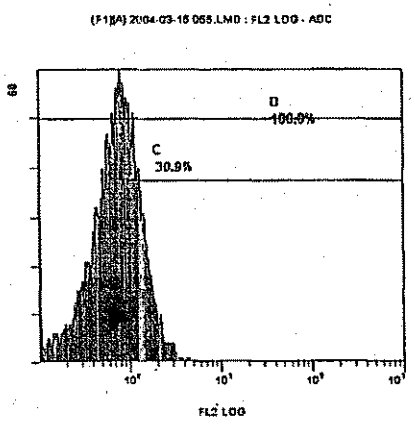
HBEGF expression on HUVECs



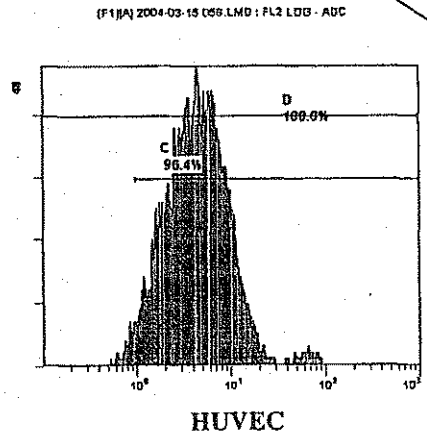
HUVEC
0.3



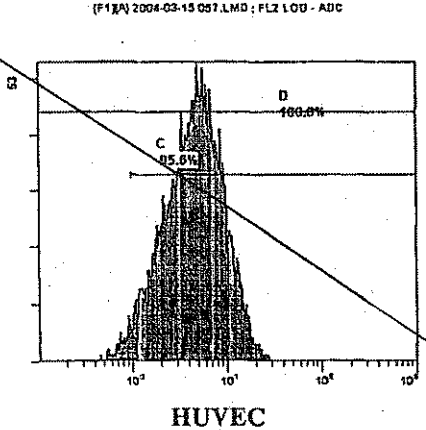
HUVEC
α-goat-PE
2.4



HUVEC
α-mouse-PE
0.8



HUVEC
HBEGF
7.2



HUVEC
EGFR
5.5

Fig 31

Effect of HBEGF and HBEGF antibodies on HUVEC proliferation

Fig 32 A

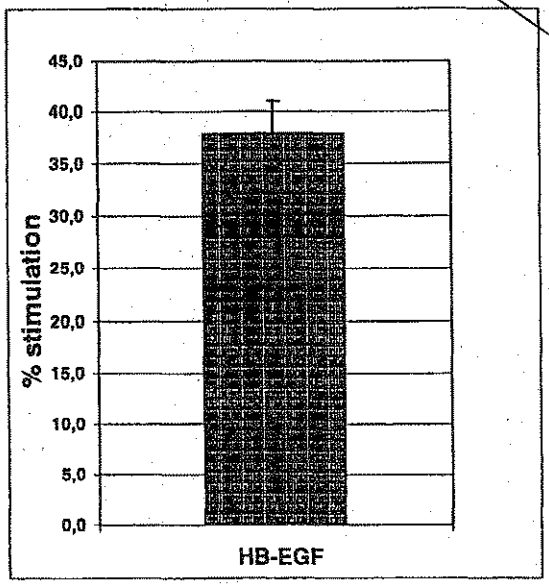
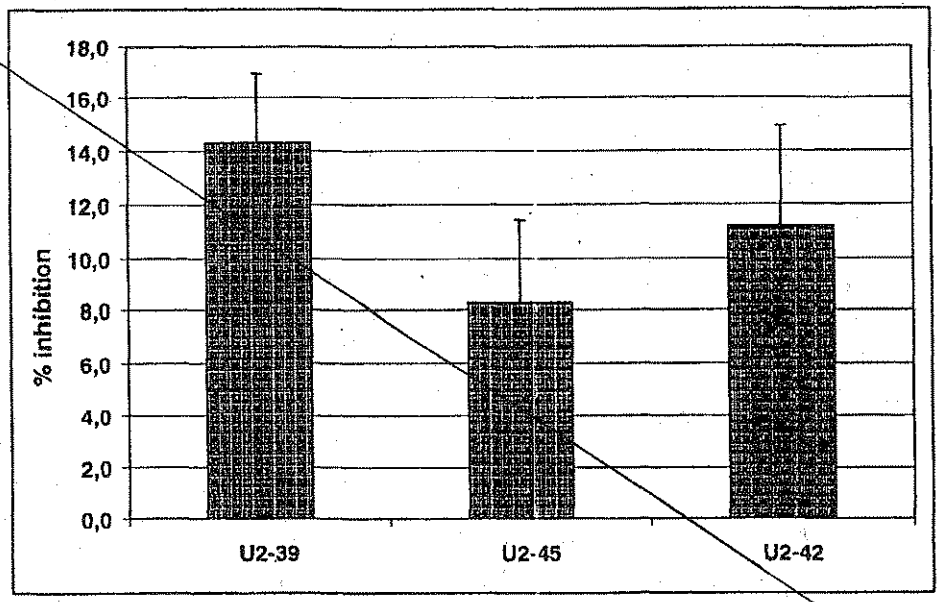
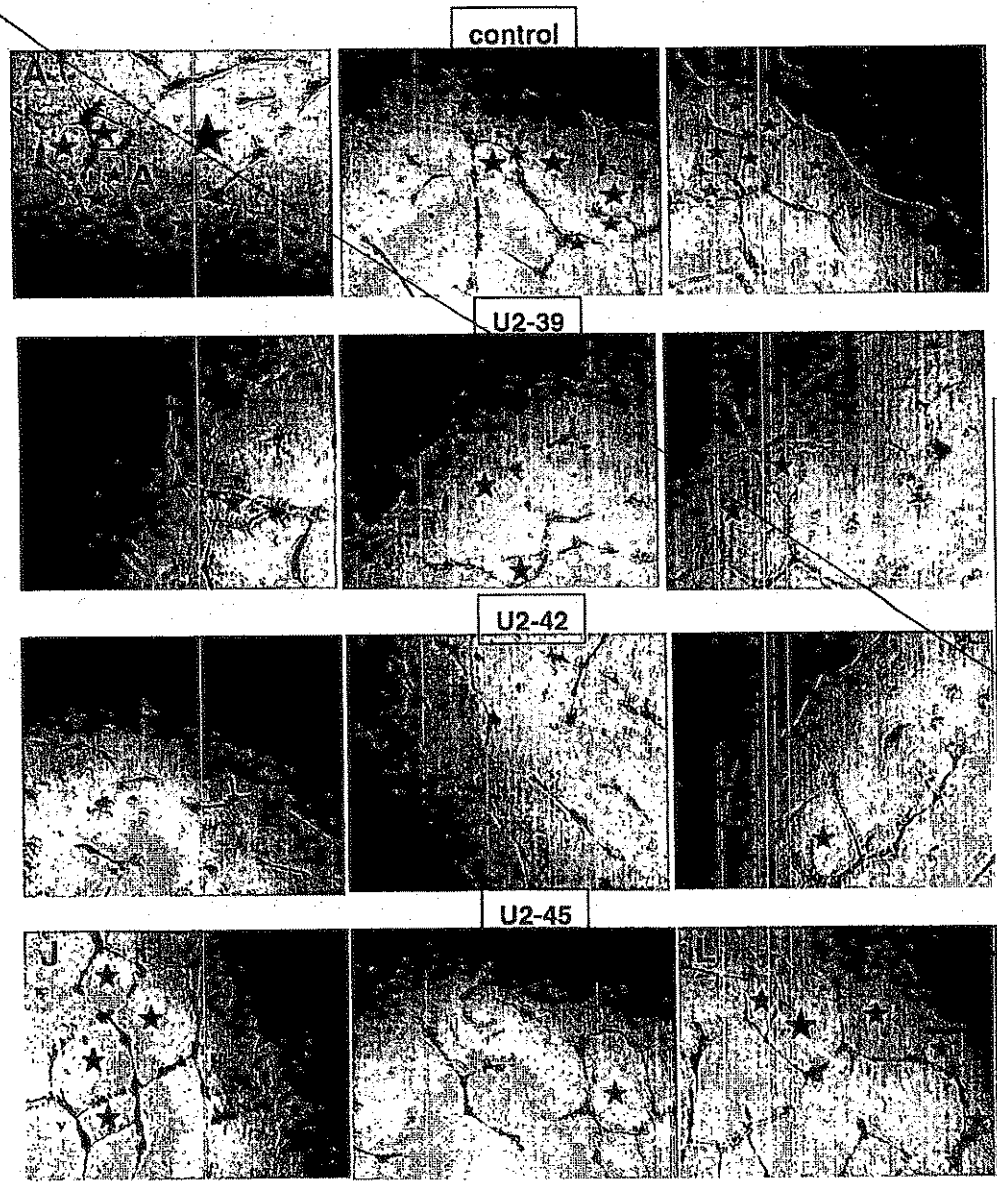


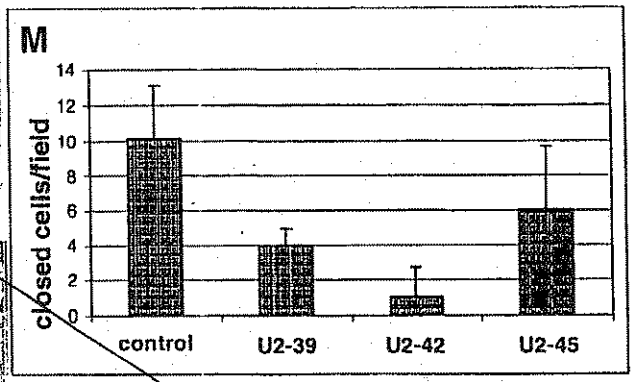
Fig 32 B





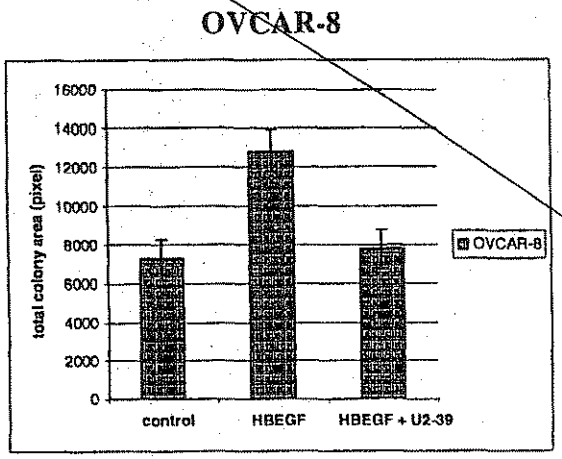
Figs 33 A-M

HBEGF antibodies accelerate HUVEC tube regression



Soft agar – Inhibition of HBEGF stimulated colony formation

Fig 34 A



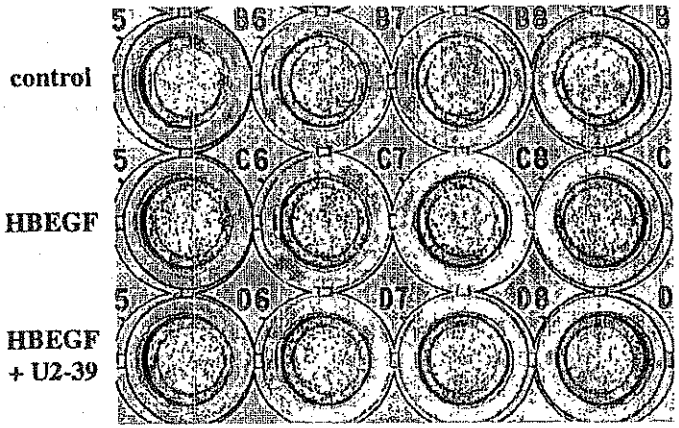
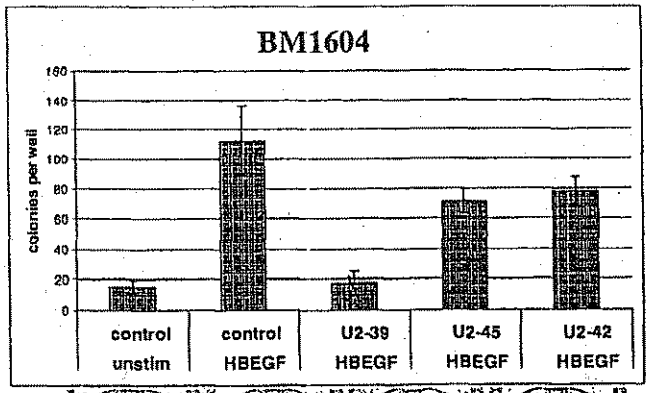
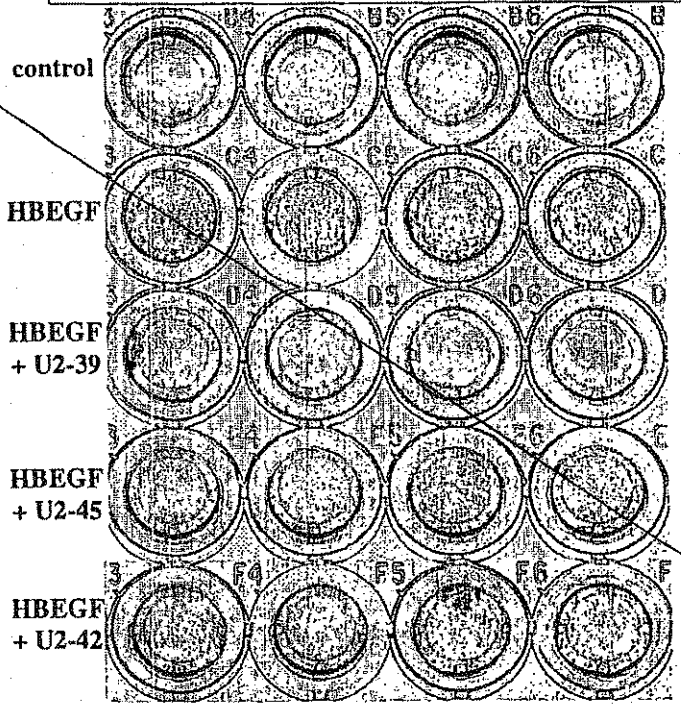


Fig 34 B

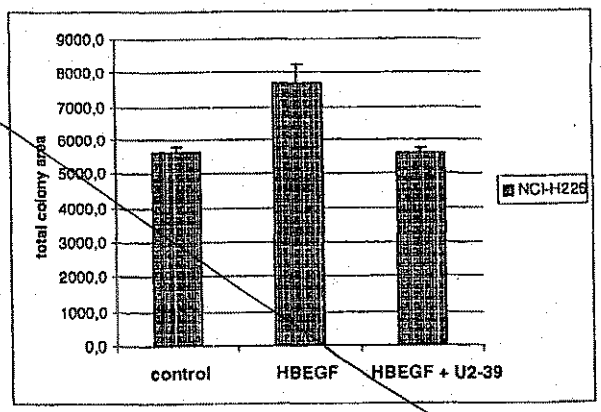


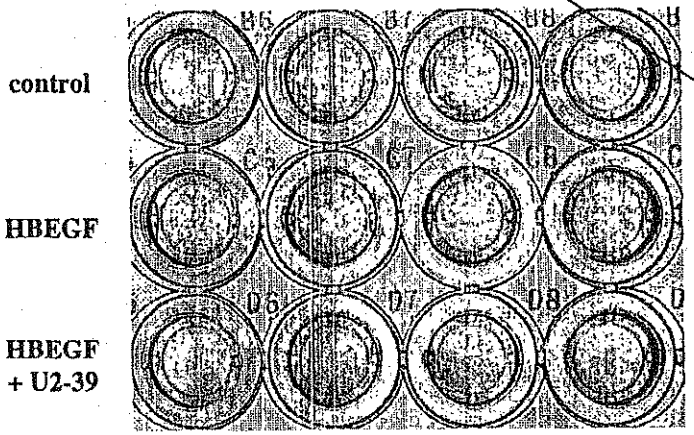


Soft agar – Inhibition of HBEGF stimulated colony formation

Fig 34 C

NCI-H226





27/11/2553

SkOV-3 HBEGF clones - Inhibition of basal colony formation

Fig 34 D

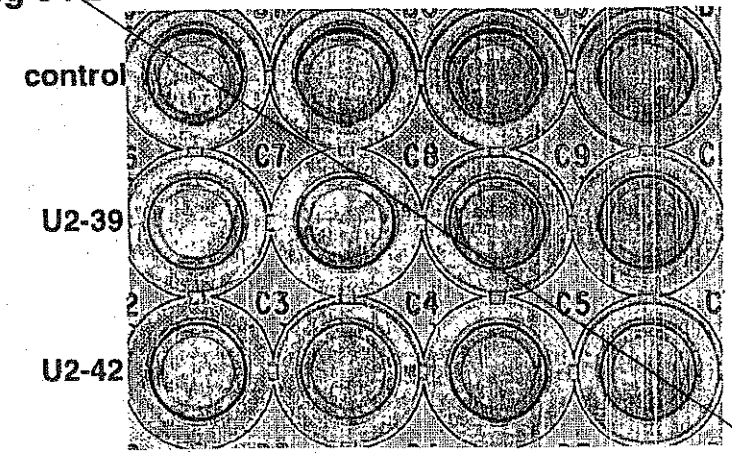
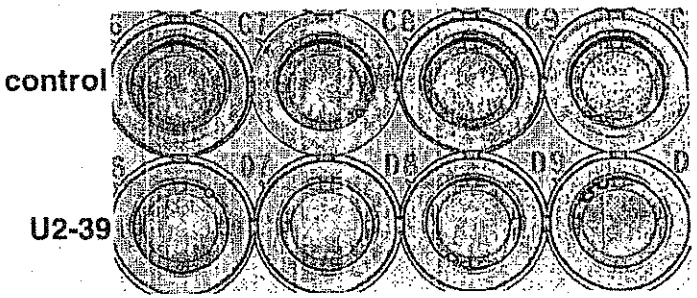
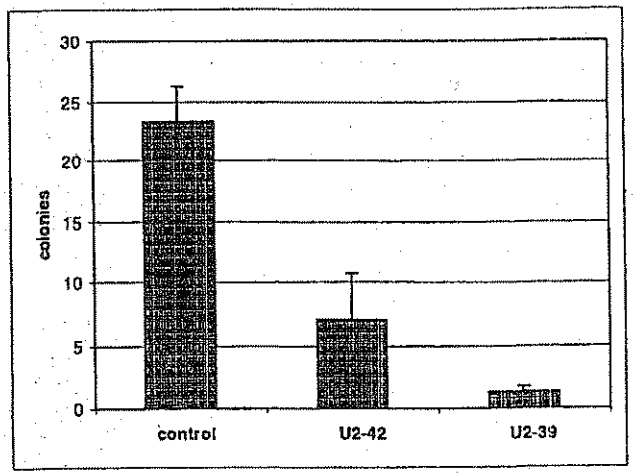


Fig 34 E



SkOV-3 clone 71



SkOV-3 clone 74

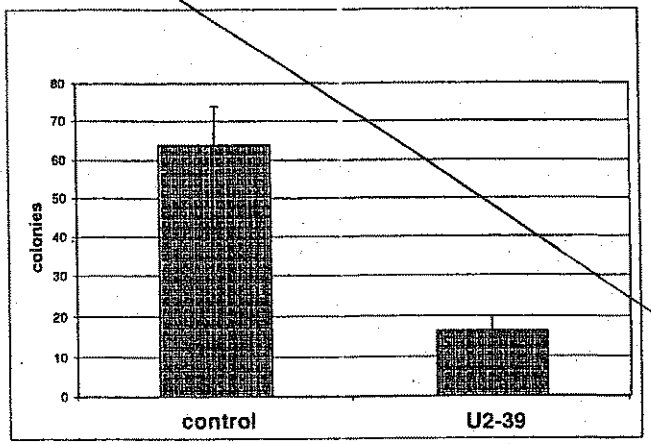
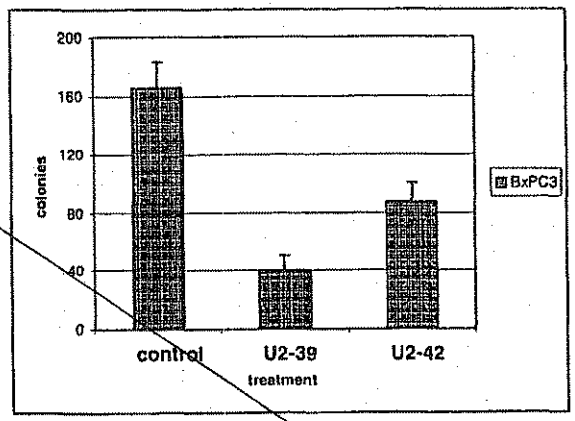
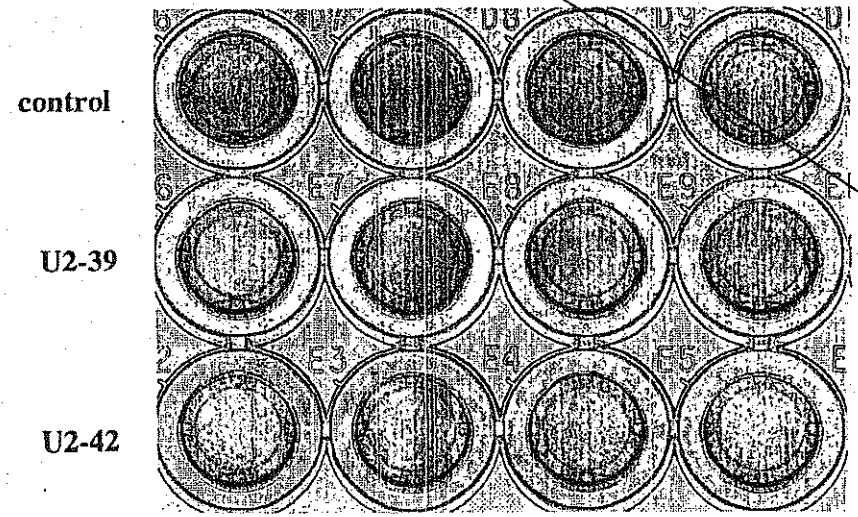


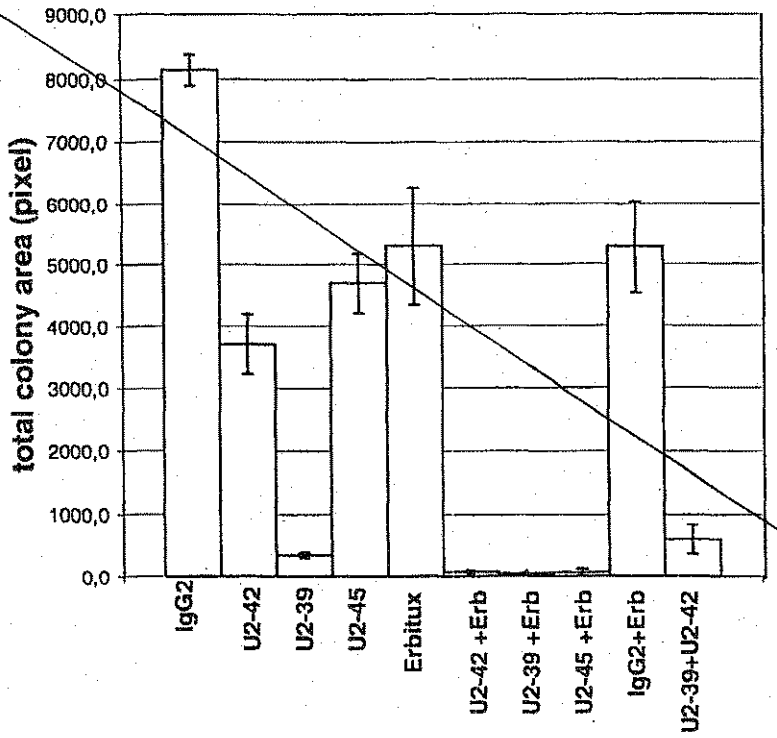
Fig 34 F


BxPC3 - Inhibition of basal colony formation
200
160
120
80
40
0
colonies
BxPC3
control
U2-39
U2-42
treatment


control
U2-39
U2-42

Inhibition of basal colony formation with HBEGF antibodies - synergistic effects in combination with Erbitux

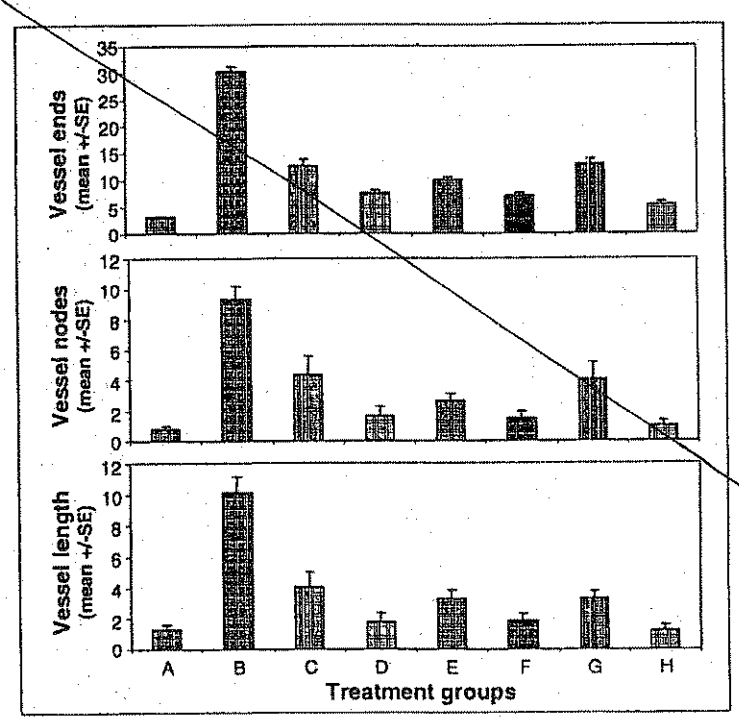
Fig 35



Ab dosing: 20 µg/ml as single agents
10 + 10 µg/ml in combination

In vivo anti-angiogenic properties of anti-HB-EGF antibodies in the mouse matrigel plug assay

Fig 36



Treatment groups

- Control (A)
- HB-EGF (B)

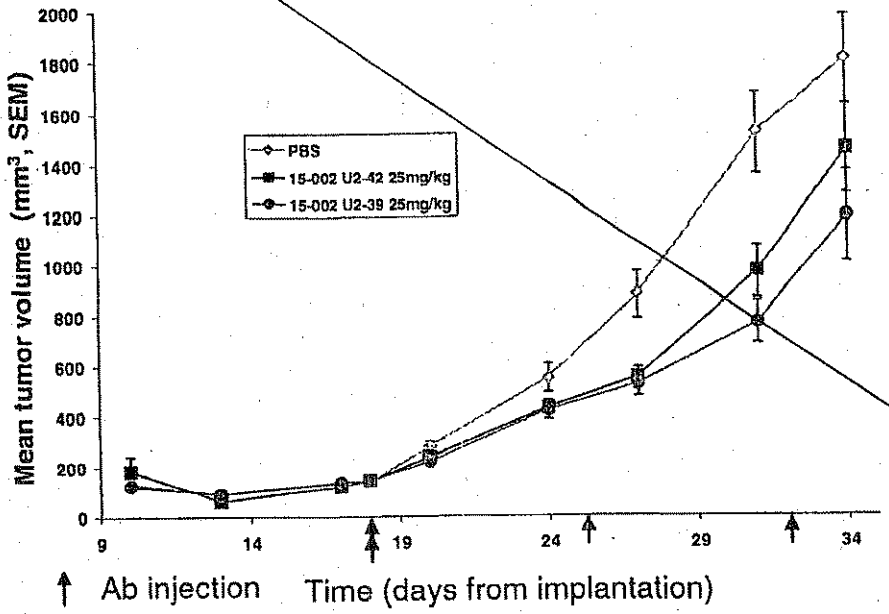
HB-EGF + αHB-EGF mAbs:

- U2-42 (2.5 mg/kg) (C)
- U2-42 (25 mg/kg) (D)
- U2-39 (2.5 mg/kg) (E)
- U2-39 (25 mg/kg) (F)
- U2-45 (2.5 mg/kg) (G)
- U2-45 (25 mg/kg) (H)

Anti-HB-EGF antibodies reduce pancreatic tumor growth *in vivo*

Fig 37

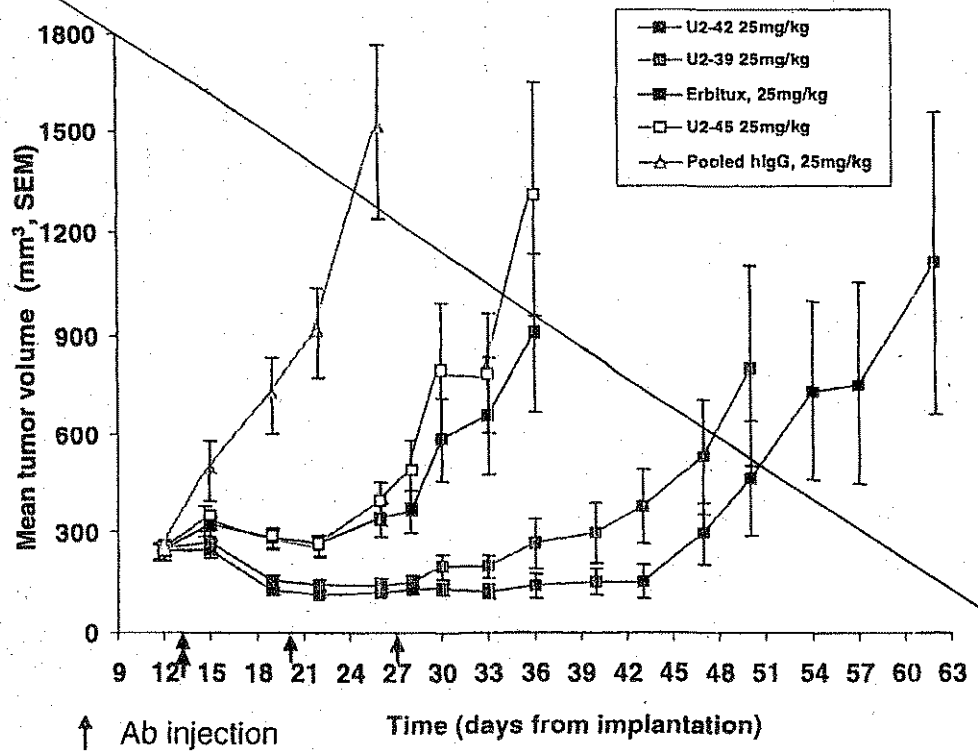
Bx-PC3 pancreas carcinoma xenograft model



7x10⁷ sc, no matrigel, SCID mice, n=11; Treatment start (d18) @ ~ 140 mm³
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg

Fig 38A

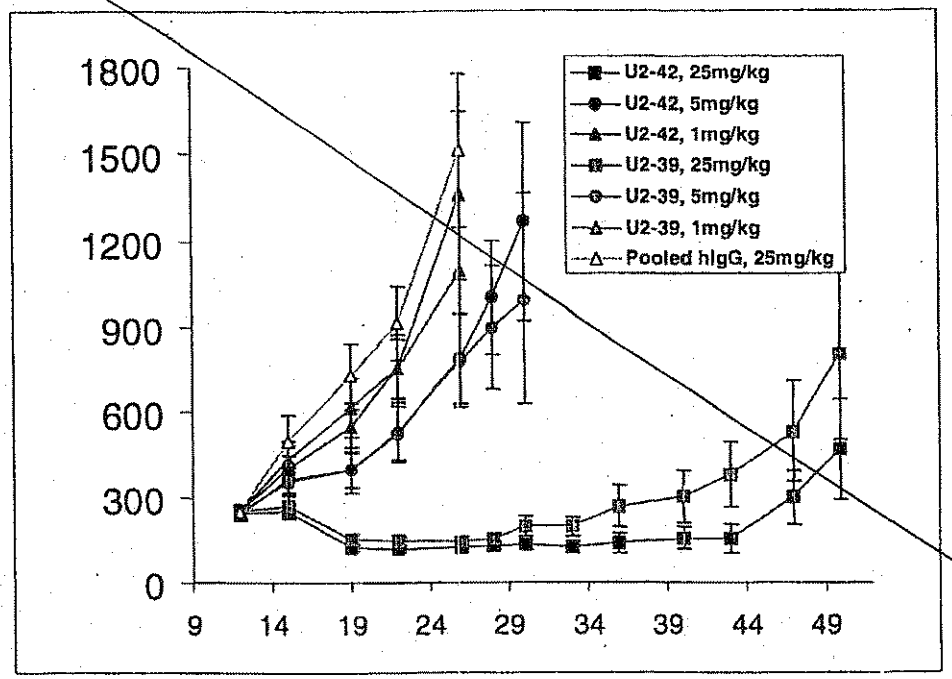
Anti-HB-EGF antibodies reduce ovarian cancer tumor growth *in vivo*



$3x10^6$ sc, matrigel, SCID mice, n=9; Treatment start (d13) @ ~ 250 mm^3
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg,
Combination of αHBEGF with Erbitux were given at 12.5 mg/kg each
Cisplatin administered once a week at 5 mg/kg

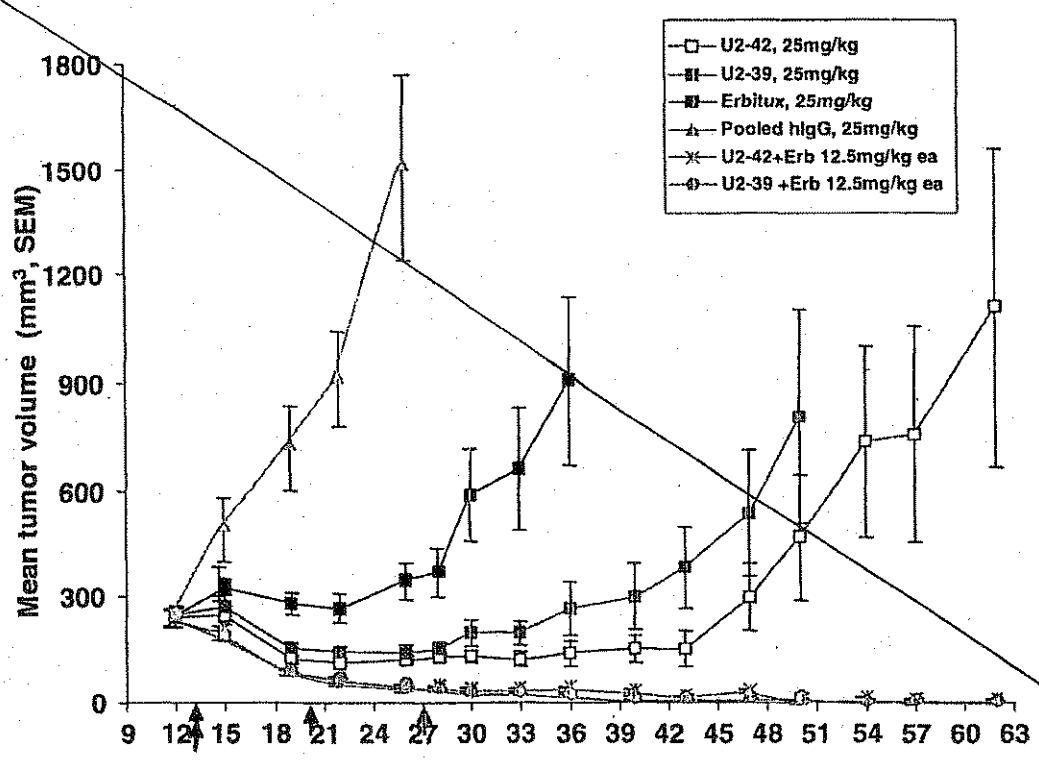
Anti-HB-EGF antibodies reduce ovarian cancer tumor growth *in vivo* – dose titration of antibodies

Fig 38 B



Anti-HB-EGF antibodies synergize in combination with anti-EGFR therapy in the treatment of ovarian cancer tumor growth *in vivo*

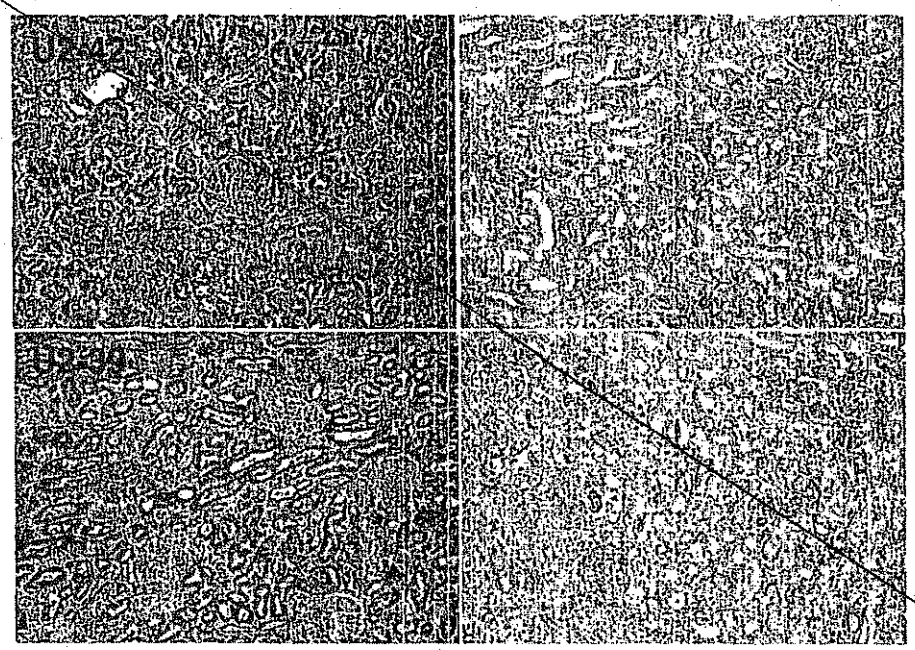
Fig 38C



3x10⁶ sc, matrigel, SCID mice, n=9; Treatment start (d13) @ ~ 250 mm³
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg,
Combination of αHBEGF with Erbitux were given at 12.5 mg/kg each
Cisplatin administered once a week at 5 mg/kg

Immunohistochemistry of human tissue with human anti HB-EGF antibodies

Fig 39 A

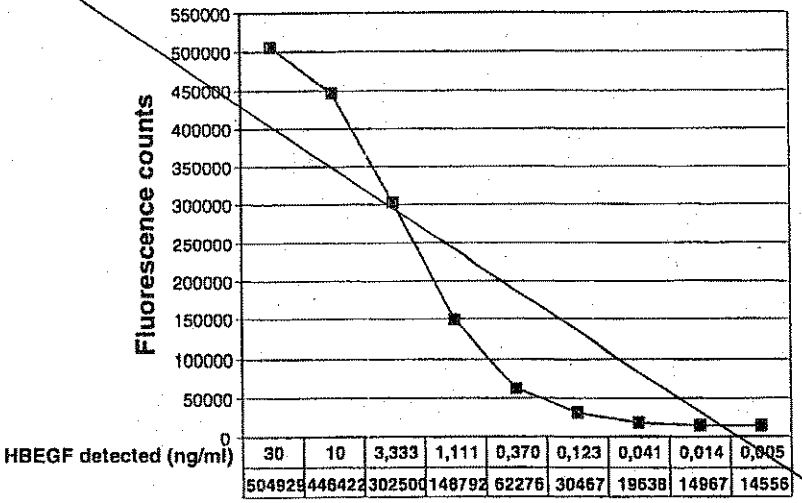


Staining of membranes and cytoplasm of human kidney tubular cells

Human IgG isotype control

HBEGF detecting ELISA based on human antibodies

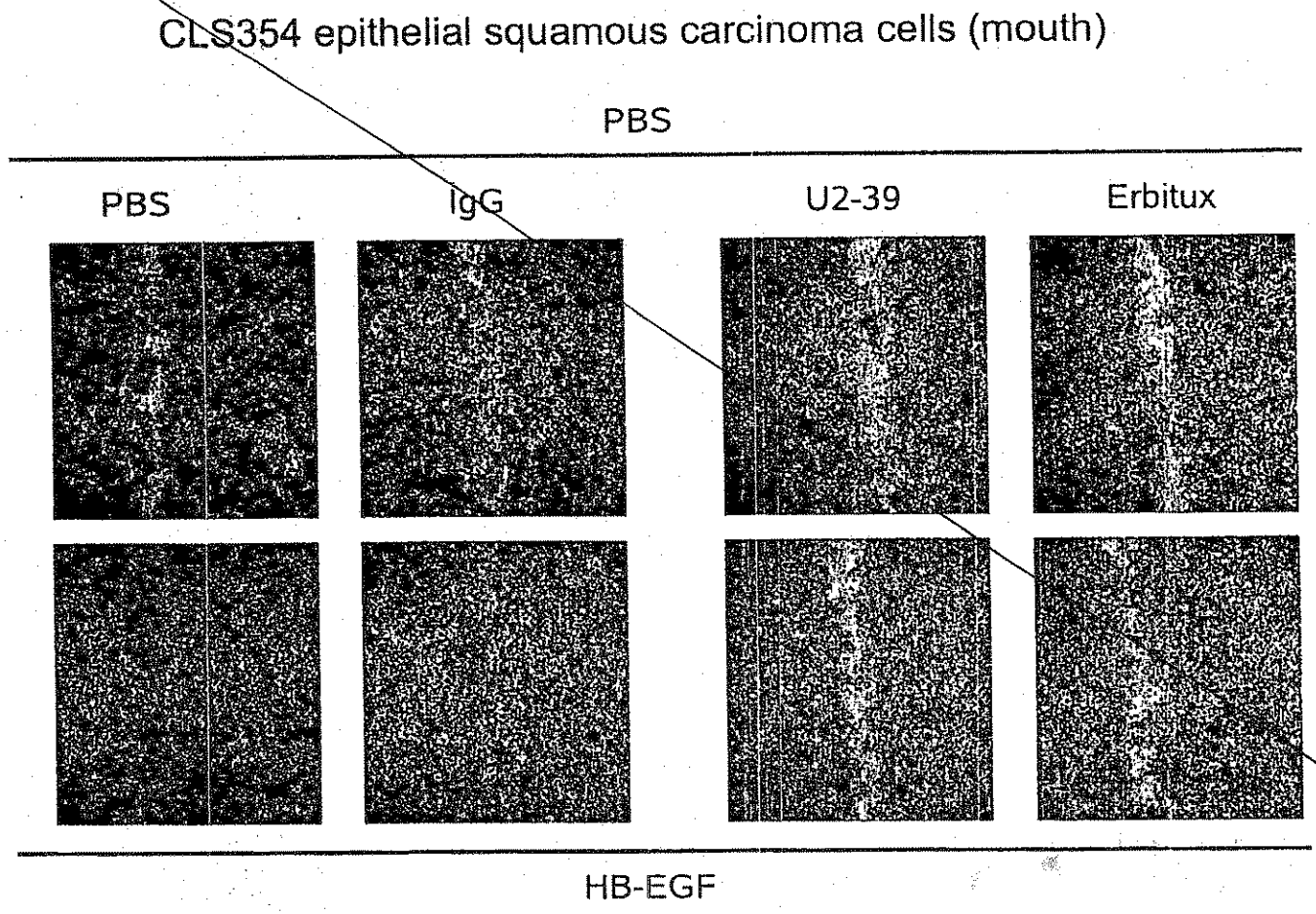
Fig 39 B



HBEGF detected (ng/ml)	30	10	3,333	1,111	0,370	0,123	0,041	0,014	0,005
	504929	446422	302500	148792	62276	30467	19638	14967	14556

Fig 40A

Scratch assay
- Inhibition of HB-EGF-induced migration

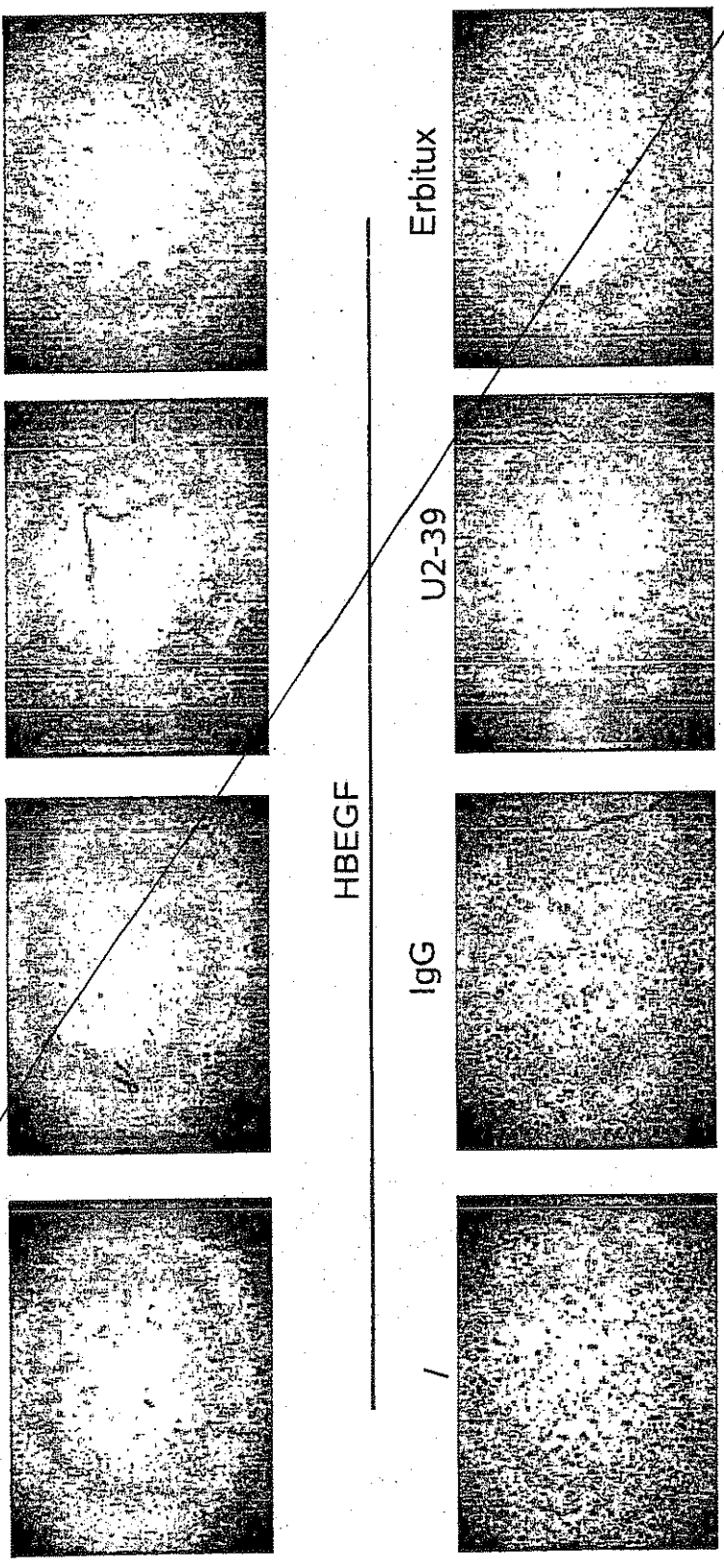


ZZ8/ZS3

Fig 40B

Transmigration assay
- Inhibition of HB-EGF-induced migration

Detroit 562 epithelial carcinoma cells (pharynx)



Spheroid-based cellular angiogenesis assay – Inhibition of VEGF-stimulated endothelial cell sprouting

Fig 41A

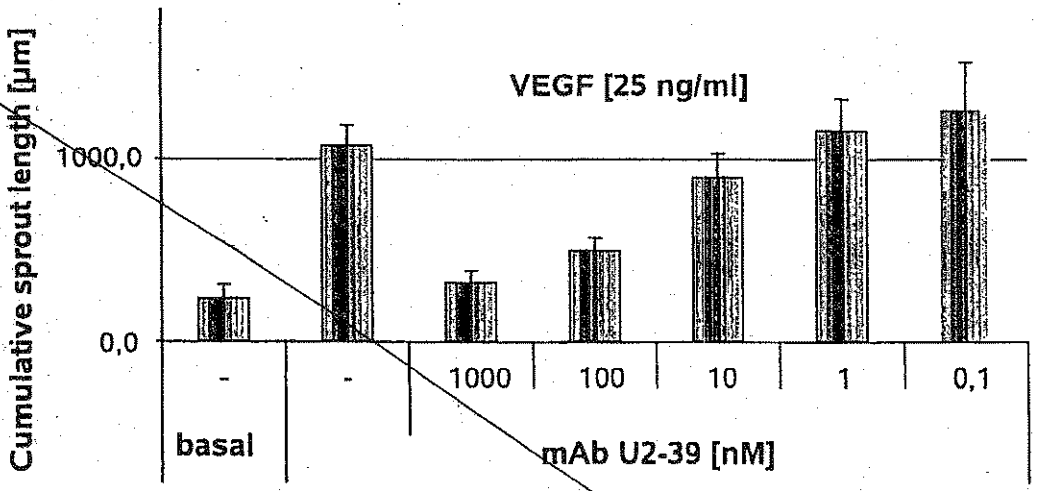


Fig 41B

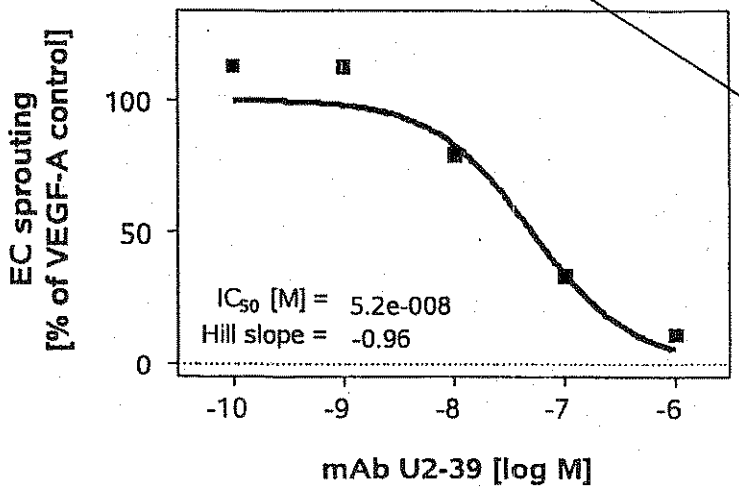


Fig 42

IHC analysis of tumor xenograft samples- Inhibition of CD31 staining of human tumor xenografts *in vivo*

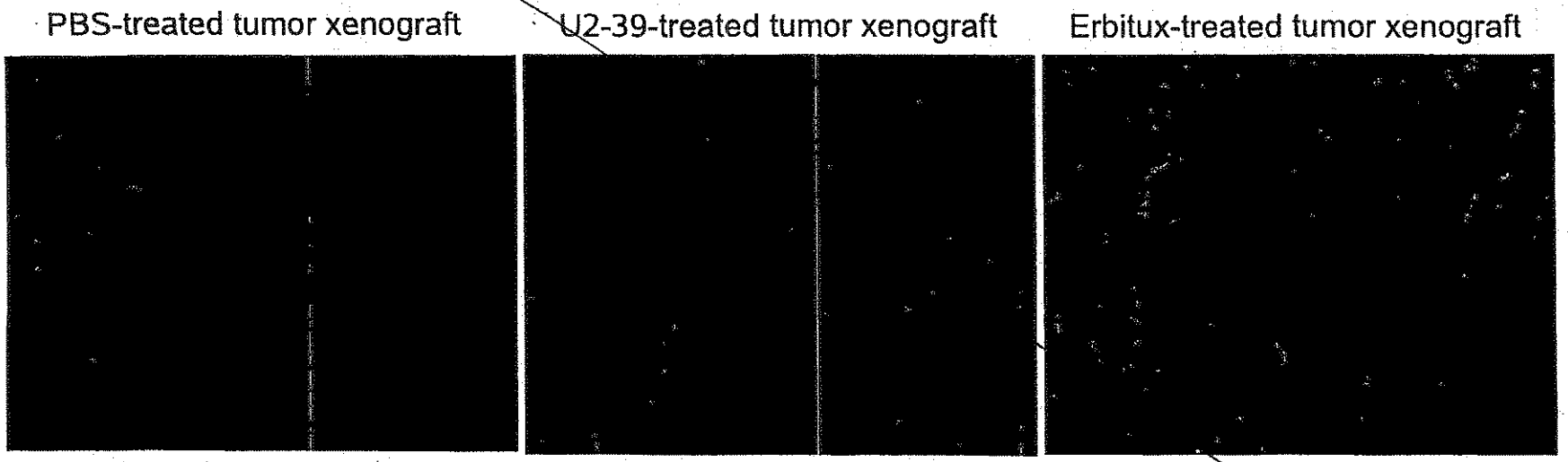


Fig 43A

In vivo ovarian tumor xenograft model- Combination treatment of U2-39 with Cisplatin

Subcutaneous EFO-27-HB-EGF ovarian cancer xenograft model

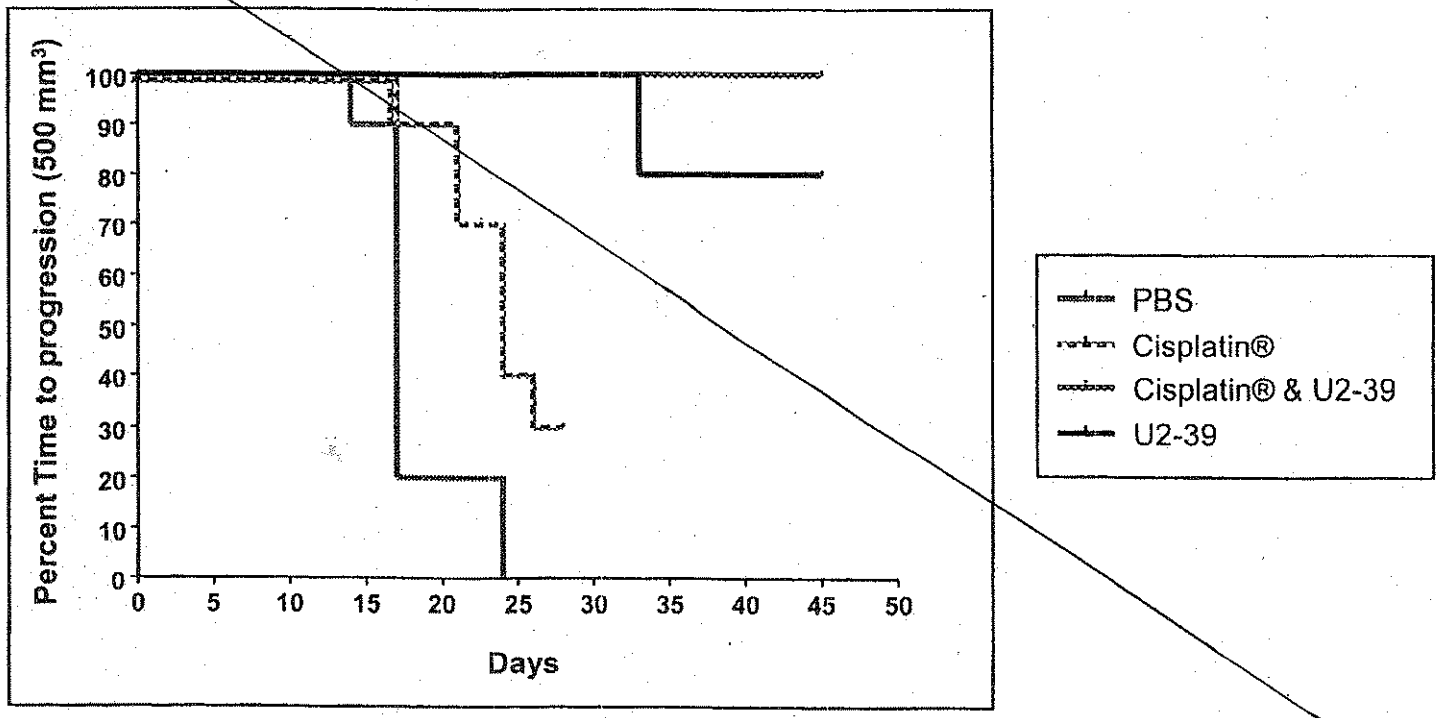
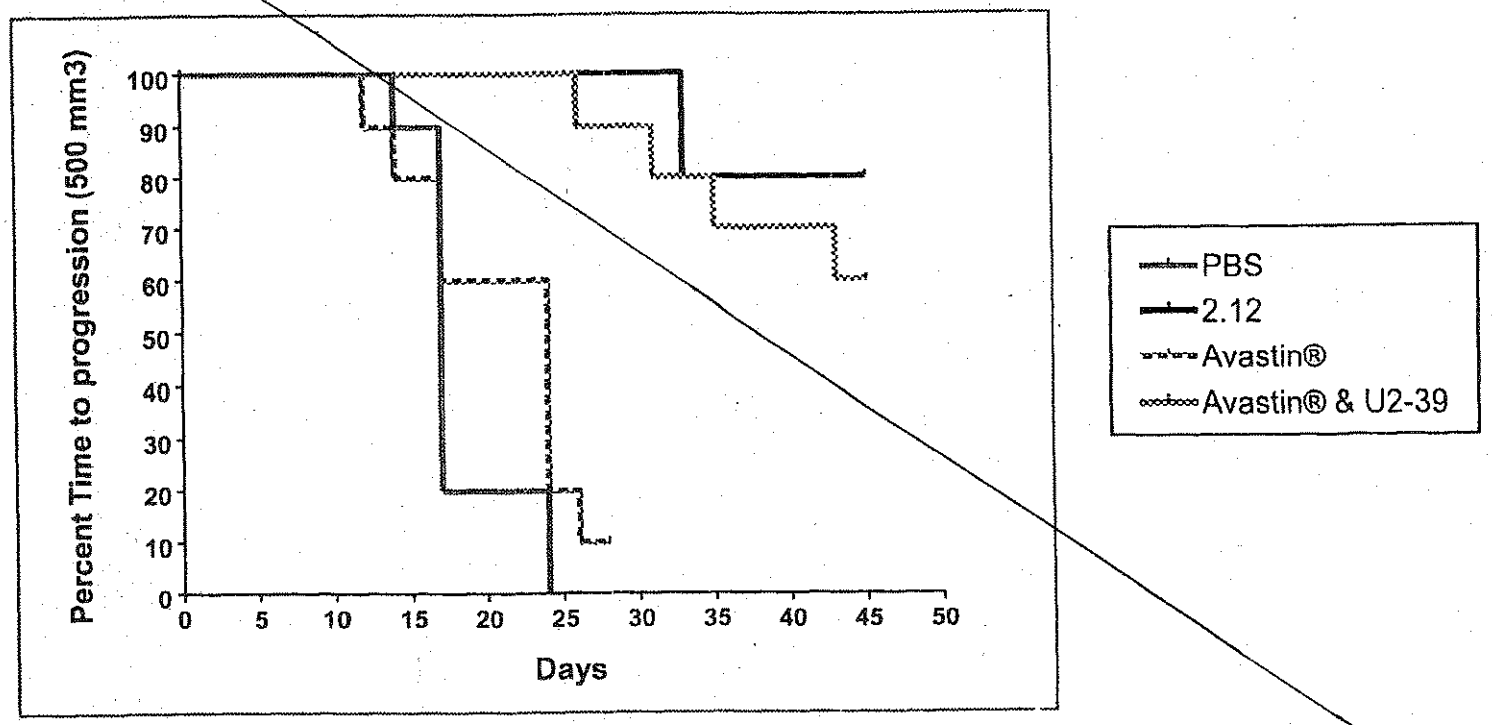


Fig 43B

In vivo ovarian tumor xenograft model- Combination treatment of U2-39 with Avastin

Subcutaneous EFO-27-HB-EGF ovarian cancer xenograft model



U-V_L-1 light-chain variable region amino acid sequence (SEQ ID NO:94)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVPDRFNGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSTHWPITFGQGTRLEIK

CDR3

U-V_L-2 light-chain variable region amino acid sequence (SEQ ID NO:95)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCIQGTHWPTTFGQGTRLEIK

CDR3

U-V_L-3 light-chain variable region amino acid sequence (SEQ ID NO:96)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQGTHWPITFGQGTRLEIK

CDR3

U-V_L-4 light-chain variable region amino acid sequence (SEQ ID NO:96)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQGTHWPITFGQGTRLEIK

CDR3

FIGURE 1A

U-V_L-5 light-chain variable region amino acid sequence (SEQ ID NO:97)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG
CDR1 CDR2

VYYCMQGIQLPCSFGQGTKLEIK
CDR3

U-V_L-6 light-chain variable region amino acid sequence (SEQ ID NO:98)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG
CDR1 CDR2

VYYCMQSIQLPLTFGGGTKVEIK
CDR3

U-V_L-7 light-chain variable region amino acid sequence (SEQ ID NO:98)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG
CDR1 CDR2

VYYCMQSIQLPLTFGGGTKVEIK
CDR3

U-V_L-8 light-chain variable region amino acid sequence (SEQ ID NO:99)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG
CDR1 CDR2

VYYCMQSIQLPITFGHGTRLEIK
CDR3

FIGURE 1B

U-V_L-9 light-chain variable region amino acid sequence (SEQ ID NO:99)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVPDRFSGSGSGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQSIQLPITFGHGTRLEIK

CDR3

U-V_L-11 light-chain variable region amino acid sequence (SEQ ID NO:100)

DIQMTQSPSSLSASVGDRVTITCRASQGIANYLAWYQQKPGKVPKLLIYVASTLQSGVPSRFSGSGSGTDFTLTISSLQPEDVATYYCQ

CDR1 CDR2

NYNSAPFTFGPGTKVDIK

CDR3

U-V_L-12 light-chain variable region amino acid sequence (SEQ ID NO:101)

DIQMTQSPSSLSASVGDRVTIICRASQGISNDLAWYQQKPGKVPKLLIYAASTLQSGVPSRFSGSGSGTDFTLTISSLQPEDVATYYCQ

CDR1 CDR2

KYNSVPLTFGGGTKVEIK

CDR3

U-V_L-13 light-chain variable region amino acid sequence (SEQ ID NO:102)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGSGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGPGTKVDIK

CDR3

FIGURE 1C

U-V_L-14 light-chain variable region amino acid sequence (SEQ ID NO:102)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGSGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGPGTKVDIK

CDR3

U-V_L-15 light-chain variable region amino acid sequence (SEQ ID NO:103)

EIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVPDRFSGTGAGTDFTLKISRVEAEDVG

CDR1 CDR2

VYYCMQATQFPHTFGGGTKVEIK

CDR3

U-V_L-16 light-chain variable region amino acid sequence (SEQ ID NO:104)

EIVLTQSPGTLSLSPGERATLSCRASQTVISSYLAWYQQKPGQAPRLLISGASSRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC

CDR1 CDR2

QQYGSSPRTFGQGTKVEIK

CDR3

U-V_L-17 light-chain variable region amino acid sequence (SEQ ID NO:105)

EIVLTQSPGTLSLSPGERATLSCRASQSVSRLAWYQQKPGQAPRLLIYGASRRATGIPDRFSGSGSGTDFTLTISRLEPEDFAVYYCQQ

CDR1 CDR2

YGSSPRSFGQGTKLEIK

CDR3

FIGURE 1D

U-V_L-18 light-chain variable region amino acid sequence (SEQ ID NO:106)

DIQMTQSPSSLSASVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAASSLQSGVPSRFSGSGSGTEFTLTISSLQPEDFATYYCL

CDR1 CDR2

QHNSYPPTFGQGTKVEIK

CDR3

U-V_L-19 light-chain variable region amino acid sequence (SEQ ID NO:107)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGVPDRFTGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSFPWTFGQGTKVEIK

CDR3

U-V_L-20 light-chain variable region amino acid sequence (SEQ ID NO:107)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGVPDRFTGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSFPWTFGQGTKVEIK

CDR3

U-V_L-21 light-chain variable region amino acid sequence (SEQ ID NO:108)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSTTWTFGQGTKVEIK

CDR3

FIGURE 1E

U-V_L-22 light-chain variable region amino acid sequence (SEQ ID NO:109)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYYGTPRTFGQGTKVEIK

CDR3

U-V_L-23 light-chain variable region amino acid sequence (SEQ ID NO:110)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYYGTPRTFGQGTKVEIK

CDR3

U-V_L-24 light-chain variable region amino acid sequence (SEQ ID NO:111)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFGGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSISRTFGQGTKVEIK

CDR3

U-V_L-25 light-chain variable region amino acid sequence (SEQ ID NO:111)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFGGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYYCQQYYSISRTFGQGTKVEIK

CDR3

FIGURE 1F

U-V_L-26 light-chain variable region amino acid sequence (SEQ ID NO:112)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQADDV

CDR1 CDR2

AVYYCQQYYSTTWTFGPGTKVEIK

CDR3

U-V_L-27 light-chain variable region amino acid sequence (SEQ ID NO:113)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQADDV

CDR1 CDR2

AVYYCQQYYSTTWTFGPGTKVEIK

CDR3

U-V_L-28 light-chain variable region amino acid sequence (SEQ ID NO:114)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGVPDRFSGSGSGTDFTLTISGLQAEDV

CDR1 CDR2

ALYYCQQYYSTMFSFGQGTKLEIK

CDR3

U-V_L-29 light-chain variable region amino acid sequence (SEQ ID NO:114)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGVPDRFSGSGSGTDFTLTISGLQAEDV

CDR1 CDR2

ALYYCQQYYSTMFSFGQGTKLEIK

CDR3

FIGURE 1G

U-V_L-30 light-chain variable region amino acid sequence (SEQ ID NO:115)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVFYCHQYYSTPLTFGGGTKVAIK

CDR3

U-V_L-31 light-chain variable region amino acid sequence (SEQ ID NO:115)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVFYCHQYYSTPLTFGGGTKVAIK

CDR3

U-V_L-32 light-chain variable region amino acid sequence (SEQ ID NO:116)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYFITPLTFGGGTKVEIK

CDR3

U-V_L-33 light-chain variable region amino acid sequence (SEQ ID NO:116)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGVPDRFSGSGSGTDFTLTISSLQAEDV

CDR1 CDR2

AVYFCQQYFITPLTFGGGTKVEIK

CDR3

FIGURE 1H

U-V_L-34 light-chain variable region amino acid sequence (SEQ ID NO:117)

DIQMTQSPSSLSASVGDRVTITCRASQDISHYLAWFQQKPGKAPKSLIYAASSLQSGVPSKFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QYNNYPFTFGPGTKVDIK

CDR3

U-V_L-35 light-chain variable region amino acid sequence (SEQ ID NO:118)

DIQMTQSPSSLSASVGDRVAITCRASQDISNYLAWLQQKPGKAPKSLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QYNTYPFTFGPGTKMDIK

CDR3

U-V_L-36 light-chain variable region amino acid sequence (SEQ ID NO:119)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSGSGSGTEFTLTISSLQSEDFAVYYCQ

CDR1 CDR2

QHNNWPPWTFGQGTKVEIK

CDR3

U-V_L-37 light-chain variable region amino acid sequence (SEQ ID NO:119)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSGSGSGTEFTLTISSLQSEDFAVYYCQ

CDR1 CDR2

QHNNWPPWTFGQGTKVEIK

CDR3

FIGURE 11

U-V_L-38 light-chain variable region amino acid sequence (SEQ ID NO:120)

DIQMTQSPSSVSASVGDRVTITCRASQDISRWLAWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QANSFPPTFGQGTKVEFK

CDR3

U-V_L-39 light-chain variable region amino acid sequence (SEQ ID NO:121)

DIQMTQSPSSLSASVGDRVTITCRASQSISTYLNWYQQKPGKAPKFLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFAAYYCQ

CDR1 CDR2

QSHSAPFTFGPGTKVDIK

CDR3

U-V_L-40 light-chain variable region amino acid sequence (SEQ ID NO:122)

DIQMTQSPSSLSASLGDRVTITCRASQTISIYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYSTLTFGGGTKVEIK

CDR3

U-V_L-41 light-chain variable region amino acid sequence (SEQ ID NO:123)

DIQMTQSPSSLSASVGDRVTITCRASQSIRSYLNWYQQRPGNAPKLLIYAASSLQSGVPSRVSGSGSGTDFTLTIRSLQPEDFATYYCQ

CDR1 CDR2

QSYSIPLTFGGGTKVEIK

CDR3

FIGURE 1J

U-V_L-42 light-chain variable region amino acid sequence (SEQ ID NO:124)

DIQMTQSPSSRSASVGDRVTITCRASQTISRYLNWYQQKPGKAPKLLIYAASTLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFATYYCQ

CDR1 CDR2

QIYSTSITFGQGTRLEIK

CDR3

U-V_L-43 light-chain variable region amino acid sequence (SEQ ID NO:125)

DIQMTQSPSSLSASVGDRVTITCRASQRISSYLNWYQQKPGKAPKVLIYAESSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYITPITFGQGTRLEII

CDR3

U-V_L-44 light-chain variable region amino acid sequence (SEQ ID NO:126)

DIQMTQSPSSLSASVGDRVTITCRASQSISRYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPENFATYYCQ

CDR1 CDR2

QSYFTPITFGQGTRLEIK

CDR3

U-V_L-45 light-chain variable region amino acid sequence (SEQ ID NO:127)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTFSSLQPEDFATYYCQ

CDR1 CDR2

QSYFSPITFGQGTRLEIK

CDR3

FIGURE 1K

U-V_L-46 light-chain variable region amino acid sequence (SEQ ID NO:128)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFASYYCQ

CDR1 CDR2

QSFYTPITFGQGTRLEIK

CDR3

U-V_L-47 light-chain variable region amino acid sequence (SEQ ID NO:128)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTLSSLQPEDFASYYCQ

CDR1 CDR2

QSFYTPITFGQGTRLEIK

CDR3

U-V_L-48 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYFTPITFGQGTRLEIK

CDR3

U-V_L-49 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYFTPITFGQGTRLEIK

CDR3

FIGURE 1L

U-V_L-50 light-chain variable region amino acid sequence (SEQ ID NO:129)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYFTPITFGQGTRLEIK

CDR3

U-V_L-51 light-chain variable region amino acid sequence (SEQ ID NO:130)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFASYYCQ

CDR1 CDR2

QSFYAPITFGQGTRLEIK

CDR3

U-V_L-52 light-chain variable region amino acid sequence (SEQ ID NO:130)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFASYYCQ

CDR1 CDR2

QSFYAPITFGQGTRLEIK

CDR3

U-V_L-53 light-chain variable region amino acid sequence (SEQ ID NO:131)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQ

CDR1 CDR2

QSYFTPITFGQGTRLEIK

CDR3

FIGURE 1M

U-V_L-54 light-chain variable region amino acid sequence (SEQ ID NO:132)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDYLPFTFGPGTKVDIK

CDR3

U-V_L-55 light-chain variable region amino acid sequence (SEQ ID NO:132)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDYLPFTFGPGTKVDIK

CDR3

U-V_L-56 light-chain variable region amino acid sequence (SEQ ID NO:133)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPELLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QCDDLPLTFGGGTKVEIK

CDR3

U-V_L-57 light-chain variable region amino acid sequence (SEQ ID NO:134)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

HYDNLPLTFGGGTKVEIK

CDR3

FIGURE 1N

U-V_L-58 light-chain variable region amino acid sequence (SEQ ID NO:135)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDNLPLTFGGGTKVEIK

CDR3

U-V_L-59 light-chain variable region amino acid sequence (SEQ ID NO:135)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDNLPLTFGGGTKVEIK

CDR3

U-V_L-60 light-chain variable region amino acid sequence (SEQ ID NO:136)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASILETGVPSRFSGSGSETDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QCDILPLSFGGGTKVEIK

CDR3

U-V_L-61 light-chain variable region amino acid sequence (SEQ ID NO:137)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDNLPLAFGGGTKVEIR

CDR3

FIGURE 1O

U-V_L-62 light-chain variable region amino acid sequence (SEQ ID NO:138)

DIQMTQSPSSLSASVGDGVTITCQASQDITNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDSLPITFGQGTRLEIK

CDR3

U-V_L-63 light-chain variable region amino acid sequence (SEQ ID NO:139)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKLGKAPKLLIHDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

QYDNLPITFGQGTRLEIK

CDR3

U-V_L-64 light-chain variable region amino acid sequence (SEQ ID NO:140)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

HYDNLPITFGQGTRLEIK

CDR3

U-V_L-65 light-chain variable region amino acid sequence (SEQ ID NO:141)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSGSGSGTDFTFTISSLQPEDIATYYCQ

CDR1 CDR2

HYDNLPITFGQGTRLEIK

CDR3

FIGURE 1P

U-V_H-1 heavy chain variable region amino acid sequence (SEQ ID NO:142)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKLQDRVTMTTDTSTSTAYMELRSLRSD
CDR1 CDR2

DTAVYYCAREDNWNYGFFDYWGQGTLVTVSS
CDR3

U-V_H-2 heavy chain variable region amino acid sequence (SEQ ID NO:142)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKLQDRVTMTTDTSTSTAYMELRSLRSD
CDR1 CDR2

DTAVYYCAREDNWNYGFFDYWGQGTLVTVSS
CDR3

U-V_H-3 heavy chain variable region amino acid sequence (SEQ ID NO:143)

QVHLVQSGAEVKKPGASVKVSCKVSGYTFTGHYMHWVRQAPGQGLEWMGWINPNSGGTNCAQKFQGRVTMTRDTSISTAYMELSRLRSD
CDR1 CDR2

DTAVYYCARSIAVALDYWGQGTLVTVSS
CDR3

U-V_H-4 heavy chain variable region amino acid sequence (SEQ ID NO:144)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHWVRQAPGQGLEWMGWINPNSGGTNHTQKFQGRVTMTRDTSISTAYMELSRLRSD
CDR1 CDR2

DTAVYYCARSIAVALDYWGQGTLVTVSS
CDR3

FIGURE 2A

U-V_H-5 heavy chain variable region amino acid sequence (SEQ ID NO:145)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKFQGRVTMLEDTSTDTAYMELSSLRSE

CDR1 CDR2

DTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-6 heavy chain variable region amino acid sequence (SEQ ID NO:145)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKFQGRVTMLEDTSTDTAYMELSSLRSE

CDR1 CDR2

DTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-7 heavy chain variable region amino acid sequence (SEQ ID NO:146)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLAHIFSNDEKSYSTSLKSRLTISKDTSKSQVVLTMTNMDP

CDR1 CDR2

VDTATYYCARMYSSGWYGVFDYWGQGTLVTVSS

CDR3

U-V_H-8 heavy chain variable region amino acid sequence (SEQ ID NO:147)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLVLIFSNDEKSYSTSLKSRLTISKDTSKSQVVLTMTNMDP

CDR1 CDR2

VDTATYYCARVYSSGWSFYGMDVWGQGTTVTVSS

CDR3

FIGURE 2B

U-V_H-9 heavy chain variable region amino acid sequence (SEQ ID NO:148)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP

CDR1 CDR2

VDTATYYCAHRRELPFDYWGQGTLVTVSS

CDR3

U-V_H-10 heavy chain variable region amino acid sequence (SEQ ID NO:149)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKTQVVLTVTDMDP

CDR1 CDR2

VDTATYYCAHRNWTPFDYWGQGTLVTVSS

CDR3

U-V_H-11 heavy chain variable region amino acid sequence (SEQ ID NO:150)

QITLKESGPTLVKPTQTLTLTCTFSGFSLNTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP

CDR1 CDR2

VDTATYYCAHRLELPFDYWGQGTLVTVSS

CDR3

U-V_H-12 heavy chain variable region amino acid sequence (SEQ ID NO:151)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNLDP

CDR1 CDR2

VDTATYYCAHRREVPFDYWGQGTLVTVSS

CDR3

FIGURE 2C

U-V_H-13 heavy chain variable region amino acid sequence (SEQ ID NO:152)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNVEKRYSPSLRSRLTITKATSKNQVVLTMTNMDP
CDR1 CDR2

VDTATYYCAHRHTNPFEYWGQGTLVTVSS
CDR3

U-V_H-14 heavy chain variable region amino acid sequence (SEQ ID NO:153)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP
CDR1 CDR2

VDTATYYCAHRGELPFDYWGQGTLVTVSS
CDR3

U-V_H-15 heavy chain variable region amino acid sequence (SEQ ID NO:153)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPSLKSRLTITKDTSKNQVVLTMTNMDP
CDR1 CDR2

VDTATYYCAHRGELPFDYWGQGTLVTVSS
CDR3

U-V_H-16 heavy chain variable region amino acid sequence (SEQ ID NO:154)

EVQLVESGGGLVKPGGSLRLSCAASGFPFSRYSMNWVRQAPGKGLEWVSAISSSSSYIYYADSVKGRFTISRDNAKNSLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARDRVGATPDAFDIWGQGTMVTVSS
CDR3

FIGURE 2D

U-V_H-17 heavy chain variable region amino acid sequence (SEQ ID NO:155)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMNWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE

CDR1 CDR2

DTAVYYCAKEGIAVAGTAEYYYYYAMDVWGQGTTVTVSS

CDR3

U-V_H-18 heavy chain variable region amino acid sequence (SEQ ID NO:156)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE

CDR1 CDR2

DTAVYYCAKEGIAARDSYYYYAMDVWGQGTTVTVSS

CDR3

U-V_H-19 heavy chain variable region amino acid sequence (SEQ ID NO:157)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE

CDR1 CDR2

DTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-20 heavy chain variable region amino acid sequence (SEQ ID NO:157)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSVKGRFTISRDNSKNTLYLQMNSLRAE

CDR1 CDR2

DTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSS

CDR3

FIGURE 2E

U-V_H-21 heavy chain variable region amino acid sequence (SEQ ID NO:158)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSVKGRFTISRDNSMNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSS
CDR3

U-V_H-22 heavy chain variable region amino acid sequence (SEQ ID NO:158)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSVKGRFTISRDNSMNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSS
CDR3

U-V_H-23 heavy chain variable region amino acid sequence (SEQ ID NO:159)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARNVIDYWGQGTLVTVSS
CDR3

U-V_H-24 heavy chain variable region amino acid sequence (SEQ ID NO:160)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARGGATGAEYFQHWGQGTLVTVSS
CDR3

FIGURE 2F

U-V_H-25 heavy chain variable region amino acid sequence (SEQ ID NO:160)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARGGATGAEYFQHWGQGTLVTVSS
CDR3

U-V_H-26 heavy chain variable region amino acid sequence (SEQ ID NO:161)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCVLLWFGETFDYWGQGSLVTVSP
CDR3

U-V_H-27 heavy chain variable region amino acid sequence (SEQ ID NO:162)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWSDGSNKYYADSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARNLPFDYWGQGTLVTVSS
CDR3

U-V_H-28 heavy chain variable region amino acid sequence (SEQ ID NO:163)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWDDGSNQYYTDSVKGRFTVSRDNSKNTLFLQMNSLRAE
CDR1 CDR2

DTAVYYCARSHYGGDYDYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2G

U-V_H-29 heavy chain variable region amino acid sequence (SEQ ID NO:164)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKRYVDSVKGRFTISRDNSKNTLYLQMNSLRAE
CDR1 CDR2

DTAVYYCARDGWQQQAPFDYWGQGTLVTVSS
CDR3

U-V_H-30 heavy chain variable region amino acid sequence (SEQ ID NO:165)

QVQLVESGGGVVQPGRSLRLSCAASGFTFRSHGMHWVRQAPGKGLEWVAVIWYDGSNKNYADSVRGRFTISRDNSKNTLDLQMNSLRAE
CDR1 CDR2

DTAVYYCARWGISAPFDCWGQGTLVTVSS
CDR3

U-V_H-31 heavy chain variable region amino acid sequence (SEQ ID NO:166)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSVKGRFTISRDNAKNSLFLQMNSLRDE
CDR1 CDR2

DTAVYYCALWAPFDYWGQGTLVTVSS
CDR3

U-V_H-32 heavy chain variable region amino acid sequence (SEQ ID NO:167)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISSSSRTIYYADSVKGRFTISRDNAKNSVYLQMNSLRDE
CDR1 CDR2

DTAVYYCARDGYNWNGGGNYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2H

U-V_H-33 heavy chain variable region amino acid sequence (SEQ ID NO:168)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSVKGRFTISRDNAKNSLYLQMNSLRDE

CDR1 CDR2

DTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-34 heavy chain variable region amino acid sequence (SEQ ID NO:168)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSVKGRFTISRDNAKNSLYLQMNSLRDE

CDR1 CDR2

DTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-35 heavy chain variable region amino acid sequence (SEQ ID NO:169)

QVQLQESGPGLVKPSQTLSLTCTVSGGSVSSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRVTISVDTSKNQFSLNLSSVTA

CDR1 CDR2

ADTAVYYCARGPYYGMDVWGQGTTVTVSS

CDR3

U-V_H-36 heavy chain variable region amino acid sequence (SEQ ID NO:170)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPSLKSRVNMSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSS

CDR3

FIGURE 2I

U-V_H-37 heavy chain variable region amino acid sequence (SEQ ID NO:170)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPSLKSRVNMSVDTSKNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSS
CDR3

U-V_H-38 heavy chain variable region amino acid sequence (SEQ ID NO:171)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIYYSGSTYYNPSLKSRVTISVDTSKNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARDETVVRGLIRYCYGMDVWGQGTTVTVSS
CDR3

U-V_H-39 heavy chain variable region amino acid sequence (SEQ ID NO:172)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRITISADTSKNQFSLKLNSVTA
CDR1 CDR2

ADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSS
CDR3

U-V_H-40 heavy chain variable region amino acid sequence (SEQ ID NO:173)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRITISADTSKNQFSLKLNSVTA
CDR1 CDR2

ADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSS
CDR3

FIGURE 2J

U-V_H-41 heavy chain variable region amino acid sequence (SEQ ID NO:174)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRITKSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARSNNYGCFALWGRGTLVTVSS

CDR3

U-V_H-42 heavy chain variable region amino acid sequence (SEQ ID NO:175)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPSLKSRITKSVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARSNNYGCFALWGRGTLVTVSS

CDR3

U-V_H-43 heavy chain variable region amino acid sequence (SEQ ID NO:176)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPSLKSRVTISVDTSKNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCASGYNYGLYYYDSSGYPSYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-44 heavy chain variable region amino acid sequence (SEQ ID NO:177)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPSLKSRVTISVDTSKNQFSLKLFSVTA

CDR1 CDR2

ADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSS

CDR3

FIGURE 2K

U-V_H-45 heavy chain variable region amino acid sequence (SEQ ID NO:178)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPSLKSRVTISVDTSKNQFSLKLFSVTA
CDR1 CDR2

ADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSS
CDR3

U-V_H-46 heavy chain variable region amino acid sequence (SEQ ID NO:179)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWYWFDPWGQGTLVTVSS
CDR3

U-V_H-47 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

U-V_H-48 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD
CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS
CDR3

FIGURE 2L

U-V_H-49 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD

CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS

CDR3

U-V_H-50 heavy chain variable region amino acid sequence (SEQ ID NO:180)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLKSRVTISVDTSKNQFSLKLSSVTAAD

CDR1 CDR2

TAVYYCARGGYSSSWFWFDPWGQGTLVTVSS

CDR3

U-V_H-51 heavy chain variable region amino acid sequence (SEQ ID NO:181)

QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQPAGKGLEWIGRIYTSGTTNYNPSLKSRVTMSVDTSKNQFSLKLSSVTAAD

CDR1 CDR2

TAVYYCARDGYSYGHYYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-52 heavy chain variable region amino acid sequence (SEQ ID NO:182)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPSLKSRVTISIVTSRNQFSLKLSSVTA

CDR1 CDR2

ADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSS

CDR3

FIGURE 2M

U-V_H-53 heavy chain variable region amino acid sequence (SEQ ID NO:182)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPSLKSRVTISIVTSRNQFSLKLSSVTA
CDR1 CDR2

ADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSS
CDR3

U-V_H-54 heavy chain variable region amino acid sequence (SEQ ID NO:183)

EVQLVQSGAELKKPGESLKISCKGSGYRFTSYWIGWVRQMPGKGLEWMGIIYPDDSDTRYSPSFQGQVTISADKSISTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQKSYGYSYFDYWGQGTLVTVSS
CDR3

U-V_H-55 heavy chain variable region amino acid sequence (SEQ ID NO:184)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPDDSDARYSPSFQGQVTISADKSINTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQGYGSGWGYFDYWGQGTLVTVSS
CDR3

U-V_H-56 heavy chain variable region amino acid sequence (SEQ ID NO:185)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDSDIRYSPSFQGQVTISADKSISTAYLQWSSLKAS
CDR1 CDR2

DTAMYYCARQGLAVAGTSYYYYYGMDVWGQGTTVTVSS
CDR3

FIGURE 2N

U-V_H-57 heavy chain variable region amino acid sequence (SEQ ID NO:186)

QVQLQQSGPGLVKPSQTLSLTCAISGDSVSSYSAAWNWIRQSPSRGLEWLGRTYCRSKWYNDYAVSVKSRITINPDTSKNQFSLQLNSV

CDR1 CDR2

TPEDTAVYYCARDRAVAGYYYGMDVWGQGTTVTVSS

CDR3

U-V_H-58 heavy chain variable region amino acid sequence (SEQ ID NO:166)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSVKGRFTISRDNAKNSLFLQMNSLRDE

CDR1 CDR2

DTAVYYCALWAPFDYWGQGTLVTVSS

CDR3

FIGURE 2O

U_L-1 light chain amino acid sequence (SEQ ID NO:1)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVP
DRFNGSGSGTDFTLKISRVEAEDVGVYYCMQSTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-2 light chain amino acid sequence (SEQ ID NO:2)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWFQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCIQGTHWPTTFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-3 light chain amino acid sequence (SEQ ID NO:3)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-4 light chain amino acid sequence (SEQ ID NO:3)

DVVMTQSPLSLPVTLGQPASISCRSSQSLVYSDGNTYLNWLQQRPGQSPRRLIYKVSNWDSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGTHWPITFGQGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-5 light chain amino acid sequence (SEQ ID NO:4)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQGIQLPCSFGQGTKLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-6 light chain amino acid sequence (SEQ ID NO:5)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPLTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3A

U_L-7 light chain amino acid sequence (SEQ ID NO:5)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWYLQKPGQPPQLLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPLTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-8 light chain amino acid sequence (SEQ ID NO:6)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPITFGHGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-9 light chain amino acid sequence (SEQ ID NO:6)

DIVMTQTPLSLSVTPGQPASISCKSSQSLLHSDGKTYLYWFLQKPGQPPQPLIYEVSNRFSGVP
DRFSGSGSGTDFTLKISRVEAEDVGVYYCMQSIQLPITFGHGTRLEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-11 light chain amino acid sequence (SEQ ID NO:7)

DIQMTQSPSSLSASVGDRVTITCRASQGIANYLAWYQQKPGKVPKLLIYVASTLQSGVPSRFSG
SGSGTDFTLTISSLQPEDVATYYCQNYNSAPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-12 light chain amino acid sequence (SEQ ID NO:8)

DIQMTQSPSSLSASVGDRVTIICRASQGISNDLAWYQQKPGKVPKLLIYAASTLQSGVPSRFSG
SGSGTDFTLTISSLQPEDVATYYCQKYNSVPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-13 light chain amino acid sequence (SEQ ID NO:9)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGSGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGPGTKVDIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3B

U_L-14 light chain amino acid sequence (SEQ ID NO:9)

NIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGSGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGPGTKVDIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-15 light chain amino acid sequence (SEQ ID NO:10)

EIVMTQTPLSSPVTLGQPASISCRSSQSLVHSDGNTYLSWLQQRPGQPPRLLIYKISNRFSGVP
DRFSGTGAGTDFTLKISRVEAEDVGVYYCMQATQFPHTFGGGTKVEIKRTVAAPSVFIFPPSDE
QLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYE
KHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-16 light chain amino acid sequence (SEQ ID NO:11)

EIVLTQSPGTLSLSPGERATLSCRASQTVISSYLAWYQQKPGQAPRLLISGASSRATGIPDRFS
GSGSGTDFTLTISRLEPEDFAVYYCQQYGSSPRTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

U_L-17 light chain amino acid sequence (SEQ ID NO:12)

EIVLTQSPGTLSLSPGERATLSCRASQSVSRLAWYQQKPGQAPRLLIYGASRRATGIPDRFSGS
GSGTDFTLTISRLEPEDFAVYYCQQYGSSPRSFGQGTKLEIKRTVAAPSVFIFPPSDEQLKSGT
ASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYA
CEVTHQGLSSPVTKSFNRGEC

U_L-18 light chain amino acid sequence (SEQ ID NO:13)

DIQMTQSPSSLSASVGDRVTITCRASQGIRNDLGWYQQKPGKAPKRLIYAASSLQSGVPSRFSG
SGSGTEFTLTISSLQPEDFATYYCLQHNSYPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-19 light chain amino acid sequence (SEQ ID NO:14)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGV
PDRFTGSGSGTDFTLTISSLQAEDVAVYYCQQYYSFPWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3C

U_L-20 light chain amino acid sequence (SEQ ID NO:14)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLVWYQQKPGQPPKLFIYWASTRESGV
PDRFTGSGSGTDFTLTISSLQAEDVAVYYCQQYYSFPWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-21 light chain amino acid sequence (SEQ ID NO:15)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYYCQQYYSTTWTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-22 light chain amino acid sequence (SEQ ID NO:16)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYYGTPRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-23 light chain amino acid sequence (SEQ ID NO:17)

DIVMTQSPDSLAVSLGERATINCKSSQNVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYYGTPRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-24 light chain amino acid sequence (SEQ ID NO:18)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFGGSGSGTDFTLTISSLQAEDVAVYYCQQYYSISRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-25 light chain amino acid sequence (SEQ ID NO:18)

DIVMTQSPDSLTVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFGGSGSGTDFTLTISSLQAEDVAVYYCQQYYSISRTFGQGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3D

U_L-26 light chain amino acid sequence (SEQ ID NO:19)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQADDVAVYYCQQYYSTTWTFGPGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-27 light chain amino acid sequence (SEQ ID NO:20)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYNSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQADDVAVYYCQQYYSTTWTFGPGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-28 light chain amino acid sequence (SEQ ID NO:21)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGV
PDRFSGSGSGTDFTLTISGLQAEDVALYYCQQYYSTMFSFGQGTKLEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-29 light chain amino acid sequence (SEQ ID NO:21)

DIVMTQSPDSLAVSLGERATINCKSSQSVLYSSNNKNYLAWYQQKPGQPPKVLIYWASTRKSGV
PDRFSGSGSGTDFTLTISGLQAEDVALYYCQQYYSTMFSFGQGTKLEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-30 light chain amino acid sequence (SEQ ID NO:22)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVFYCHQYYSTPLTFGGGTKVAIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-31 light chain amino acid sequence (SEQ ID NO:22)

DIVMTQSPDSLAVSLGERATINCKSSQSVLDSSNNKNYLAWYQQKPGQPPKLLIYWASTRESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVFYCHQYYSTPLTFGGGTKVAIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

FIGURE 3E

U_L-32 light chain amino acid sequence (SEQ ID NO:23)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYFITPLTFGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-33 light chain amino acid sequence (SEQ ID NO:23)

DIVMTQSPDSLAVSLGERATINCKSSQSILYRSNNKNYLAWYQQKPGQPPKLLIYWASARESGV
PDRFSGSGSGTDFTLTISSLQAEDVAVYFCQQYFITPLTFGGGTKVEIKRTVAAPSVFIFPPSD
EQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADY
EKHKVYACEVTHQGLSSPVTKSFNRGEC

U_L-34 light chain amino acid sequence (SEQ ID NO:24)

DIQMTQSPSSLSASVGDRVTITCRASQDISHYLAWFQQKPGKAPKSLIYAASSLQSGVPSKFSG
SGSGTDFTLTISSLQPEDFATYYCQQYNNYPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-35 light chain amino acid sequence (SEQ ID NO:25)

DIQMTQSPSSLSASVGDRVAITCRASQDISNYLAWLQQKPGKAPKSLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQYNTYPFTFGPGTKMDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-36 light chain amino acid sequence (SEQ ID NO:26)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSG
SGSGTEFTLTISSLQSEDFAVYYCQQHNNWPPWTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

U_L-37 light chain amino acid sequence (SEQ ID NO:26)

EIVMTQSPATLSVSPGERATLSCRASQSVSSNLAWYQQDPGQAPRLLIYGASRRATGIPARFSG
SGSGTEFTLTISSLQSEDFAVYYCQQHNNWPPWTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKS
GTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKV
YACEVTHQGLSSPVTKSFNRGEC

FIGURE 3F

U_L-38 light chain amino acid sequence (SEQ ID NO:27)

DIQMTQSPSSVSASVGDRVTITCRASQDISRWLAWYQQKPGKAPKLLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQANSFPPTFGQGTKVEFKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-39 light chain amino acid sequence (SEQ ID NO:28)

DIQMTQSPSSLSASVGDRVTITCRASQSISTYLNWYQQKPGKAPKFLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFAAYYCQQSHSAPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-40 light chain amino acid sequence (SEQ ID NO:29)

DIQMTQSPSSLSASLGDRVTITCRASQTISIYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYSTLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGT
ASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYA
CEVTHQGLSSPVTKSFNRGEC

U_L-41 light chain amino acid sequence (SEQ ID NO:30)

DIQMTQSPSSLSASVGDRVTITCRASQSIRSYLNWYQQRPGNAPKLLIYAASSLQSGVPSRVSG
SGSGTDFTLTIRSLQPEDFATYYCQQSYSIPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-42 light chain amino acid sequence (SEQ ID NO:31)

DIQMTQSPSSRSASVGDRVTITCRASQTISRYLNWYQQKPGKAPKLLIYAASTLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFATYYCQQIYSTSITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-43 light chain amino acid sequence (SEQ ID NO:32)

DIQMTQSPSSLSASVGDRVTITCRASQRISSYLNWYQQKPGKAPKVLIYAESSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYITPITFGQGTRLEIIRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3G

U_L-44 light chain amino acid sequence (SEQ ID NO:33)

DIQMTQSPSSLSASVGDRVTITCRASQSISRYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPENFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-45 light chain amino acid sequence (SEQ ID NO:34)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTFSSLQPEDFATYYCQQSYFSPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-46 light chain amino acid sequence (SEQ ID NO:35)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFASYYCQQSFYTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-47 light chain amino acid sequence (SEQ ID NO:35)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTLSSLQPEDFASYYCQQSFYTPITFGQGTRLEIKASTKGPSVFPLAPCSRSTSES
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNV
DHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHED
PEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEK
TISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPML
DSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_L-48 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-49 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3H

U_L-50 light chain amino acid sequence (SEQ ID NO:36)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTVSSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-51 light chain amino acid sequence (SEQ ID NO:37)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFASYYCQQSFYAPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-52 light chain amino acid sequence (SEQ ID NO:37)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFASYYCQQSFYAPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-53 light chain amino acid sequence (SEQ ID NO:38)

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYTASSLQSGVPSRFSG
SGSGTDFTLTISSLQPEDFATYYCQQSYFTPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-54 light chain amino acid sequence (SEQ ID NO:39)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDYLPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-55 light chain amino acid sequence (SEQ ID NO:39)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDYLPFTFGPGTKVDIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3I

U_L-56 light chain amino acid sequence (SEQ ID NO:40)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPELLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQCDDLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-57 light chain amino acid sequence (SEQ ID NO:41)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-58 light chain amino acid sequence (SEQ ID NO:42)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-59 light chain amino acid sequence (SEQ ID NO:42)

DIQMTQSPSSLSASVGDRVAITCQASQDISNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-60 light chain amino acid sequence (SEQ ID NO:43)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASILETGVPSRFSG
SGSETDFTFTISSLQPEDIATYYCQQCDILPLSFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-61 light chain amino acid sequence (SEQ ID NO:44)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPLAFGGGTKVEIRRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3J

U_L-62 light chain amino acid sequence (SEQ ID NO:45)

DIQMTQSPSSLSASVGDGVTITCQASQDITNYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDSLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-63 light chain amino acid sequence (SEQ ID NO:46)

DIQMTQSPSSLSASVGDRVTITCQASQDISNYLNWYQQKLGKAPKLLIHDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQQYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-64 light chain amino acid sequence (SEQ ID NO:47)

DIQMTQSPSSLSASVGDRVTITCQASQDISDYLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

U_L-65 light chain amino acid sequence (SEQ ID NO:48)

DIQMTQSPSSLSASVGDRVTITCQASQDISNSLNWYQQKPGKAPKLLIYDASNLETGVPSRFSG
SGSGTDFTFTISSLQPEDIATYYCQHYDNLPITFGQGTRLEIKRTVAAPSVFIFPPSDEQLKSG
TASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVY
ACEVTHQGLSSPVTKSFNRGEC

FIGURE 3K

U_H-1 heavy chain amino acid sequence (SEQ ID NO:49)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKL
QDRVTMTTDTSTSTAYMELRSLRSDDTAVYYCAREDNWNYGFFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-2 heavy chain amino acid sequence (SEQ ID NO:49)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYGISWVRQAPGQGLEWMGWISASNGNTNYAQKL
QDRVTMTTDTSTSTAYMELRSLRSDDTAVYYCAREDNWNYGFFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-3 heavy chain amino acid sequence (SEQ ID NO:50)

QVHLVQSGAEVKKPGASVKVSCKVSGYTFTGHYMHWVRQAPGQGLEWMGWINPNSGGTNCAQKF
QGRVTMTRDTSISTAYMELSRLRSDDTAVYYCARSIAVALDYWGQGTLVTVSSASTKGPSVFPL
APCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSN
FGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVT
CVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVS
NKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE
NNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-4 heavy chain amino acid sequence (SEQ ID NO:51)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHWVRQAPGQGLEWMGWINPNSGGTNHTQKF
QGRVTMTRDTSISTAYMELSRLRSDDTAVYYCARSIAVALDYWGQGTLVTVSSASTKGPSVFPL
APCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSN
FGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVT
CVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVS
NKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPE
NNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4A

U_H-5 heavy chain amino acid sequence (SEQ ID NO:52)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKF
QGRVTMLEDTSTDTAYMELSSLRSEDTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-6 heavy chain amino acid sequence (SEQ ID NO:52)

QVQLVQSGAEVRKPGASVKVSCKVSGYTLTELSMHWVRQAPGKGLEWMGSFDPEDGETIYAQKF
QGRVTMLEDTSTDTAYMELSSLRSEDTAVYYCATEGDGGYYYYGMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-7 heavy chain amino acid sequence (SEQ ID NO:53)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLAHIFSNDEKSYSTS
LKSRLTISKDTSKSQVVLTMTNMDPVDTATYYCARMYSSGWYGVFDYWGQGTLVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-8 heavy chain amino acid sequence (SEQ ID NO:54)

QVTLKESGPVLVKPTETLTLTCTVSGFSLSNARMGVSWIRQPPGKALEWLVLIFSNDEKSYSTS
LKSRLTISKDTSKSQVVLTMTNMDPVDTATYYCARVYSSGWSFYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K

FIGURE 4B

U_H-9 heavy chain amino acid sequence (SEQ ID NO:55)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRRELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-10 heavy chain amino acid sequence (SEQ ID NO:56)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKTQVVLTVTDMDPVDTATYYCAHRNWTPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-11 heavy chain amino acid sequence (SEQ ID NO:57)

QITLKESGPTLVKPTQTLTLTCTFSGFSLNTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRLELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-12 heavy chain amino acid sequence (SEQ ID NO:58)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNLDPVDTATYYCAHRREVPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4C

U_H-13 heavy chain amino acid sequence (SEQ ID NO:59)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNVEKRYSPS
LRSRLTITKATSKNQVVLTMTNMDPVDTATYYCAHRHTNPFEYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-14 heavy chain amino acid sequence (SEQ ID NO:60)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRGELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-15 heavy chain amino acid sequence (SEQ ID NO:60)

QITLKESGPTLVKPTQTLTLTCTFSGFSLSTGGVGVGWIRQPPGKALEWLALIYWNDDKRYSPS
LKSRLTITKDTSKNQVVLTMTNMDPVDTATYYCAHRGELPFDYWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-16 heavy chain amino acid sequence (SEQ ID NO:61)

EVQLVESGGGLVKPGGSLRLSCAASGFPFSRYSMNWVRQAPGKGLEWVSAISSSSSYIYYADSV
KGRFTISRDNAKNSLYLQMNSLRAEDTAVYYCARDRVGATPDAFDIWGQGTMVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4D

U_H-17 heavy chain amino acid sequence (SEQ ID NO:62)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMNWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKEGIAVAGTAEYYYYYAMDVWGQGTTVTVSS
ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDW
LNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDI
AVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSL
SLSPGK

U_H-18 heavy chain amino acid sequence (SEQ ID NO:63)

EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAKEGIAARDSYYYYAMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-19 heavy chain amino acid sequence (SEQ ID NO:64)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-20 heavy chain amino acid sequence (SEQ ID NO:64)

EVQLLESGGGLVQPGGSLRLSCTASGFTFSSYAMSWVRQAPGKGLEWVSAISGSGGSTYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAEYYCAKEGIAGRDSYYYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

FIGURE 4E

U_H-21 heavy chain amino acid sequence (SEQ ID NO:65)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSV
KGRFTISRDNSMNTLYLQMNSLRAEDTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K

U_H-22 heavy chain amino acid sequence (SEQ ID NO:65)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAFISDDGSTKYYADSV
KGRFTISRDNSMNTLYLQMNSLRAEDTAVYYCARSYYDSSGYYYGFDYWGQGTLVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K

U_H-23 heavy chain amino acid sequence (SEQ ID NO:66)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARNVIDYWGQGTLVTVSSASTKGPSVFPLAPC
SRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGT
QTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVV
VDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKG
LPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNY
KTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-24 heavy chain amino acid sequence (SEQ ID NO:67)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARGGATGAEYFQHWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4F

U_H-25 heavy chain amino acid sequence (SEQ ID NO:67)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYDMHWVRQAPGKGLEWVAVIWYDGSIKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARGGATGAEYFQHWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-26 heavy chain amino acid sequence (SEQ ID NO:68)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCVLLWFGETFDYWGQGSLVTVSPASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-27 heavy chain amino acid sequence (SEQ ID NO:69)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWSDGSNKYYADSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARNLPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-28 heavy chain amino acid sequence (SEQ ID NO:70)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWDDGSNQYYTDSV
KGRFTVSRDNSKNTLFLQMNSLRAEDTAVYYCARSHYGGDYDYYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K

FIGURE 4G

U_H-29 heavy chain amino acid sequence (SEQ ID NO:71)

QVQLVESGGGVVQPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEWVAVIWYDGSNKRYVDSV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDGWQQQAPFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-30 heavy chain amino acid sequence (SEQ ID NO:72)

QVQLVESGGGVVQPGRSLRLSCAASGFTFRSHGMHWVRQAPGKGLEWVAVIWYDGSNKNYADSV
RGRFTISRDNSKNTLDLQMNSLRAEDTAVYYCARWGISAPFDCWGQGTLVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-31 heavy chain amino acid sequence (SEQ ID NO:73)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSV
KGRFTISRDNAKNSLFLQMNSLRDEDTAVYYCALWAPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-32 heavy chain amino acid sequence (SEQ ID NO:74)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISSSSRTIYYADSV
KGRFTISRDNAKNSVYLQMNSLRDEDTAVYYCARDGYNWNGGGNYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

FIGURE 4H

U_H-33 heavy chain amino acid sequence (SEQ ID NO:75)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSV
KGRFTISRDNAKNSLYLQMNSLRDEDTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-34 heavy chain amino acid sequence (SEQ ID NO:75)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSSYSMNWVRQAPGKGLEWVSHISRSSRTIYYADSV
KGRFTISRDNAKNSLYLQMNSLRDEDTAVYYCARDGYNWNNGGYYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-35 heavy chain amino acid sequence (SEQ ID NO:76)

QVQLQESGPGLVKPSQTLSLTCTVSGGSVSSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPS
LKSRVTISVDTSKNQFSLNLSSVTAADTAVYYCARGPYYGMDVWGQGTTVTVSSASTKGPSVFP
LAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSS
NFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEV
TCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKV
SNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQP
ENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-36 heavy chain amino acid sequence (SEQ ID NO:77)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPS
LKSRVNMSVDTSKNQFSLKLSSVTAADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

FIGURE 4I

U_H-37 heavy chain amino acid sequence (SEQ ID NO:77)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISRGGYYWSWIRQHPGKGLEWIGYIYHSGSTYYNPS
LKSRVNMSVDTSKNQFSLKLSSVTAADTAVYYCARALRGIVLMVYVLGALDIWGQGTKVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

U_H-38 heavy chain amino acid sequence (SEQ ID NO:78)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIYYSGSTYYNPS
LKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCARDETVVRGLIRYCYGMDVWGQGTTVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

U_H-39 heavy chain amino acid sequence (SEQ ID NO:79)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRITISADTSKNQFSLKLNSVTAADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-40 heavy chain amino acid sequence (SEQ ID NO:80)

QVQLQESGPGLVKPSQTLSLNCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRITISADTSKNQFSLKLNSVTAADTAVYYCARDRGGGDYGRMDVWGQGTTVTVSSASTKGP
SVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVT
VPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISR
TPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEY
KCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWES
NGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4J

U_H-41 heavy chain amino acid sequence (SEQ ID NO:81)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWI81RQHPGKGLEWIGYIHSSGSTYYN
PSLKSRITKSVDTSKNQFSLKLSSVTAADTAVYYCARSNNYGCFALWGRGTLVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-42 heavy chain amino acid sequence (SEQ ID NO:82)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHSSGSTYYNPS
LKSRITKSVDTSKNQFSLKLSSVTAADTAVYYCARSNNYGCFALWGRGTLVTVSSASTKGPSVF
PLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPS
SNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPE
VTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCK
VSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQ
PENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-43 heavy chain amino acid sequence (SEQ ID NO:83)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGGYYWSWIRQHPGKGLEWIGYIHYSGSTYYNPS
LKSRVTISVDTSKNQFSLKLSSVTAADTAVYYCASGYNYGLYYYDSSGYPSYYYGMDVWGQGTT
VTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQS
SGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFP
PKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTV
VHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGF
YPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHY
TQKSLSLSPGK

U_H-44 heavy chain amino acid sequence (SEQ ID NO:84)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPS
LKSRVTISVDTSKNQFSLKLFSVTAADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

FIGURE 4K

U_H-45 heavy chain amino acid sequence (SEQ ID NO:85)

QVQLQESGPGLVKPSQTLSLTCTVSGGSISSGDYYWNWVRQHPGKGLEWIGYIYYSGGTYYNPS
LKSRVTISVDTSKNQFSLKLFSVTAADTAVYFCARTYYDILTGYPFYFDYWGQGTLVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-46 heavy chain amino acid sequence (SEQ ID NO:86)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWYWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-47 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-48 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4L

U_H-49 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-50 heavy chain amino acid sequence (SEQ ID NO:87)

QVQLQQWGAGLLKPSETLSLTCAVYGGSFSGYYWSWIRQPPGKGLEWIGEINHSGSTNYNPSLK
SRVTISVDTSKNQFSLKLSSVTAADTAVYYCARGGYSSSWFWFDPWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-51 heavy chain amino acid sequence (SEQ ID NO:88)

QVQLQESGPGLVKPSETLSLTCTVSGGSISSYYWSWIRQPAGKGLEWIGRIYTSGTTNYNPSLK
SRVTMSVDTSKNQFSLKLSSVTAADTAVYYCARDGYSYGHYYYYGMDVWGQGTTVTVSSASTKG
PSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVV
TVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMIS
RTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKE
YKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWE
SNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPG
K

U_H-52 heavy chain amino acid sequence (SEQ ID NO:89)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPS
LKSRVTISIVTSRNQFSLKLSSVTAADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSSAS
TKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLS
SVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTL
MISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLN
GKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
EWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL
SPGK

FIGURE 4M

U_H-53 heavy chain amino acid sequence (SEQ ID NO:89)

QVQLQESGPGLVKPSETLSLTCTVSGGSVSSGGSYWSWIRQPPGKGLEWIGYIYYSGSTNYNPS
LKSRVTISIVTSRNQFSLKLSSVTAADTAVYYCARSALRYFDWLFSDVSDIWGQGTMVTVSSAS
TKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLS
SVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTL
MISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLN
GKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
EWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSL
SPGK

U_H-54 heavy chain amino acid sequence (SEQ ID NO:90)

EVQLVQSGAELKKPGESLKISCKGSGYRFTSYWIGWVRQMPGKGLEWMGIIYPDDSDTRYSPSF
QGQVTISADKSISTAYLQWSSLKASDTAMYYCARQKSYGYSYFDYWGQGTLVTVSSASTKGPSV
FPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVP
SSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTP
EVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKC
KVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-55 heavy chain amino acid sequence (SEQ ID NO:91)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPDDSDARYSPSF
QGQVTISADKSINTAYLQWSSLKASDTAMYYCARQGYGSGWGYFDYWGQGTLVTVSSASTKGPS
VFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTV
PSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYK
CKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESN
GQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

U_H-56 heavy chain amino acid sequence (SEQ ID NO:92)

EVQLVQSGAEVKKPGESLKISCKGSGYSFTSYWIGWVRQMPGKGLEWMGIIYPGDSDIRYSPSF
QGQVTISADKSISTAYLQWSSLKASDTAMYYCARQGLAVAGTSYYYYYGMDVWGQGTTVTVSSA
STKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSL
SSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDT
LMISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWL
NGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIA
VEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLS
LSPGK

FIGURE 4N

U_H-57 heavy chain amino acid sequence (SEQ ID NO:93)

QVQLQQSGPGLVKPSQTLSLTCAISGDSVSSYSAAWNWIRQSPSRGLEWLGRTYCRSKWYNDYA
VSVKSRITINPDTSKNQFSLQLNSVTPEDTAVYYCARDRAVAGYYYGMDVWGQGTTVTVSSAST
KGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSS
VVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLM
ISRTPEVTCVVVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNG
KEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVE
WESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS
PGK

U_H-58 heavy chain amino acid sequence (SEQ ID NO:73)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSAYSMNWVRQAPGKGLEWVSYISSSGRTIYYADSV
KGRFTISRDNAKNSLFLQMNSLRDEDTAVYYCALWAPFDYWGQGTLVTVSSASTKGPSVFPLAP
CSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNK
GLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENN
YKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

FIGURE 4O

CONSTANT REGION: LIGHT CHAIN AMINO ACID SEQUENCE

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKA
DYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:187)

FIGURE 5A

CONSTANT REGION: HEAVY CHAIN AMINO ACID SEQUENCE

ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFG
TQTYTCNVDHKPSNTKVDKTVERKCCVECPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQF
NWYVDGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLP
PSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH
EALHNHYTQKSLSLSPGK (SEQ ID NO:188)

FIGURE 5B

LIGHT CHAIN CDRS

NAME	SEQUENCE	SEQ ID NO:
CDRL1-1	RSSQSLVYSDGNTYLN	189
CDRL1-2	RSSQSLVYSDGNTYLN	189
CDRL1-3	RSSQSLVYSDGNTYLN	189
CDRL1-4	RSSQSLVYSDGNTYLN	189
CDRL1-5	KSSQSLLHSDGKTYLY	190
CDRL1-6	KSSQSLLHSDGKTYLY	190
CDRL1-7	KSSQSLLHSDGKTYLY	190
CDRL1-8	KSSQSLLHSDGKTYLY	190
CDRL1-9	KSSQSLLHSDGKTYLY	190
CDRL1-11	RASQGIANYLA	191
CDRL1-12	RASQGISNDLA	192
CDRL1-13	RSSQSLVHSDGNTYLS	193
CDRL1-14	RSSQSLVHSDGNTYLS	193
CDRL1-15	RSSQSLVHSDGNTYLS	193
CDRL1-16	RASQTVISSYLA	194
CDRL1-17	RASQSVSRLA	195
CDRL1-18	RASQGIRNDLG	196
CDRL1-19	KSSQSVLYSSNNKNYLV	197
CDRL1-20	KSSQSVLYSSNNKNYLV	197
CDRL1-21	KSSQSVLYSSNNKNYLA	198
CDRL1-22	KSSQNVLYSSNNKNYLA	199
CDRL1-23	KSSQNVLYSSNNKNYLA	199
CDRL1-24	KSSQSVLYSSNNKNYLA	198
CDRL1-25	KSSQSVLYSSNNKNYLA	198
CDRL1-26	KSSQSVLYNSNNKNYLA	200
CDRL1-27	KSSQSVLYNSNNKNYLA	200
CDRL1-28	KSSQSVLYSSNNKNYLA	198
CDRL1-29	KSSQSVLYSSNNKNYLA	198
CDRL1-30	KSSQSVLDSSNNKNYLA	201
CDRL1-31	KSSQSVLDSSNNKNYLA	201
CDRL1-32	KSSQSILYRSNNKNYLA	202
CDRL1-33	KSSQSILYRSNNKNYLA	202
CDRL1-34	RASQDISHYLA	203
CDRL1-35	RASQDISNYLA	204

FIGURE 6A

NAME	SEQUENCE	SEQ ID NO:
CDRL1-36	RASQSVSSNLA	205
CDRL1-37	RASQSVSSNLA	205
CDRL1-38	RASQDISRWLA	206
CDRL1-39	RASQSISTYLN	207
CDRL1-40	RASQTISIYLN	208
CDRL1-41	RASQSIRSYLN	209
CDRL1-42	RASQTISRYLN	210
CDRL1-43	RASQRISSYLN	211
CDRL1-44	RASQSISRYLN	212
CDRL1-45	RASQSISSYLN	213
CDRL1-46	RASQSISSYLN	213
CDRL1-47	RASQSISSYLN	213
CDRL1-48	RASQSISSYLN	213
CDRL1-49	RASQSISSYLN	213
CDRL1-50	RASQSISSYLN	213
CDRL1-51	RASQSISSYLN	213
CDRL1-52	RASQSISSYLN	213
CDRL1-53	RASQSISSYLN	213
CDRL1-54	QASQDISNYLN	214
CDRL1-55	QASQDISNYLN	214
CDRL1-56	QASQDISNSLN	215
CDRL1-57	QASQDISDYLN	216
CDRL1-58	QASQDISNYLN	214
CDRL1-59	QASQDISNYLN	214
CDRL1-60	QASQDISNSLN	215
CDRL1-61	QASQDISNSLN	215
CDRL1-62	QASQDITNYLN	217
CDRL1-63	QASQDISNYLN	214
CDRL1-64	QASQDISDYLN	216
CDRL1-65	QASQDISNSLN	215
CDRL2-1	KVSNWDS	218
CDRL2-2	KVSNWDS	218
CDRL2-3	KVSNWDS	218
CDRL2-4	KVSNWDS	218
CDRL2-5	EVSNRFS	219
CDRL2-6	EVSNRFS	219

FIGURE 6B

NAME	SEQUENCE	SEQ ID NO:
CDRL2-7	EVSNRFS	219
CDRL2-8	EVSNRFS	219
CDRL2-9	EVSNRFS	219
CDRL2-11	VASTLQS	220
CDRL2-12	AASTLQS	221
CDRL2-13	KISNRFS	222
CDRL2-14	KISNRFS	222
CDRL2-15	KISNRFS	222
CDRL2-16	GASSRAT	223
CDRL2-17	GASRRAT	224
CDRL2-18	AASSLQS	225
CDRL2-19	WASTRES	226
CDRL2-20	WASTRES	226
CDRL2-21	WASTRES	226
CDRL2-22	WASTRES	226
CDRL2-23	WASTRES	226
CDRL2-24	WASTRES	226
CDRL2-25	WASTRES	226
CDRL2-26	WASTRES	226
CDRL2-27	WASTRES	226
CDRL2-28	WASTRKS	227
CDRL2-29	WASTRKS	227
CDRL2-30	WASTRES	226
CDRL2-31	WASTRES	226
CDRL2-32	WASARES	228
CDRL2-33	WASARES	228
CDRL2-34	AASSLQS	225
CDRL2-35	AASSLQS	225
CDRL2-36	GASRRAT	224
CDRL2-37	GASRRAT	224
CDRL2-38	AASSLQS	225
CDRL2-39	AASSLQS	225
CDRL2-40	AASSLQS	225
CDRL2-41	AASSLQS	225
CDRL2-42	AASTLQS	221
CDRL2-43	AESSLQS	229

FIGURE 6C

NAME	SEQUENCE	SEQ ID NO:
CDRL2-44	TASSLQS	230
CDRL2-45	TASSLQS	230
CDRL2-46	TASSLQS	230
CDRL2-47	TASSLQS	230
CDRL2-48	TVSSLQS	231
CDRL2-49	TVSSLQS	231
CDRL2-50	TVSSLQS	231
CDRL2-51	TASSLQS	230
CDRL2-52	TASSLQS	230
CDRL2-53	TASSLQS	230
CDRL2-54	DASNLET	232
CDRL2-55	DASNLET	232
CDRL2-56	DASNLET	232
CDRL2-57	DASNLET	232
CDRL2-58	DASNLET	232
CDRL2-59	DASNLET	232
CDRL2-60	DASILET	233
CDRL2-61	DASNLET	232
CDRL2-62	DASNLET	232
CDRL2-63	DASNLET	232
CDRL2-64	DASNLET	232
CDRL2-65	DASNLET	232
CDRL3-1	MQSTHWPIT	234
CDRL3-2	IQGTHWPTT	235
CDRL3-3	MQGTHWPIT	236
CDRL3-4	MQGTHWPIT	236
CDRL3-5	MQGIQLPCS	237
CDRL3-6	MQSIQLPLT	238
CDRL3-7	MQSIQLPLT	238
CDRL3-8	MQSIQLPIT	239
CDRL3-9	MQSIQLPIT	239
CDRL3-11	QNYNSAPFT	240
CDRL3-12	QKYNSVPLT	241
CDRL3-13	MQATQFPHT	242
CDRL3-14	MQATQFPHT	242
CDRL3-15	MQATQFPHT	242

FIGURE 6D

NAME	SEQUENCE	SEQ ID NO:
CDRL3-16	QQYGSSPRT	243
CDRL3-17	QQYGSSPRS	244
CDRL3-18	LQHNSYPPT	245
CDRL3-19	QQYYSFPWT	246
CDRL3-20	QQYYSFPWT	246
CDRL3-21	QQYYSTTWT	247
CDRL3-22	QQYYGTPRT	248
CDRL3-23	QQYYGTPRT	248
CDRL3-24	QQYYSISRT	249
CDRL3-25	QQYYSISRT	249
CDRL3-26	QQYYSTTWT	247
CDRL3-27	QQYYSTTWT	247
CDRL3-28	QQYYSTMFS	250
CDRL3-29	QQYYSTMFS	250
CDRL3-30	HQYYSTPLT	251
CDRL3-31	HQYYSTPLT	251
CDRL3-32	QQYFITPLT	252
CDRL3-33	QQYFITPLT	252
CDRL3-34	QQYNNYPFT	253
CDRL3-35	QQYNTYPFT	254
CDRL3-36	QQHNNWPPWT	255
CDRL3-37	QQHNNWPPWT	255
CDRL3-38	QQANSFPPT	256
CDRL3-39	QQSHSAPFT	257
CDRL3-40	QQSYSTLT	258
CDRL3-41	QQSYSIPLT	259
CDRL3-42	QQIYSTSIT	260
CDRL3-43	QQSYITPIT	261
CDRL3-44	QQSYFTPIT	262
CDRL3-45	QQSYFSPIT	263
CDRL3-46	QQSFYTPIT	264
CDRL3-47	QQSFYTPIT	264
CDRL3-48	QQSYFTPIT	262
CDRL3-49	QQSYFTPIT	262
CDRL3-50	QQSYFTPIT	262
CDRL3-51	QQSFYAPIT	265

FIGURE 6E

NAME	SEQUENCE	SEQ ID NO:
CDRL3-52	QQSFYAPIT	265
CDRL3-53	QQSYFTPIT	262
CDRL3-54	QQYDYLPFT	266
CDRL3-55	QQYDYLPFT	266
CDRL3-56	QQCDDLPLT	267
CDRL3-57	QHYDNLPLT	268
CDRL3-58	QQYDNLPLT	269
CDRL3-59	QQYDNLPLT	269
CDRL3-60	QQCDILPLS	270
CDRL3-61	QQYDNLPLA	271
CDRL3-62	QQYDSLPIT	272
CDRL3-63	QQYDNLPIT	273
CDRL3-64	QHYDNLPIT	274
CDRL3-65	QHYDNLPIT	274

FIGURE 6F

HEAVY CHAIN CDRS

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-1	CDRH1-10.1	GYTFTSYGIS	275
CDRH1-2	CDRH1-10	GYTFTSYGIS	275
CDRH1-3	CDRH1-42	GYTFTGHYMH	276
CDRH1-4	CDRH1-40	GYTFTGYYMH	277
CDRH1-5	CDRH1-30	GYTLTELSMH	278
CDRH1-6	CDRH1-31	GYTLTELSMH	278
CDRH1-7	CDRH1-29	GFSLSNARMGVS	279
CDRH1-8	CDRH1-20	GFSLSNARMGVS	279
CDRH1-9	CDRH1-65	GFSLSTGGVGVG	280
CDRH1-10	CDRH1-56	GFSLSTGGVGVG	280
CDRH1-11	CDRH1-62	GFSLNTGGVGVG	281
CDRH1-12	CDRH1-2	GFSLSTGGVGVG	280
CDRH1-13	CDRH1-59	GFSLSTGGVGVG	280
CDRH1-14	CDRH1-57	GFSLSTGGVGVG	280
CDRH1-15	CDRH1-64	GFSLSTGGVGVG	280
CDRH1-16	CDRH1-41	GFPFSRYSMN	282
CDRH1-17	CDRH1-45	GFTFSSYAMN	283
CDRH1-18	CDRH1-47	GFTFSSYAMS	284
CDRH1-19	CDRH1-51	GFTFSSYAMS	284
CDRH1-20	CDRH1-52	GFTFSSYAMS	284
CDRH1-21	CDRH1-13	GFTFSSYGMH	285
CDRH1-22	CDRH1-14	GFTFSSYGMH	285
CDRH1-23	CDRH1-1	GFTFSSYGMH	285
CDRH1-24	CDRH1-22	GFTFSSYDMH	286
CDRH1-25	CDRH1-23	GFTFSSYDMH	286
CDRH1-26	CDRH1-12	GFTFSSYGMH	285
CDRH1-27	CDRH1-5	GFTFSSYGMH	285
CDRH1-28	CDRH1-15	GFTFSSYGMH	285
CDRH1-29	CDRH1-7	GFTFSSYGMH	285
CDRH1-30	CDRH1-61	GFTFRSHGMH	287
CDRH1-31	CDRH1-39	GFTFSAYSMN	288
CDRH1-32	CDRH1-34	GFTFSSYSMN	289
CDRH1-33	CDRH1-6	GFTFSSYSMN	289
CDRH1-34	CDRH1-35	GFTFSSYSMN	289
CDRH1-35	CDRH1-21	GGSVSSGGYYWS	290
CDRH1-36	CDRH1-8	GGSISRGGYYWS	291
CDRH1-37	CDRH1-9	GGSISRGGYYWS	291
CDRH1-38	CDRH1-18	GGSISSGGYYWS	292

FIGURE 7A

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-39	CDRH1-24	GGSISSGGYYWS	292
CDRH1-40	CDRH1-25	GGSISSGGYYWS	292
CDRH1-41	CDRH1-26	GGSISSGGYYWS	292
CDRH1-42	CDRH1-27	GGSISSGGYYWS	292
CDRH1-43	CDRH1-38	GGSISSGGYYWS	292
CDRH1-44	CDRH1-54	GGSISSGDYYWN	293
CDRH1-45	CDRH1-55	GGSISSGDYYWN	293
CDRH1-46	CDRH1-43	GGSFSGYYWS	294
CDRH1-47	CDRH1-44	GGSFSGYYWS	294
CDRH1-48	CDRH1-49	GGSFSGYYWS	294
CDRH1-49	CDRH1-50	GGSFSGYYWS	294
CDRH1-50	CDRH1-53	GGSFSGYYWS	294
CDRH1-51	CDRH1-33	GGSISSYYWS	295
CDRH1-52	CDRH1-3	GGSVSSGGSYWS	296
CDRH1-53	CDRH1-4	GGSVSSGGSYWS	296
CDRH1-54	CDRH1-16	GYRFTSYWIG	297
CDRH1-55	CDRH1-17	GYSFTSYWIG	298
CDRH1-56	CDRH1-11	GYSFTSYWIG	298
CDRH1-57	CDRH1-37	GDSVSSYSAAWN	299
CDRH1-58	CDRH1-39.1	GFTFSAYSMN	288
CDRH2-1	CDRH2-10.1	WISASNGNTNYAQKLQD	300
CDRH2-2	CDRH2-10	WISASNGNTNYAQKLQD	300
CDRH2-3	CDRH2-42	WINPNSGGTNCAQKFQG	301
CDRH2-4	CDRH2-40	WINPNSGGTNHTQKFQG	302
CDRH2-5	CDRH2-30	SFDPEDGETIYAQKFQG	303
CDRH2-6	CDRH2-31	SFDPEDGETIYAQKFQG	303
CDRH2-7	CDRH2-29	HIFSNDEKSYSTSLKS	304
CDRH2-8	CDRH2-20	LIFSNDEKSYSTSLKS	305
CDRH2-9	CDRH2-65	LIYWNDDKRYSPSLKS	306
CDRH2-10	CDRH2-56	LIYWNDDKRYSPSLKS	306
CDRH2-11	CDRH2-62	LIYWNDDKRYSPSLKS	306
CDRH2-12	CDRH2-2	LIYWNDDKRYSPSLKS	306
CDRH2-13	CDRH2-59	LIYWNVEKRYSPSLRS	307
CDRH2-14	CDRH2-57	LIYWNDDKRYSPSLKS	306
CDRH2-15	CDRH2-64	LIYWNDDKRYSPSLKS	306
CDRH2-16	CDRH2-41	AISSSSSYIYYADSVKG	308
CDRH2-17	CDRH2-45	AISGSGGSTYYADSVKG	309
CDRH2-18	CDRH2-47	AISGSGGSTYYADSVKG	309
CDRH2-19	CDRH2-51	AISGSGGSTYYADSVKG	309
CDRH2-20	CDRH2-52	AISGSGGSTYYADSVKG	309

FIGURE 7B

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-21	CDRH2-13	FISDDGSTKYYADSVKG	310
CDRH2-22	CDRH2-14	FISDDGSTKYYADSVKG	310
CDRH2-23	CDRH2-1	VIWYDGSNKYYADSVKG	311
CDRH2-24	CDRH2-22	VIWYDGSIKYYADSVKG	312
CDRH2-25	CDRH2-23	VIWYDGSIKYYADSVKG	312
CDRH2-26	CDRH2-12	VIWYDGSNKYYADSVKG	311
CDRH2-27	CDRH2-5	VIWSDGSNKYYADSVKG	313
CDRH2-28	CDRH2-15	VIWDDGSNQYYTDSVKG	314
CDRH2-29	CDRH2-7	VIWYDGSNKRYVDSVKG	315
CDRH2-30	CDRH2-61	VIWYDGSNKNYADSVRG	316
CDRH2-31	CDRH2-39	YISSSGRTIYYADSVKG	317
CDRH2-32	CDRH2-34	HISSSSRTIYYADSVKG	318
CDRH2-33	CDRH2-6	HISRSSRTIYYADSVKG	319
CDRH2-34	CDRH2-35	HISRSSRTIYYADSVKG	319
CDRH2-35	CDRH2-21	YIHSSGSTYYNPSLKS	320
CDRH2-36	CDRH2-8	YIYHSGSTYYNPSLKS	321
CDRH2-37	CDRH2-9	YIYHSGSTYYNPSLKS	321
CDRH2-38	CDRH2-18	YIYYSGSTYYNPSLKS	322
CDRH2-39	CDRH2-24	YIHYSGSTYYNPSLKS	323
CDRH2-40	CDRH2-25	YIHYSGSTYYNPSLKS	323
CDRH2-41	CDRH2-26	YIHSSGSTYYNPSLKS	320
CDRH2-42	CDRH2-27	YIHSSGSTYYNPSLKS	320
CDRH2-43	CDRH2-38	YIHYSGSTYYNPSLKS	323
CDRH2-44	CDRH2-54	YIYYSGGTYYNPSLKS	324
CDRH2-45	CDRH2-55	YIYYSGGTYYNPSLKS	324
CDRH2-46	CDRH2-43	EINHSGSTNYNPSLKS	325
CDRH2-47	CDRH2-44	EINHSGSTNYNPSLKS	325
CDRH2-48	CDRH2-49	EINHSGSTNYNPSLKS	325
CDRH2-49	CDRH2-50	EINHSGSTNYNPSLKS	325
CDRH2-50	CDRH2-53	EINHSGSTNYNPSLKS	325
CDRH2-51	CDRH2-33	RIYTSGTTNYNPSLKS	326
CDRH2-52	CDRH2-3	YIYYSGSTNYNPSLKS	327
CDRH2-53	CDRH2-4	YIYYSGSTNYNPSLKS	327
CDRH2-54	CDRH2-16	IIYPDDSDTRYSPSFQG	328
CDRH2-55	CDRH2-17	IIYPDDSDARYSPSFQG	329
CDRH2-56	CDRH2-11	IIYPGDSDIRYSPSFQG	330
CDRH2-57	CDRH2-37	RTYCRSKWYNDYAVSVKS	331
CDRH2-58	CDRH2-39.1	YISSSGRTIYYADSVKG	317
CDRH3-1	CDRH3-10.1	EDNWNYGFFDY	332
CDRH3-2	CDRH3-10	EDNWNYGFFDY	332

FIGURE 7C

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-3	CDRH3-42	SIAVALDY	333
CDRH3-4	CDRH3-40	SIAVALDY	333
CDRH3-5	CDRH3-30	EGDGGYYYYGMDV	334
CDRH3-6	CDRH3-31	EGDGGYYYYGMDV	334
CDRH3-7	CDRH3-29	MYSSGWYGVFDY	335
CDRH3-8	CDRH3-20	VYSSGWSFYGMDV	336
CDRH3-9	CDRH3-65	RRELPFDY	337
CDRH3-10	CDRH3-56	RNWTPFDY	338
CDRH3-11	CDRH3-62	RLELPFDY	339
CDRH3-12	CDRH3-2	RREVPFDY	340
CDRH3-13	CDRH3-59	RHTNPFEY	341
CDRH3-14	CDRH3-57	RGELPFDY	342
CDRH3-15	CDRH3-64	RGELPFDY	342
CDRH3-16	CDRH3-41	DRVGATPDAFDI	343
CDRH3-17	CDRH3-45	EGIAVAGTAEYYYYYAMDV	344
CDRH3-18	CDRH3-47	EGIAARDSYYYYAMDV	345
CDRH3-19	CDRH3-51	EGIAGRDSYYYYGMDV	346
CDRH3-20	CDRH3-52	EGIAGRDSYYYYGMDV	346
CDRH3-21	CDRH3-13	SYYDSSGYYYGFDY	347
CDRH3-22	CDRH3-14	SYYDSSGYYYGFDY	347
CDRH3-23	CDRH3-1	NVIDY	348
CDRH3-24	CDRH3-22	GGATGAEYFQH	349
CDRH3-25	CDRH3-23	GGATGAEYFQH	349
CDRH3-26	CDRH3-12	LWFGETFDY	350
CDRH3-27	CDRH3-5	NLPFDY	351
CDRH3-28	CDRH3-15	SHYGGDYDYYGMDV	352
CDRH3-29	CDRH3-7	DGWQQQAPFDY	353
CDRH3-30	CDRH3-61	WGISAPFDC	354
CDRH3-31	CDRH3-39	WAPFDY	355
CDRH3-32	CDRH3-34	DGYNWNGGGNYYGMDV	356
CDRH3-33	CDRH3-6	DGYNWNNGGYYYGMDV	357
CDRH3-34	CDRH3-35	DGYNWNNGGYYYGMDV	357
CDRH3-35	CDRH3-21	GPYYGMDV	358
CDRH3-36	CDRH3-8	ALRGIVLMVYVLGALDI	359
CDRH3-37	CDRH3-9	ALRGIVLMVYVLGALDI	359
CDRH3-38	CDRH3-18	DETVVRGLIRYCYGMDV	360
CDRH3-39	CDRH3-24	DRGGGDYGRMDV	361
CDRH3-40	CDRH3-25	DRGGGDYGRMDV	361
CDRH3-41	CDRH3-26	SNNYGCFAL	362
CDRH3-42	CDRH3-27	SNNYGCFAL	362

FIGURE 7D

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-43	CDRH3-38	GYNYGLYYYDSSGYPSYYYGMDV	363
CDRH3-44	CDRH3-54	TYYDILTGYPFYFDY	364
CDRH3-45	CDRH3-55	TYYDILTGYPFYFDY	364
CDRH3-46	CDRH3-43	GGYSSSWYWFDP	365
CDRH3-47	CDRH3-44	GGYSSSWFWFDP	366
CDRH3-48	CDRH3-49	GGYSSSWFWFDP	366
CDRH3-49	CDRH3-50	GGYSSSWFWFDP	366
CDRH3-50	CDRH3-53	GGYSSSWFWFDP	366
CDRH3-51	CDRH3-33	DGYSYGHYYYYGMDV	367
CDRH3-52	CDRH3-3	SALRYFDWLFSDVSDI	368
CDRH3-53	CDRH3-4	SALRYFDWLFSDVSDI	368
CDRH3-54	CDRH3-16	QKSYGYSYFDY	369
CDRH3-55	CDRH3-17	QGYGSGWGYFDY	370
CDRH3-56	CDRH3-11	QGLAVAGTSYYYYYGMDV	371
CDRH3-57	CDRH3-37	DRAVAGYYYGMDV	372
CDRH3-58	CDRH3-39.1	WAPFDY	355

FIGURE 7E

LIGHT CHAIN FRS

NAME	SEQUENCE	SEQ ID NO:
FRL1-1	DVVMTQSPLSLPVTLGQPASISC	388
FRL1-2	DVVMTQSPLSLPVTLGQPASISC	388
FRL1-3	DVVMTQSPLSLPVTLGQPASISC	389
FRL1-4	DVVMTQSPLSLPVTLGQPASISC	389
FRL1-5	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-6	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-7	DIVMTQTPLSLSVTPGQPASISC	390
FRL1-8	DIVMTQTPLSLSVTPGQPASISC	391
FRL1-9	DIVMTQTPLSLSVTPGQPASISC	391
FRL1-11	DIQMTQSPSSLSASVGDRVTITC	392
FRL1-12	DIQMTQSPSSLSASVGDRVTIIC	392
FRL1-13	NIVMTQTPLSSPVTLGQPASISC	393
FRL1-14	NIVMTQTPLSSPVTLGQPASISC	393
FRL1-15	EIVMTQTPLSSPVTLGQPASISC	393
FRL1-16	EIVLTQSPGTLSLSPGERATLSC	394
FRL1-17	EIVLTQSPGTLSLSPGERATLSC	395
FRL1-18	DIQMTQSPSSLSASVGDRVTITC	396
FRL1-19	DIVMTQSPDSLAVSLGERATINC	397
FRL1-20	DIVMTQSPDSLAVSLGERATINC	397
FRL1-21	DIVMTQSPDSLAVSLGERATINC	398
FRL1-22	DIVMTQSPDSLAVSLGERATINC	398
FRL1-23	DIVMTQSPDSLAVSLGERATINC	398
FRL1-24	DIVMTQSPDSLTVSLGERATINC	398
FRL1-25	DIVMTQSPDSLTVSLGERATINC	398
FRL1-26	DIVMTQSPDSLAVSLGERATINC	398
FRL1-27	DIVMTQSPDSLAVSLGERATINC	398
FRL1-28	DIVMTQSPDSLAVSLGERATINC	399
FRL1-29	DIVMTQSPDSLAVSLGERATINC	399
FRL1-30	DIVMTQSPDSLAVSLGERATINC	398
FRL1-31	DIVMTQSPDSLAVSLGERATINC	398
FRL1-32	DIVMTQSPDSLAVSLGERATINC	398
FRL1-33	DIVMTQSPDSLAVSLGERATINC	398
FRL1-34	DIQMTQSPSSLSASVGDRVTITC	400
FRL1-35	DIQMTQSPSSLSASVGDRVAITC	401

FIGURE 8A

NAME	SEQUENCE	SEQ ID NO:
FRL1-36	EIVMTQSPATLSVSPGERATLSC	402
FRL1-37	EIVMTQSPATLSVSPGERATLSC	402
FRL1-38	DIQMTQSPSSVSASVGDRVTITC	403
FRL1-39	DIQMTQSPSSLSASVGDRVTITC	404
FRL1-40	DIQMTQSPSSLSASLGDRVTITC	403
FRL1-41	DIQMTQSPSSLSASVGDRVTITC	405
FRL1-42	DIQMTQSPSSRSASVGDRVTITC	403
FRL1-43	DIQMTQSPSSLSASVGDRVTITC	406
FRL1-44	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-45	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-46	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-47	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-48	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-49	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-50	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-51	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-52	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-53	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-54	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-55	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-56	DIQMTQSPSSLSASVGDRVTITC	407
FRL1-57	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-58	DIQMTQSPSSLSASVGDRVAITC	403
FRL1-59	DIQMTQSPSSLSASVGDRVAITC	403
FRL1-60	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-61	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-62	DIQMTQSPSSLSASVGDGVTITC	403
FRL1-63	DIQMTQSPSSLSASVGDRVTITC	408
FRL1-64	DIQMTQSPSSLSASVGDRVTITC	403
FRL1-65	DIQMTQSPSSLSASVGDRVTITC	403
FRL2-1	WFQQRPGQSPRRLIY	408
FRL2-2	WFQQRPGQSPRRLIY	408
FRL2-3	WLQQRPGQSPRRLIY	409
FRL2-4	WLQQRPGQSPRRLIY	409
FRL2-5	WYLQKPGQPPQLLIY	410
FRL2-6	WYLQKPGQPPQLLIY	410

FIGURE 8B

NAME	SEQUENCE	SEQ ID NO:
FRL2-7	WYLQKPGQPPQLLIY	410
FRL2-8	WFLQKPGQPPQPLIY	411
FRL2-9	WFLQKPGQPPQPLIY	411
FRL2-11	WYQQKPGKVPKLLIY	412
FRL2-12	WYQQKPGKVPKLLIY	412
FRL2-13	WLQQRPGQPPRLLIY	413
FRL2-14	WLQQRPGQPPRLLIY	413
FRL2-15	WLQQRPGQPPRLLIY	413
FRL2-16	WYQQKPGQAPRLLIS	414
FRL2-17	WYQQKPGQAPRLLIY	415
FRL2-18	WYQQKPGKAPKRLIY	416
FRL2-19	WYQQKPGQPPKLFIY	417
FRL2-20	WYQQKPGQPPKLFIY	417
FRL2-21	WYQQKPGQPPKLLIY	418
FRL2-22	WYQQKPGQPPKLLIY	418
FRL2-23	WYQQKPGQPPKLLIY	418
FRL2-24	WYQQKPGQPPKLLIY	418
FRL2-25	WYQQKPGQPPKLLIY	418
FRL2-26	WYQQKPGQPPKLLIY	418
FRL2-27	WYQQKPGQPPKLLIY	418
FRL2-28	WYQQKPGQPPKVLIY	419
FRL2-29	WYQQKPGQPPKVLIY	419
FRL2-30	WYQQKPGQPPKLLIY	418
FRL2-31	WYQQKPGQPPKLLIY	418
FRL2-32	WYQQKPGQPPKLLIY	418
FRL2-33	WYQQKPGQPPKLLIY	418
FRL2-34	WFQQKPGKAPKSLIY	420
FRL2-35	WLQQKPGKAPKSLIY	421
FRL2-36	WYQQDPGQAPRLLIY	422
FRL2-37	WYQQDPGQAPRLLIY	422
FRL2-38	WYQQKPGKAPKLLIY	423
FRL2-39	WYQQKPGKAPKFLIY	424
FRL2-40	WYQQKPGKAPKLLIY	423
FRL2-41	WYQQRPGNAPKLLIY	425
FRL2-42	WYQQKPGKAPKLLIY	423
FRL2-43	WYQQKPGKAPKVLIY	426

FIGURE 8C

NAME	SEQUENCE	SEQ ID NO:
FRL2-44	WYQQKPGKAPKLLIY	423
FRL2-45	WYQQKPGKAPKLLIY	423
FRL2-46	WYQQKPGKAPKLLIY	423
FRL2-47	WYQQKPGKAPKLLIY	423
FRL2-48	WYQQKPGKAPKLLIY	423
FRL2-49	WYQQKPGKAPKLLIY	423
FRL2-50	WYQQKPGKAPKLLIY	423
FRL2-51	WYQQKPGKAPKLLIY	423
FRL2-52	WYQQKPGKAPKLLIY	423
FRL2-53	WYQQKPGKAPKLLIY	423
FRL2-54	WYQQKPGKAPKLLIY	423
FRL2-55	WYQQKPGKAPKLLIY	423
FRL2-56	WYQQKPGKAPELLIY	427
FRL2-57	WYQQKPGKAPKLLIY	423
FRL2-58	WYQQKPGKAPKLLIY	423
FRL2-59	WYQQKPGKAPKLLIY	423
FRL2-60	WYQQKPGKAPKLLIY	423
FRL2-61	WYQQKPGKAPKLLIY	423
FRL2-62	WYQQKPGKAPKLLIY	423
FRL2-63	WYQQKLGKAPKLLIH	428
FRL2-64	WYQQKPGKAPKLLIY	423
FRL2-65	WYQQKPGKAPKLLIY	423
FRL3-1	GVPDRFNGSGSGTDFTLKISRVEAEDVGVYYC	429
FRL3-2	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-3	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-4	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-5	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-6	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-7	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-8	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-9	GVPDRFSGSGSGTDFTLKISRVEAEDVGVYYC	430
FRL3-11	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	431
FRL3-12	GVPSRFSGSGSGTDFTLTISSLQPEDVATYYC	431
FRL3-13	GVPDRFSGSGAGTDFTLKISRVEAEDVGVYYC	432
FRL3-14	GVPDRFSGSGAGTDFTLKISRVEAEDVGVYYC	432

FIGURE 8D

NAME	SEQUENCE	SEQ ID NO:
FRL3-15	GVPDRFSGTGAGTDFTLKISRVEAEDVGVYYC	433
FRL3-16	GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC	434
FRL3-17	GIPDRFSGSGSGTDFTLTISRLEPEDFAVYYC	434
FRL3-18	GVPSRFSGSGSGTEFTLTISSLQPEDFATYYC	435
FRL3-19	GVPDRFTGSGSGTDFTLTISSLQAEDVAVYYC	436
FRL3-20	GVPDRFTGSGSGTDFTLTISSLQAEDVAVYYC	436
FRL3-21	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYYC	437
FRL3-22	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-23	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-24	GVPDRFGGSGSGTDFTLTISSLQAEDVAVYYC	439
FRL3-25	GVPDRFGGSGSGTDFTLTISSLQAEDVAVYYC	439
FRL3-26	GVPDRFSGSGSGTDFTLTISSLQADDVAVYYC	440
FRL3-27	GVPDRFSGSGSGTDFTLTISSLQADDVAVYYC	440
FRL3-28	GVPDRFSGSGSGTDFTLTISGLQAEDVALYYC	441
FRL3-29	GVPDRFSGSGSGTDFTLTISGLQAEDVALYYC	441
FRL3-30	GVPDRFSGSGSGTDFTLTISSLQAEDVAVFYC	442
FRL3-31	GVPDRFSGSGSGTDFTLTISSLQAEDVAVFYC	442
FRL3-32	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-33	GVPDRFSGSGSGTDFTLTISSLQAEDVAVYFC	438
FRL3-34	GVPSKFSGSGSGTDFTLTISSLQPEDFATYYC	443
FRL3-35	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-36	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC	445
FRL3-37	GIPARFSGSGSGTEFTLTISSLQSEDFAVYYC	445
FRL3-38	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-39	GVPSRFSGSGSGTDFTLTISSLQPEDFAAYYC	446
FRL3-40	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-41	GVPSRVSGSGSGTDFTLTIRSLQPEDFATYYC	447
FRL3-42	GVPSRFSGSGSGTDFTLTLSSLQPEDFATYYC	448
FRL3-43	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-44	GVPSRFSGSGSGTDFTLTISSLQPENFATYYC	449
FRL3-45	GVPSRFSGSGSGTDFTLTFSSLQPEDFATYYC	450
FRL3-46	GVPSRFSGSGSGTDFTLTLSSLQPEDFASYYC	451
FRL3-47	GVPSRFSGSGSGTDFTLTLSSLQPEDFASYYC	451
FRL3-48	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-49	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-50	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444

FIGURE 8E

NAME	SEQUENCE	SEQ ID NO:
FRL3-51	GVPSRFSGSGSGTDFTLTISSLQPEDFASYYC	452
FRL3-52	GVPSRFSGSGSGTDFTLTISSLQPEDFASYYC	452
FRL3-53	GVPSRFSGSGSGTDFTLTISSLQPEDFATYYC	444
FRL3-54	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-55	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-56	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-57	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-58	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-59	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-60	GVPSRFSGSGSETDFTFTISSLQPEDIATYYC	454
FRL3-61	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-62	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-63	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-64	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL3-65	GVPSRFSGSGSGTDFTFTISSLQPEDIATYYC	453
FRL4-1	FGQGTRLEIK	455
FRL4-2	FGQGTRLEIK	455
FRL4-3	FGQGTRLEIK	455
FRL4-4	FGQGTRLEIK	455
FRL4-5	FGQGTKLEIK	457
FRL4-6	FGGGTKVEIK	458
FRL4-7	FGGGTKVEIK	458
FRL4-8	FGHGTRLEIK	459
FRL4-9	FGHGTRLEIK	459
FRL4-11	FGPGTKVDIK	460
FRL4-12	FGGGTKVEIK	458
FRL4-13	FGPGTKVDIK	460
FRL4-14	FGPGTKVDIK	460
FRL4-15	FGGGTKVEIK	458
FRL4-16	FGQGTKVEIK	461
FRL4-17	FGQGTKLEIK	457
FRL4-18	FGQGTKVEIK	461
FRL4-19	FGQGTKVEIK	461
FRL4-20	FGQGTKVEIK	461
FRL4-21	FGQGTKVEIK	461
FRL4-22	FGQGTKVEIK	461

FIGURE 8F

NAME	SEQUENCE	SEQ ID NO:
FRL4-23	FGQGTKVEIK	461
FRL4-24	FGQGTKVEIK	461
FRL4-25	FGQGTKVEIK	461
FRL4-26	FGPGTKVEIK	462
FRL4-27	FGPGTKVEIK	462
FRL4-28	FGQGTKLEIK	457
FRL4-29	FGQGTKLEIK	457
FRL4-30	FGGGTKVAIK	463
FRL4-31	FGGGTKVAIK	463
FRL4-32	FGGGTKVEIK	458
FRL4-33	FGGGTKVEIK	458
FRL4-34	FGPGTKVDIK	460
FRL4-35	FGPGTKMDIK	464
FRL4-36	FGQGTKVEIK	461
FRL4-37	FGQGTKVEIK	461
FRL4-38	FGQGTKVEFK	465
FRL4-39	FGPGTKVDIK	460
FRL4-40	FGGGTKVEIK	458
FRL4-41	FGGGTKVEIK	458
FRL4-42	FGQGTRLEIK	455
FRL4-43	FGQGTRLEII	456
FRL4-44	FGQGTRLEIK	455
FRL4-45	FGQGTRLEIK	455
FRL4-46	FGQGTRLEIK	455
FRL4-47	FGQGTRLEIK	455
FRL4-48	FGQGTRLEIK	455
FRL4-49	FGQGTRLEIK	455
FRL4-50	FGQGTRLEIK	455
FRL4-51	FGQGTRLEIK	455
FRL4-52	FGQGTRLEIK	455
FRL4-53	FGQGTRLEIK	455
FRL4-54	FGPGTKVDIK	460
FRL4-55	FGPGTKVDIK	460
FRL4-56	FGGGTKVEIK	458
FRL4-57	FGGGTKVEIK	458
FRL4-58	FGGGTKVEIK	458

FIGURE 8G

NAME	SEQUENCE	SEQ ID NO:
FRL4-59	FGGGTKVEIK	458
FRL4-60	FGGGTKVEIK	458
FRL4-61	FGGGTKVEIR	466
FRL4-62	FGQGTRLEIK	455
FRL4-63	FGQGTRLEIK	455
FRL4-64	FGQGTRLEIK	455
FRL4-65	FGQGTRLEIK	455

FIGURE 8H

HEAVY CHAIN FRS

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-1	FRH1-10.1	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-2	FRH1-10	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-3	FRH1-42	QVHLVQSGAEVKKPGASVKVSCKVS	468
FRH1-4	FRH1-40	QVQLVQSGAEVKKPGASVKVSCKAS	467
FRH1-5	FRH1-30	QVQLVQSGAEVRKPGASVKVSCKVS	469
FRH1-6	FRH1-31	QVQLVQSGAEVRKPGASVKVSCKVS	469
FRH1-7	FRH1-29	QVTLKESGPVLVKPTETLTLTCTVS	470
FRH1-8	FRH1-20	QVTLKESGPVLVKPTETLTLTCTVS	470
FRH1-9	FRH1-65	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-10	FRH1-56	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-11	FRH1-62	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-12	FRH1-2	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-13	FRH1-59	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-14	FRH1-57	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-15	FRH1-64	QITLKESGPTLVKPTQTLTLTCTFS	471
FRH1-16	FRH1-41	EVQLVESGGGLVKPGGSLRLSCAAS	472
FRH1-17	FRH1-45	EVQLLESGGGLVQPGGSLRLSCAAS	473
FRH1-18	FRH1-47	EVQLLESGGGLVQPGGSLRLSCAAS	473
FRH1-19	FRH1-51	EVQLLESGGGLVQPGGSLRLSCTAS	474
FRH1-20	FRH1-52	EVQLLESGGGLVQPGGSLRLSCTAS	474
FRH1-21	FRH1-13	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-22	FRH1-14	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-23	FRH1-1	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-24	FRH1-22	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-25	FRH1-23	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-26	FRH1-12	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-27	FRH1-5	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-28	FRH1-15	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-29	FRH1-7	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-30	FRH1-61	QVQLVESGGGVVQPGRSLRLSCAAS	475
FRH1-31	FRH1-39	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-32	FRH1-34	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-33	FRH1-6	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-34	FRH1-35	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH1-35	FRH1-21	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-36	FRH1-8	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-37	FRH1-9	QVQLQESGPGLVKPSQTLSLTCTVS	477

FIGURE 9A

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-38	FRH1-18	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-39	FRH1-24	QVQLQESGPGLVKPSQTLSLNCTVS	478
FRH1-40	FRH1-25	QVQLQESGPGLVKPSQTLSLNCTVS	478
FRH1-41	FRH1-26	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-42	FRH1-27	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-43	FRH1-38	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-44	FRH1-54	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-45	FRH1-55	QVQLQESGPGLVKPSQTLSLTCTVS	477
FRH1-46	FRH1-43	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-47	FRH1-44	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-48	FRH1-49	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-49	FRH1-50	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-50	FRH1-53	QVQLQQWGAGLLKPSETLSLTCAVY	479
FRH1-51	FRH1-33	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-52	FRH1-3	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-53	FRH1-4	QVQLQESGPGLVKPSETLSLTCTVS	480
FRH1-54	FRH1-16	EVQLVQSGAELKKPGESLKISCKGS	481
FRH1-55	FRH1-17	EVQLVQSGAEVKKPGESLKISCKGS	482
FRH1-56	FRH1-11	EVQLVQSGAEVKKPGESLKISCKGS	482
FRH1-57	FRH1-37	QVQLQQSGPGLVKPSQTLSLTCAIS	483
FRH1-58	FRH1-39.1	EVQLVESGGGLVQPGGSLRLSCAAS	476
FRH2-1	FRH2-10.1	WVRQAPGQGLEWMG	484
FRH2-2	FRH2-10	WVRQAPGQGLEWMG	484
FRH2-3	FRH2-42	WVRQAPGQGLEWMG	484
FRH2-4	FRH2-40	WVRQAPGQGLEWMG	484
FRH2-5	FRH2-30	WVRQAPGKGLEWMG	485
FRH2-6	FRH2-31	WVRQAPGKGLEWMG	485
FRH2-7	FRH2-29	WIRQPPGKALEWLA	486
FRH2-8	FRH2-20	WIRQPPGKALEWLV	487
FRH2-9	FRH2-65	WIRQPPGKALEWLA	486
FRH2-10	FRH2-56	WIRQPPGKALEWLA	486
FRH2-11	FRH2-62	WIRQPPGKALEWLA	486
FRH2-12	FRH2-2	WIRQPPGKALEWLA	486
FRH2-13	FRH2-59	WIRQPPGKALEWLA	486
FRH2-14	FRH2-57	WIRQPPGKALEWLA	486
FRH2-15	FRH2-64	WIRQPPGKALEWLA	486
FRH2-16	FRH2-41	WVRQAPGKGLEWVS	488
FRH2-17	FRH2-45	WVRQAPGKGLEWVS	488
FRH2-18	FRH2-47	WVRQAPGKGLEWVS	488
FRH2-19	FRH2-51	WVRQAPGKGLEWVS	488

FIGURE 9B

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-20	FRH2-52	WVRQAPGKGLEWVS	488
FRH2-21	FRH2-13	WVRQAPGKGLEWVA	489
FRH2-22	FRH2-14	WVRQAPGKGLEWVA	489
FRH2-23	FRH2-1	WVRQAPGKGLEWVA	489
FRH2-24	FRH2-22	WVRQAPGKGLEWVA	489
FRH2-25	FRH2-23	WVRQAPGKGLEWVA	489
FRH2-26	FRH2-12	WVRQAPGKGLEWVA	489
FRH2-27	FRH2-5	WVRQAPGKGLEWVA	489
FRH2-28	FRH2-15	WVRQAPGKGLEWVA	489
FRH2-29	FRH2-7	WVRQAPGKGLEWVA	489
FRH2-30	FRH2-61	WVRQAPGKGLEWVA	489
FRH2-31	FRH2-39	WVRQAPGKGLEWVS	488
FRH2-32	FRH2-34	WVRQAPGKGLEWVS	488
FRH2-33	FRH2-6	WVRQAPGKGLEWVS	488
FRH2-34	FRH2-35	WVRQAPGKGLEWVS	488
FRH2-35	FRH2-21	WIRQHPGKGLEWIG	490
FRH2-36	FRH2-8	WIRQHPGKGLEWIG	490
FRH2-37	FRH2-9	WIRQHPGKGLEWIG	490
FRH2-38	FRH2-18	WIRQHPGKGLEWIG	490
FRH2-39	FRH2-24	WIRQHPGKGLEWIG	490
FRH2-40	FRH2-25	WIRQHPGKGLEWIG	490
FRH2-41	FRH2-26	WIRQHPGKGLEWIG	490
FRH2-42	FRH2-27	WIRQHPGKGLEWIG	490
FRH2-43	FRH2-38	WIRQHPGKGLEWIG	490
FRH2-44	FRH2-54	WVRQHPGKGLEWIG	491
FRH2-45	FRH2-55	WVRQHPGKGLEWIG	491
FRH2-46	FRH2-43	WIRQPPGKGLEWIG	492
FRH2-47	FRH2-44	WIRQPPGKGLEWIG	492
FRH2-48	FRH2-49	WIRQPPGKGLEWIG	492
FRH2-49	FRH2-50	WIRQPPGKGLEWIG	492
FRH2-50	FRH2-53	WIRQPPGKGLEWIG	492
FRH2-51	FRH2-33	WIRQPAGKGLEWIG	493
FRH2-52	FRH2-3	WIRQPPGKGLEWIG	492
FRH2-53	FRH2-4	WIRQPPGKGLEWIG	492
FRH2-54	FRH2-16	WVRQMPGKGLEWMG	494
FRH2-55	FRH2-17	WVRQMPGKGLEWMG	494
FRH2-56	FRH2-11	WVRQMPGKGLEWMG	494
FRH2-57	FRH2-37	WIRQSPSRGLEWLG	495
FRH2-58	FRH2-39.1	WVRQAPGKGLEWVS	488
FRH3-1	FRH3-10.1	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	496

FIGURE 9C

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-2	FRH3-10	RVTMTTDTSTSTAYMELRSLRSDDTAVYYCAR	496
FRH3-3	FRH3-42	RVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	497
FRH3-4	FRH3-40	RVTMTRDTSISTAYMELSRLRSDDTAVYYCAR	497
FRH3-5	FRH3-30	RVTMLEDTSTDTAYMELSSLRSEDTAVYYCAT	498
FRH3-6	FRH3-31	RVTMLEDTSTDTAYMELSSLRSEDTAVYYCAT	498
FRH3-7	FRH3-29	RLTISKDTSKSQVVLTMTNMDPVDTATYYCAR	499
FRH3-8	FRH3-20	RLTISKDTSKSQVVLTMTNMDPVDTATYYCAR	499
FRH3-9	FRH3-65	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-10	FRH3-56	RLTITKDTSKTQVVLTVTDMDPVDTATYYCAH	501
FRH3-11	FRH3-62	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-12	FRH3-2	RLTITKDTSKNQVVLTMTNLDPVDTATYYCAH	502
FRH3-13	FRH3-59	RLTITKATSKNQVVLTMTNMDPVDTATYYCAH	503
FRH3-14	FRH3-57	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-15	FRH3-64	RLTITKDTSKNQVVLTMTNMDPVDTATYYCAH	500
FRH3-16	FRH3-41	RFTISRDNAKNSLYLQMNSLRAEDTAVYYCAR	504
FRH3-17	FRH3-45	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	505
FRH3-18	FRH3-47	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAK	505
FRH3-19	FRH3-51	RFTISRDNSKNTLYLQMNSLRAEDTAEYYCAK	506
FRH3-20	FRH3-52	RFTISRDNSKNTLYLQMNSLRAEDTAEYYCAK	506
FRH3-21	FRH3-13	RFTISRDNSMNTLYLQMNSLRAEDTAVYYCAR	507
FRH3-22	FRH3-14	RFTISRDNSMNTLYLQMNSLRAEDTAVYYCAR	507
FRH3-23	FRH3-1	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-24	FRH3-22	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-25	FRH3-23	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-26	FRH3-12	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCVL	509
FRH3-27	FRH3-5	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-28	FRH3-15	RFTVSRDNSKNTLFLQMNSLRAEDTAVYYCAR	510
FRH3-29	FRH3-7	RFTISRDNSKNTLYLQMNSLRAEDTAVYYCAR	508
FRH3-30	FRH3-61	RFTISRDNSKNTLDLQMNSLRAEDTAVYYCAR	510
FRH3-31	FRH3-39	RFTISRDNAKNSLFLQMNSLRDEDTAVYYCAL	511
FRH3-32	FRH3-34	RFTISRDNAKNSVYLQMNSLRDEDTAVYYCAR	512
FRH3-33	FRH3-6	RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR	513
FRH3-34	FRH3-35	RFTISRDNAKNSLYLQMNSLRDEDTAVYYCAR	513
FRH3-35	FRH3-21	RVTISVDTSKNQFSLNLSSVTAADTAVYYCAR	514
FRH3-36	FRH3-8	RVNMSVDTSKNQFSLKLSSVTAADTAVYYCAR	515
FRH3-37	FRH3-9	RVNMSVDTSKNQFSLKLSSVTAADTAVYYCAR	515
FRH3-38	FRH3-18	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-39	FRH3-24	RITISADTSKNQFSLKLNSVTAADTAVYYCAR	517
FRH3-40	FRH3-25	RITISADTSKNQFSLKLNSVTAADTAVYYCAR	517
FRH3-41	FRH3-26	RITKSVDTSKNQFSLKLSSVTAADTAVYYCAR	518

FIGURE 9D

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-42	FRH3-27	RITKSVDTSKNQFSLKLSSVTAADTAVYYCAR	518
FRH3-43	FRH3-38	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAS	519
FRH3-44	FRH3-54	RVTISVDTSKNQFSLKLFSVTAADTAVYFCAR	520
FRH3-45	FRH3-55	RVTISVDTSKNQFSLKLFSVTAADTAVYFCAR	520
FRH3-46	FRH3-43	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-47	FRH3-44	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-48	FRH3-49	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-49	FRH3-50	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-50	FRH3-53	RVTISVDTSKNQFSLKLSSVTAADTAVYYCAR	516
FRH3-51	FRH3-33	RVTMSVDTSKNQFSLKLSSVTAADTAVYYCAR	521
FRH3-52	FRH3-3	RVTISIVTSRNQFSLKLSSVTAADTAVYYCAR	522
FRH3-53	FRH3-4	RVTISIVTSRNQFSLKLSSVTAADTAVYYCAR	522
FRH3-54	FRH3-16	QVTISADKSISTAYLQWSSLKASDTAMYYCAR	523
FRH3-55	FRH3-17	QVTISADKSINTAYLQWSSLKASDTAMYYCAR	524
FRH3-56	FRH3-11	QVTISADKSISTAYLQWSSLKASDTAMYYCAR	523
FRH3-57	FRH3-37	RITINPDTSKNQFSLQLNSVTPEDTAVYYCAR	525
FRH3-58	FRH3-39.1	RFTISRDNAKNSLFLQMNSLRDEDTAVYYCAL	511
FRH4-1	FRH4-10.1	WGQGTLVTVSS	526
FRH4-2	FRH4-10	WGQGTLVTVSS	526
FRH4-3	FRH4-42	WGQGTLVTVSS	526
FRH4-4	FRH4-40	WGQGTLVTVSS	526
FRH4-5	FRH4-30	WGQGTTVTVSS	527
FRH4-6	FRH4-31	WGQGTTVTVSS	527
FRH4-7	FRH4-29	WGQGTLVTVSS	526
FRH4-8	FRH4-20	WGQGTTVTVSS	527
FRH4-9	FRH4-65	WGQGTLVTVSS	526
FRH4-10	FRH4-56	WGQGTLVTVSS	526
FRH4-11	FRH4-62	WGQGTLVTVSS	526
FRH4-12	FRH4-2	WGQGTLVTVSS	526
FRH4-13	FRH4-59	WGQGTLVTVSS	526
FRH4-14	FRH4-57	WGQGTLVTVSS	526
FRH4-15	FRH4-64	WGQGTLVTVSS	526
FRH4-16	FRH4-41	WGQGTMVTVSS	528
FRH4-17	FRH4-45	WGQGTTVTVSS	527
FRH4-18	FRH4-47	WGQGTTVTVSS	527
FRH4-19	FRH4-51	WGQGTTVTVSS	527
FRH4-20	FRH4-52	WGQGTTVTVSS	527
FRH4-21	FRH4-13	WGQGTLVTVSS	526
FRH4-22	FRH4-14	WGQGTLVTVSS	526
FRH4-23	FRH4-1	WGQGTLVTVSS	526

FIGURE 9E

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH4-24	FRH4-22	WGQGTLVTVSS	526
FRH4-25	FRH4-23	WGQGTLVTVSS	526
FRH4-26	FRH4-12	WGQGSLVTVSP	529
FRH4-27	FRH4-5	WGQGTLVTVSS	526
FRH4-28	FRH4-15	WGQGTTVTVSS	527
FRH4-29	FRH4-7	WGQGTLVTVSS	526
FRH4-30	FRH4-61	WGQGTLVTVSS	526
FRH4-31	FRH4-39	WGQGTLVTVSS	526
FRH4-32	FRH4-34	WGQGTTVTVSS	527
FRH4-33	FRH4-6	WGQGTTVTVSS	527
FRH4-34	FRH4-35	WGQGTTVTVSS	527
FRH4-35	FRH4-21	WGQGTTVTVSS	527
FRH4-36	FRH4-8	WGQGTKVTVSS	530
FRH4-37	FRH4-9	WGQGTKVTVSS	530
FRH4-38	FRH4-18	WGQGTTVTVSS	527
FRH4-39	FRH4-24	WGQGTTVTVSS	527
FRH4-40	FRH4-25	WGQGTTVTVSS	527
FRH4-41	FRH4-26	WGRGTLVTVSS	531
FRH4-42	FRH4-27	WGRGTLVTVSS	531
FRH4-43	FRH4-38	WGQGTTVTVSS	527
FRH4-44	FRH4-54	WGQGTLVTVSS	526
FRH4-45	FRH4-55	WGQGTLVTVSS	526
FRH4-46	FRH4-43	WGQGTLVTVSS	526
FRH4-47	FRH4-44	WGQGTLVTVSS	526
FRH4-48	FRH4-49	WGQGTLVTVSS	526
FRH4-49	FRH4-50	WGQGTLVTVSS	526
FRH4-50	FRH4-53	WGQGTLVTVSS	526
FRH4-51	FRH4-33	WGQGTTVTVSS	527
FRH4-52	FRH4-3	WGQGTMVTVSS	528
FRH4-53	FRH4-4	WGQGTMVTVSS	528
FRH4-54	FRH4-16	WGQGTLVTVSS	526
FRH4-55	FRH4-17	WGQGTLVTVSS	526
FRH4-56	FRH4-11	WGQGTTVTVSS	527
FRH4-57	FRH4-37	WGQGTTVTVSS	527
FRH4-58	FRH4-39.1	WGQGTLVTVSS	526

FIGURE 9F

FIGURE 10A: Light Chain Variable Regions

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          1                   20                  40                  60                  80
U2-1      DVVMTQSPLS LPVTLGQPAS ISCRSSQSLV YSDGN.TYLN WFQQRPGQSP RRLIYKVSNW DSGVPDRFNG SGSGTDFTLK
U2-2      DVVMTQSPLS LPVTLGQPAS ISCRSSQSLV YSDGN.TYLN WFQQRPGQSP RRLIYKVSNW DSGVPDRFSG SGSGTDFTLK
U2-3      DVVMTQSPLS LPVTLGQPAS ISCRSSQSLV YSDGN.TYLN WLQQRPGQSP RRLIYKVSNW DSGVPDRFSG SGSGTDFTLK
U2-4      DVVMTQSPLS LPVTLGQPAS ISCRSSQSLV YSDGN.TYLN WLQQRPGQSP RRLIYKVSNW DSGVPDRFSG SGSGTDFTLK
U2-5      DIVMTQTPLS LSVTPGQPAS ISCKSSQSLL HSDGK.TYLY WYLQKPGQPP QLLIYEVSNR FSGVPDRFSG SGSGTDFTLK
U2-6      DIVMTQTPLS LSVTPGQPAS ISCKSSQSLL HSDGK.TYLY WYLQKPGQPP QLLIYEVSNR FSGVPDRFSG SGSGTDFTLK
U2-7      DIVMTQTPLS LSVTPGQPAS ISCKSSQSLL HSDGK.TYLY WYLQKPGQPP QLLIYEVSNR FSGVPDRFSG SGSGTDFTLK
U2-8      DIVMTQTPLS LSVTPGQPAS ISCKSSQSLL HSDGK.TYLY WFLQKPGQPP QPLIYEVSNR FSGVPDRFSG SGSGTDFTLK
U2-9      DIVMTQTPLS LSVTPGQPAS ISCKSSQSLL HSDGK.TYLY WFLQKPGQPP QPLIYEVSNR FSGVPDRFSG SGSGTDFTLK
U2-11     DIQMTQSPSS LSASVGDRVT ITCRASQGIA ....N..YLA WYQQKPGKVP KLLIYVASTL QSGVPSRFSG SGSGTDFTLT
U2-12     DIQMTQSPSS LSASVGDRVT IICRASQGIS .ND.....LA WYQQKPGKVP KLLIYAASTL QSGVPSRFSG SGSGTDFTLT
U2-13     NIVMTQTPLS SPVTLGQPAS ISCRSSQSLV HSDGN.TYLS WLQQRPGQPP RLLIYKISNR FSGVPDRFSG SGAGTDFTLK
U2-14     NIVMTQTPLS SPVTLGQPAS ISCRSSQSLV HSDGN.TYLS WLQQRPGQPP RLLIYKISNR FSGVPDRFSG SGAGTDFTLK
U2-15     EIVMTQTPLS SPVTLGQPAS ISCRSSQSLV HSDGN.TYLS WLQQRPGQPP RLLIYKISNR FSGVPDRFSG TGAGTDFTLK
U2-16     EIVLTQSPGT LSLSPGERAT LSCRASQTVI SS.....YLA WYQQKPGQAP RLLISGASSR ATGIPDRFSG SGSGTDFTLT
U2-17     EIVLTQSPGT LSLSPGERAT LSCRASQSVS R.......LA WYQQKPGQAP RLLIYGASRR ATGIPDRFSG SGSGTDFTLT
U2-18     DIQMTQSPSS LSASVGDRVT ITCRASQGIR .ND.....LG WYQQKPGKAP KRLIYAASSL QSGVPSRFSG SGSGTEFTLT
U2-19     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YSSNNKNYLV WYQQKPGQPP KLFIYWASTR ESGVPDRFTG SGSGTDFTLT
U2-20     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YSSNNKNYLV WYQQKPGQPP KLFIYWASTR ESGVPDRFTG SGSGTDFTLT
U2-21     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-22     DIVMTQSPDS LAVSLGERAT INCKSSQNVL YSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-23     DIVMTQSPDS LAVSLGERAT INCKSSQNVL YSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-24     DIVMTQSPDS LTVSLGERAT INCKSSQSVL YSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFGG SGSGTDFTLT
U2-25     DIVMTQSPDS LTVSLGERAT INCKSSQSVL YSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFGG SGSGTDFTLT
U2-26     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YNSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-27     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YNSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-28     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YSSNNKNYLA WYQQKPGQPP KVLIYWASTR KSGVPDRFSG SGSGTDFTLT
U2-29     DIVMTQSPDS LAVSLGERAT INCKSSQSVL YSSNNKNYLA WYQQKPGQPP KVLIYWASTR KSGVPDRFSG SGSGTDFTLT
U2-30     DIVMTQSPDS LAVSLGERAT INCKSSQSVL DSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-31     DIVMTQSPDS LAVSLGERAT INCKSSQSVL DSSNNKNYLA WYQQKPGQPP KLLIYWASTR ESGVPDRFSG SGSGTDFTLT
U2-32     DIVMTQSPDS LAVSLGERAT INCKSSQSIL YRSNNKNYLA WYQQKPGQPP KLLIYWASAR ESGVPDRFSG SGSGTDFTLT
U2-33     DIVMTQSPDS LAVSLGERAT INCKSSQSIL YRSNNKNYLA WYQQKPGQPP KLLIYWASAR ESGVPDRFSG SGSGTDFTLT
U2-34     DIQMTQSPSS LSASVGDRVT ITCRASQDIS H......YLA WFQQKPGKAP KSLIYAASSL QSGVPSKFSG SGSGTDFTLT
U2-35     DIQMTQSPSS LSASVGDRVA ITCRASQDIS ......NYLA WLQQKPGKAP KSLIYAASSL QSGVPSRFSG SGSGTDFTLT
U2-36     EIVMTQSPAT LSVSPGERAT LSCRASQSVS ..SN....LA WYQQDPGQAP RLLIYGASRR ATGIPARFSG SGSGTEFTLT
U2-37     EIVMTQSPAT LSVSPGERAT LSCRASQSVS ..SN....LA WYQQDPGQAP RLLIYGASRR ATGIPARFSG SGSGTEFTLT
U2-38     DIQMTQSPSS VSASVGDRVT ITCRASQDIS ..RW....LA WYQQKPGKAP KLLIYAASSL QSGVPSRFSG SGSGTDFTLT
U2-39     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ......TYLN WYQQKPGKAP KFLIYAASSL QSGVPSRFSG SGSGTDFTLT
U2-40     DIQMTQSPSS LSASLGDRVT ITCRASQTIS ......IYLN WYQQKPGKAP KLLIYAASSL QSGVPSRFSG SGSGTDFTLT
U2-41     DIQMTQSPSS LSASVGDRVT ITCRASQSIR ..S....YLN WYQQRPGNAP KLLIYAASSL QSGVPSRVSG SGSGTDFTLT
U2-42     DIQMTQSPSS RSASVGDRVT ITCRASQTIS ......RYLN WYQQKPGKAP KLLIYAASTL QSGVPSRFSG SGSGTDFTLT
U2-43     DIQMTQSPSS LSASVGDRVT ITCRASQRIS ..S....YLN WYQQKPGKAP KVLIYAESSL QSGVPSRFSG SGSGTDFTLT
U2-44     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ......RYLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-45     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-46     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-47     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-48     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTVSSL QSGVPSRFSG SGSGTDFTLT
U2-49     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTVSSL QSGVPSRFSG SGSGTDFTLT
U2-50     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTVSSL QSGVPSRFSG SGSGTDFTLT
U2-51     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-52     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-53     DIQMTQSPSS LSASVGDRVT ITCRASQSIS ..S....YLN WYQQKPGKAP KLLIYTASSL QSGVPSRFSG SGSGTDFTLT
U2-54     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NYLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-55     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NYLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-56     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NSLN WYQQKPGKAP ELLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-57     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ..D....YLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-58     DIQMTQSPSS LSASVGDRVA ITCQASQDIS ......NYLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-59     DIQMTQSPSS LSASVGDRVA ITCQASQDIS ......NYLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-60     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NSLN WYQQKPGKAP KLLIYDASIL ETGVPSRFSG SGSETDFTFT
U2-61     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NSLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-62     DIQMTQSPSS LSASVGDGVT ITCQASQDIT ......NYLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-63     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NYLN WYQQKLGKAP KLLIHDASNL ETGVPSRFSG SGSGTDFTFT
U2-64     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ..D....YLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
U2-65     DIQMTQSPSS LSASVGDRVT ITCQASQDIS ......NSLN WYQQKPGKAP KLLIYDASNL ETGVPSRFSG SGSGTDFTFT
                                  CDR1                                  CDR2
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FIGURE 10B

		100		114	
U2-1	ISRVEAEDVG VYYC	MQSTHW	.PIT	FGQGTR LEIK	(SEQ ID NO:94)
U2-2	ISRVEAEDVG VYYC	IQGTHW	.PTT	FGQGTR LEIK	(SEQ ID NO:95)
U2-3	ISRVEAEDVG VYYC	MQGTHW	.PIT	FGQGTR LEIK	(SEQ ID NO:96)
U2-4	ISRVEAEDVG VYYC	MQGTHW	.PIT	FGQGTR LEIK	(SEQ ID NO:96)
U2-5	ISRVEAEDVG VYYC	MQGIQL	.PCS	FGQGTK LEIK	(SEQ ID NO:97)
U2-6	ISRVEAEDVG VYYC	MQSIQL	.PLT	FGGGTK VEIK	(SEQ ID NO:98)
U2-7	ISRVEAEDVG VYYC	MQSIQL	.PLT	FGGGTK VEIK	(SEQ ID NO:98)
U2-8	ISRVEAEDVG VYYC	MQSIQL	.PIT	FGHGTR LEIK	(SEQ ID NO:99)
U2-9	ISRVEAEDVG VYYC	MQSIQL	.PIT	FGHGTR LEIK	(SEQ ID NO:99)
U2-11	ISSLQPEDVA TYYC	QNYNSA	.PFT	FGPGTK VDIK	(SEQ ID NO:100)
U2-12	ISSLQPEDVA TYYC	QKYNSV	.PLT	FGGGTK VEIK	(SEQ ID NO:101)
U2-13	ISRVEAEDVG VYYC	MQATQF	.PHT	FGPGTK VDIK	(SEQ ID NO:102)
U2-14	ISRVEAEDVG VYYC	MQATQF	.PHT	FGPGTK VDIK	(SEQ ID NO:102)
U2-15	ISRVEAEDVG VYYC	MQATQF	.PHT	FGGGTK VEIK	(SEQ ID NO:103)
U2-16	ISRLEPEDFA VYYC	QQYGSS	.PRT	FGQGTK VEIK	(SEQ ID NO:104)
U2-17	ISRLEPEDFA VYYC	QQYGSS	.PRS	FGQGTK LEIK	(SEQ ID NO:105)
U2-18	ISSLQPEDFA TYYC	LQHNSY	.PPT	FGQGTK VEIK	(SEQ ID NO:106)
U2-19	ISSLQAEDVA VYYC	QQYYSF	.PWT	FGQGTK VEIK	(SEQ ID NO:107)
U2-20	ISSLQAEDVA VYYC	QQYYSF	.PWT	FGQGTK VEIK	(SEQ ID NO:107)
U2-21	ISSLQAEDVA VYYC	QQYYST	.TWT	FGQGTK VEIK	(SEQ ID NO:108)
U2-22	ISSLQAEDVA VYFC	QQYYGT	.PRT	FGQGTK VEIK	(SEQ ID NO:109)
U2-23	ISSLQAEDVA VYFC	QQYYGT	.PRT	FGQGTK VEIK	(SEQ ID NO:110)
U2-24	ISSLQAEDVA VYYC	QQYYSI	.SRT	FGQGTK VEIK	(SEQ ID NO:111)
U2-25	ISSLQAEDVA VYYC	QQYYSI	.SRT	FGQGTK VEIK	(SEQ ID NO:111)
U2-26	ISSLQADDVA VYYC	QQYYST	.TWT	FGPGTK VEIK	(SEQ ID NO:112)
U2-27	ISSLQADDVA VYYC	QQYYST	.TWT	FGPGTK VEIK	(SEQ ID NO:113)
U2-28	ISGLQAEDVA LYYC	QQYYST	.MFS	FGQGTK LEIK	(SEQ ID NO:114)
U2-29	ISGLQAEDVA LYYC	QQYYST	.MFS	FGQGTK LEIK	(SEQ ID NO:114)
U2-30	ISSLQAEDVA VFYC	HQYYST	.PLT	FGGGTK VAIK	(SEQ ID NO:115)
U2-31	ISSLQAEDVA VFYC	HQYYST	.PLT	FGGGTK VAIK	(SEQ ID NO:115)
U2-32	ISSLQAEDVA VYFC	QQYFIT	.PLT	FGGGTK VEIK	(SEQ ID NO:116)
U2-33	ISSLQAEDVA VYFC	QQYFIT	.PLT	FGGGTK VEIK	(SEQ ID NO:116)
U2-34	ISSLQPEDFA TYYC	QQYNNY	.PFT	FGPGTK VDIK	(SEQ ID NO:117)
U2-35	ISSLQPEDFA TYYC	QQYNTY	.PFT	FGPGTK MDIK	(SEQ ID NO:118)
U2-36	ISSLQSEDFA VYYC	QQHNNW	PPWT	FGQGTK VEIK	(SEQ ID NO:119)
U2-37	ISSLQSEDFA VYYC	QQHNNW	PPWT	FGQGTK VEIK	(SEQ ID NO:119)
U2-38	ISSLQPEDFA TYYC	QQANSF	.PPT	FGQGTK VEFK	(SEQ ID NO:120)
U2-39	ISSLQPEDFA AYYC	QQSHSA	.PFT	FGPGTK VDIK	(SEQ ID NO:121)
U2-40	ISSLQPEDFA TYYC	QQSYST	..LT	FGGGTK VEIK	(SEQ ID NO:122)
U2-41	IRSLQPEDFA TYYC	QQSYSI	.PLT	FGGGTK VEIK	(SEQ ID NO:123)
U2-42	LSSLQPEDFA TYYC	QQIYST	.SIT	FGQGTR LEIK	(SEQ ID NO:124)
U2-43	ISSLQPEDFA TYYC	QQSYIT	.PIT	FGQGTR LEII	(SEQ ID NO:125)
U2-44	ISSLQPENFA TYYC	QQSYFT	.PIT	FGQGTR LEIK	(SEQ ID NO:126)
U2-45	FSSLQPEDFA TYYC	QQSYFS	.PIT	FGQGTR LEIK	(SEQ ID NO:127)
U2-46	LSSLQPEDFA SYYC	QQSFYT	.PIT	FGQGTR LEIK	(SEQ ID NO:128)
U2-47	LSSLQPEDFA SYYC	QQSFYT	.PIT	FGQGTR LEIK	(SEQ ID NO:128)
U2-48	ISSLQPEDFA TYYC	QQSYFT	.PIT	FGQGTR LEIK	(SEQ ID NO:129)
U2-49	ISSLQPEDFA TYYC	QQSYFT	.PIT	FGQGTR LEIK	(SEQ ID NO:129)
U2-50	ISSLQPEDFA TYYC	QQSYFT	.PIT	FGQGTR LEIK	(SEQ ID NO:129)
U2-51	ISSLQPEDFA SYYC	QQSFYA	.PIT	FGQGTR LEIK	(SEQ ID NO:130)
U2-52	ISSLQPEDFA SYYC	QQSFYA	.PIT	FGQGTR LEIK	(SEQ ID NO:130)
U2-53	ISSLQPEDFA TYYC	QQSYFT	.PIT	FGQGTR LEIK	(SEQ ID NO:131)
U2-54	ISSLQPEDIA TYYC	QQYDYL	.PFT	FGPGTK VDIK	(SEQ ID NO:132)
U2-55	ISSLQPEDIA TYYC	QQYDYL	.PFT	FGPGTK VDIK	(SEQ ID NO:132)
U2-56	ISSLQPEDIA TYYC	QQCDDL	.PLT	FGGGTK VEIK	(SEQ ID NO:133)
U2-57	ISSLQPEDIA TYYC	QHYDNL	.PLT	FGGGTK VEIK	(SEQ ID NO:134)
U2-58	ISSLQPEDIA TYYC	QQYDNL	.PLT	FGGGTK VEIK	(SEQ ID NO:135)
U2-59	ISSLQPEDIA TYYC	QQYDNL	.PLT	FGGGTK VEIK	(SEQ ID NO:135)
U2-60	ISSLQPEDIA TYYC	QQCDIL	.PLS	FGGGTK VEIK	(SEQ ID NO:136)
U2-61	ISSLQPEDIA TYYC	QQYDNL	.PLA	FGGGTK VEIR	(SEQ ID NO:137)
U2-62	ISSLQPEDIA TYYC	QQYDSL	.PIT	FGQGTR LEIK	(SEQ ID NO:138)
U2-63	ISSLQPEDIA TYYC	QQYDNL	.PIT	FGQGTR LEIK	(SEQ ID NO:139)
U2-64	ISSLQPEDIA TYYC	QHYDNL	.PIT	FGQGTR LEIK	(SEQ ID NO:140)
U2-65	ISSLQPEDIA TYYC	QHYDNL	.PIT	FGQGTR LEIK	(SEQ ID NO:141)

CDR3

FIGURE 11A: Heavy Chain Variable Regions

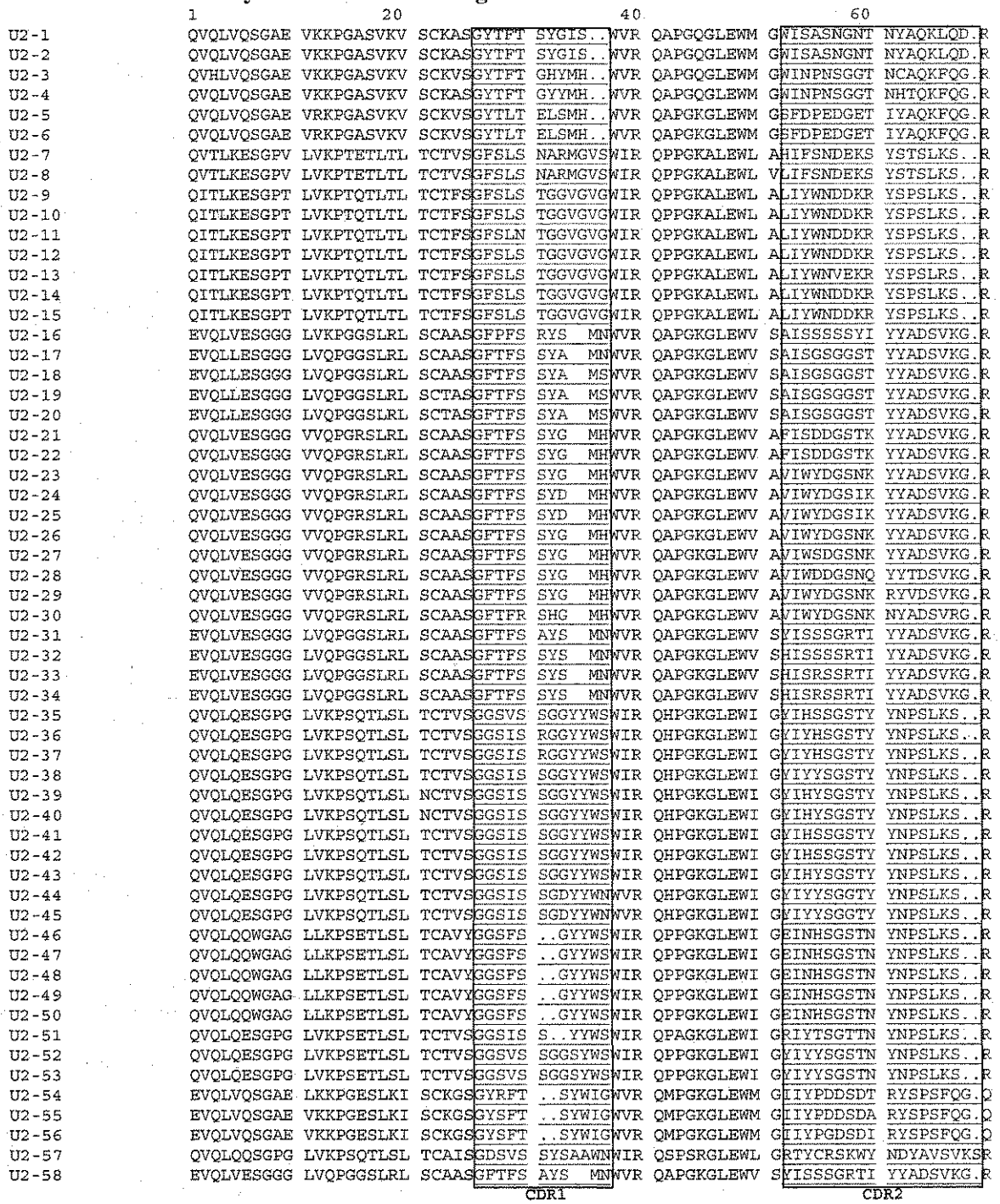
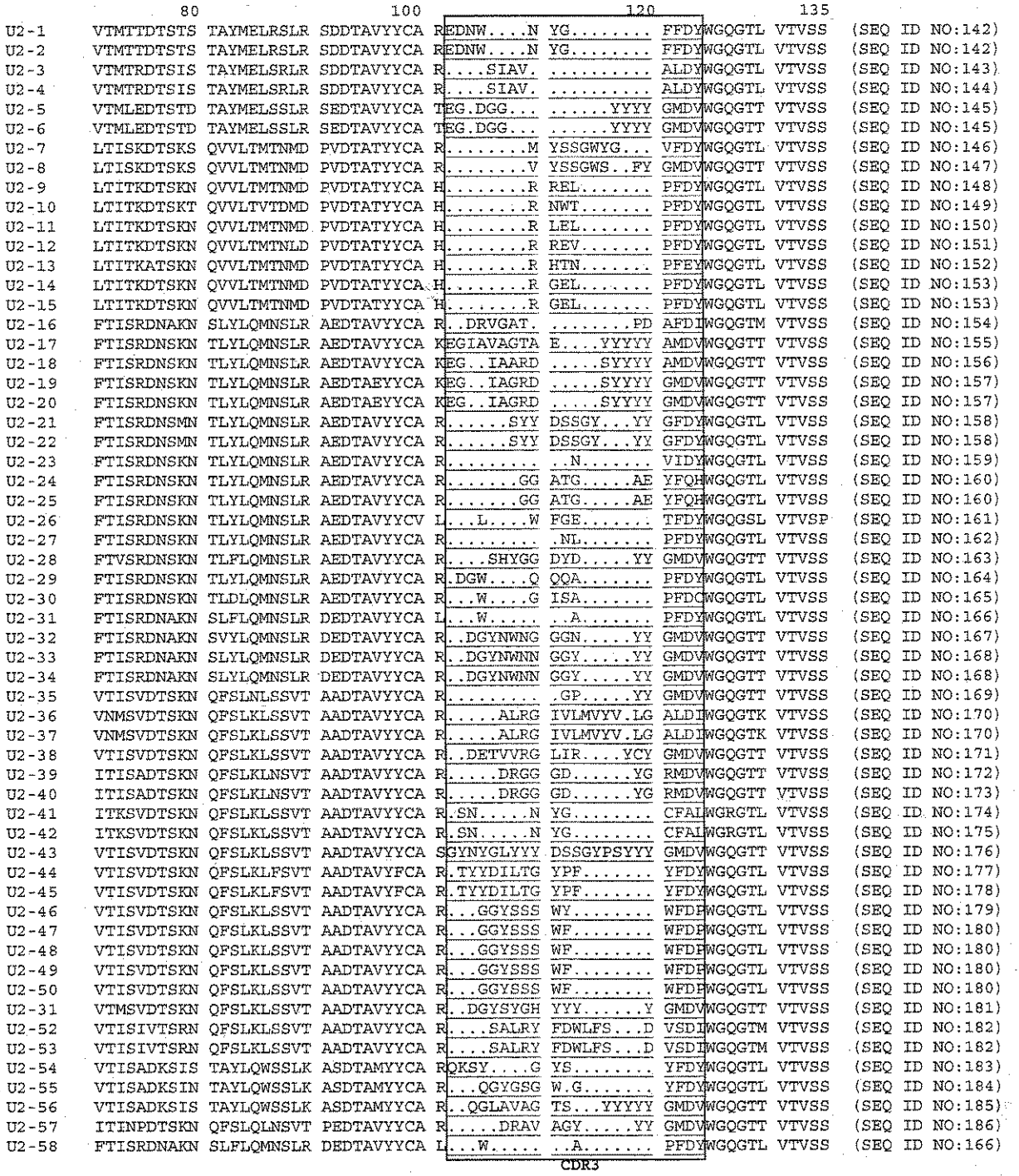


FIGURE 11B


80
100
120
135
CDR3
U2-1 VTMTTDTSTS TAYMELRSLR SDDTAVYYCA REDNW....N YG..... FFDYWGQGTL VTVSS (SEQ ID NO:142)
U2-2 VTMTTDTSTS TAYMELRSLR SDDTAVYYCA REDNW....N YG..... FFDYWGQGTL VTVSS (SEQ ID NO:142)
U2-3 VTMTRDTSIS TAYMELSRLR SDDTAVYYCA R....SIAV. ..... ALDYWGQGTL VTVSS (SEQ ID NO:143)
U2-4 VTMTRDTSIS TAYMELSRLR SDDTAVYYCA R....SIAV. ..... ALDYWGQGTL VTVSS (SEQ ID NO:144)
U2-5 VTMLEDTSTD TAYMELSSLR SEDTAVYYCA TEG.DGG... .....YYYY GMDVWGQGTT VTVSS (SEQ ID NO:145)
U2-6 VTMLEDTSTD TAYMELSSLR SEDTAVYYCA TEG.DGG... .....YYYY GMDVWGQGTT VTVSS (SEQ ID NO:145)
U2-7 LTISKDTSKS QVVLTMTNMD PVDTATYYCA R.....M YSSGWYG... VFDYWGQGTL VTVSS (SEQ ID NO:146)
U2-8 LTISKDTSKS QVVLTMTNMD PVDTATYYCA R.....V YSSGWS..FY GMDVWGQGTT VTVSS (SEQ ID NO:147)
U2-9 LTITKDTSKN QVVLTMTNMD PVDTATYYCA H.....R REL..... PFDYWGQGTL VTVSS (SEQ ID NO:148)
U2-10 LTITKDTSKT QVVLTVTDMD PVDTATYYCA H.....R NWT..... PFDYWGQGTL VTVSS (SEQ ID NO:149)
U2-11 LTITKDTSKN QVVLTMTNMD PVDTATYYCA H.....R LEL..... PFDYWGQGTL VTVSS (SEQ ID NO:150)
U2-12 LTITKDTSKN QVVLTMTNLD PVDTATYYCA H.....R REV..... PFDYWGQGTL VTVSS (SEQ ID NO:151)
U2-13 LTITKATSKN QVVLTMTNMD PVDTATYYCA H.....R HTN..... PFEYWGQGTL VTVSS (SEQ ID NO:152)
U2-14 LTITKDTSKN QVVLTMTNMD PVDTATYYCA H.....R GEL..... PFDYWGQGTL VTVSS (SEQ ID NO:153)
U2-15 LTITKDTSKN QVVLTMTNMD PVDTATYYCA H.....R GEL..... PFDYWGQGTL VTVSS (SEQ ID NO:153)
U2-16 FTISRDNAKN SLYLQMNSLR AEDTAVYYCA R..DRVGAT. .....PD AFDIWGQGTM VTVSS (SEQ ID NO:154)
U2-17 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA KEGIAVAGTA E....YYYYY AMDVWGQGTT VTVSS (SEQ ID NO:155)
U2-18 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA KEG..IAARD .....SYYYY AMDVWGQGTT VTVSS (SEQ ID NO:156)
U2-19 FTISRDNSKN TLYLQMNSLR AEDTAEYYCA KEG..IAGRD .....SYYYY GMDVWGQGTT VTVSS (SEQ ID NO:157)
U2-20 FTISRDNSKN TLYLQMNSLR AEDTAEYYCA KEG..IAGRD .....SYYYY GMDVWGQGTT VTVSS (SEQ ID NO:157)
U2-21 FTISRDNSMN TLYLQMNSLR AEDTAVYYCA R.....SYY DSSGY...YY GFDYWGQGTL VTVSS (SEQ ID NO:158)
U2-22 FTISRDNSMN TLYLQMNSLR AEDTAVYYCA R.....SYY DSSGY...YY GFDYWGQGTL VTVSS (SEQ ID NO:158)
U2-23 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA R..... ..N..... VIDYWGQGTL VTVSS (SEQ ID NO:159)
U2-24 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA R.....GG ATG.....AE YFQHWGQGTL VTVSS (SEQ ID NO:160)
U2-25 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA R.....GG ATG.....AE YFQHWGQGTL VTVSS (SEQ ID NO:160)
U2-26 FTISRDNSKN TLYLQMNSLR AEDTAVYYCV L...L....W FGE..... TFDYWGQGSL VTVSP (SEQ ID NO:161)
U2-27 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA R..... .NL..... PFDYWGQGTL VTVSS (SEQ ID NO:162)
U2-28 FTVSRDNSKN TLFLQMNSLR AEDTAVYYCA R....SHYGG DYD.....YY GMDVWGQGTT VTVSS (SEQ ID NO:163)
U2-29 FTISRDNSKN TLYLQMNSLR AEDTAVYYCA R.DGW....Q QQA..... PFDYWGQGTL VTVSS (SEQ ID NO:164)
U2-30 FTISRDNSKN TLDLQMNSLR AEDTAVYYCA R...W....G ISA..... PFDCWGQGTL VTVSS (SEQ ID NO:165)
U2-31 FTISRDNAKN SLFLQMNSLR DEDTAVYYCA L...W..... ..A..... PFDYWGQGTL VTVSS (SEQ ID NO:166)
U2-32 FTISRDNAKN SVYLQMNSLR DEDTAVYYCA R..DGYNWNG GGN.....YY GMDVWGQGTT VTVSS (SEQ ID NO:167)
U2-33 FTISRDNAKN SLYLQMNSLR DEDTAVYYCA R..DGYNWNN GGY.....YY GMDVWGQGTT VTVSS (SEQ ID NO:168)
U2-34 FTISRDNAKN SLYLQMNSLR DEDTAVYYCA R..DGYNWNN GGY.....YY GMDVWGQGTT VTVSS (SEQ ID NO:168)
U2-35 VTISVDTSKN QFSLNLSSVT AADTAVYYCA R..... .GP.....YY GMDVWGQGTT VTVSS (SEQ ID NO:169)
U2-36 VNMSVDTSKN QFSLKLSSVT AADTAVYYCA R.....ALRG IVLMVYV.LG ALDIWGQGTK VTVSS (SEQ ID NO:170)
U2-37 VNMSVDTSKN QFSLKLSSVT AADTAVYYCA R.....ALRG IVLMVYV.LG ALDIWGQGTK VTVSS (SEQ ID NO:170)
U2-38 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R..DETVVRG LIR....YCY GMDVWGQGTT VTVSS (SEQ ID NO:171)
U2-39 ITISADTSKN QFSLKLNSVT AADTAVYYCA R.....DRGG GD.....YG RMDVWGQGTT VTVSS (SEQ ID NO:172)
U2-40 ITISADTSKN QFSLKLNSVT AADTAVYYCA R.....DRGG GD.....YG RMDVWGQGTT VTVSS (SEQ ID NO:173)
U2-41 ITKSVDTSKN QFSLKLSSVT AADTAVYYCA R.SN.....N YG..... CFALWGRGTL VTVSS (SEQ ID NO:174)
U2-42 ITKSVDTSKN QFSLKLSSVT AADTAVYYCA R.SN.....N YG..... CFALWGRGTL VTVSS (SEQ ID NO:175)
U2-43 VTISVDTSKN QFSLKLSSVT AADTAVYYCA SGYNYGLYYY DSSGYPSYYY GMDVWGQGTT VTVSS (SEQ ID NO:176)
U2-44 VTISVDTSKN QFSLKLFSVT AADTAVYFCA R.TYYDILTG YPF..... YFDYWGQGTL VTVSS (SEQ ID NO:177)
U2-45 VTISVDTSKN QFSLKLFSVT AADTAVYFCA R.TYYDILTG YPF..... YFDYWGQGTL VTVSS (SEQ ID NO:178)
U2-46 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R...GGYSSS WY..... WFDPWGQGTL VTVSS (SEQ ID NO:179)
U2-47 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R...GGYSSS WF..... WFDPWGQGTL VTVSS (SEQ ID NO:180)
U2-48 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R...GGYSSS WF..... WFDPWGQGTL VTVSS (SEQ ID NO:180)
U2-49 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R...GGYSSS WF..... WFDPWGQGTL VTVSS (SEQ ID NO:180)
U2-50 VTISVDTSKN QFSLKLSSVT AADTAVYYCA R...GGYSSS WF..... WFDPWGQGTL VTVSS (SEQ ID NO:180)
U2-31 VTMSVDTSKN QFSLKLSSVT AADTAVYYCA R..DGYSYGH YYY.....Y GMDVWGQGTT VTVSS (SEQ ID NO:181)
U2-52 VTISIVTSRN QFSLKLSSVT AADTAVYYCA R....SALRY FDWLFS...D VSDIWGQGTM VTVSS (SEQ ID NO:182)
U2-53 VTISIVTSRN QFSLKLSSVT AADTAVYYCA R....SALRY FDWLFS...D VSDIWGQGTM VTVSS (SEQ ID NO:182)
U2-54 VTISADKSIS TAYLQWSSLK ASDTAMYYCA RQKSY....G YS..... YFDYWGQGTL VTVSS (SEQ ID NO:183)
U2-55 VTISADKSIN TAYLQWSSLK ASDTAMYYCA R...QGYGSG W.G..... YFDYWGQGTL VTVSS (SEQ ID NO:184)
U2-56 VTISADKSIS TAYLQWSSLK ASDTAMYYCA R..QGLAVAG TS...YYYYY GMDVWGQGTT VTVSS (SEQ ID NO:185)
U2-57 ITINPDTSKN QFSLQLNSVT PEDTAVYYCA R.....DRAV AGY.....YY GMDVWGQGTT VTVSS (SEQ ID NO:186)
U2-58 FTISRDNAKN SLFLQMNSLR DEDTAVYYCA L...W..... ..A..... PFDYWGQGTL VTVSS (SEQ ID NO:166)

Cladogram of the Light Chain Variable Regions

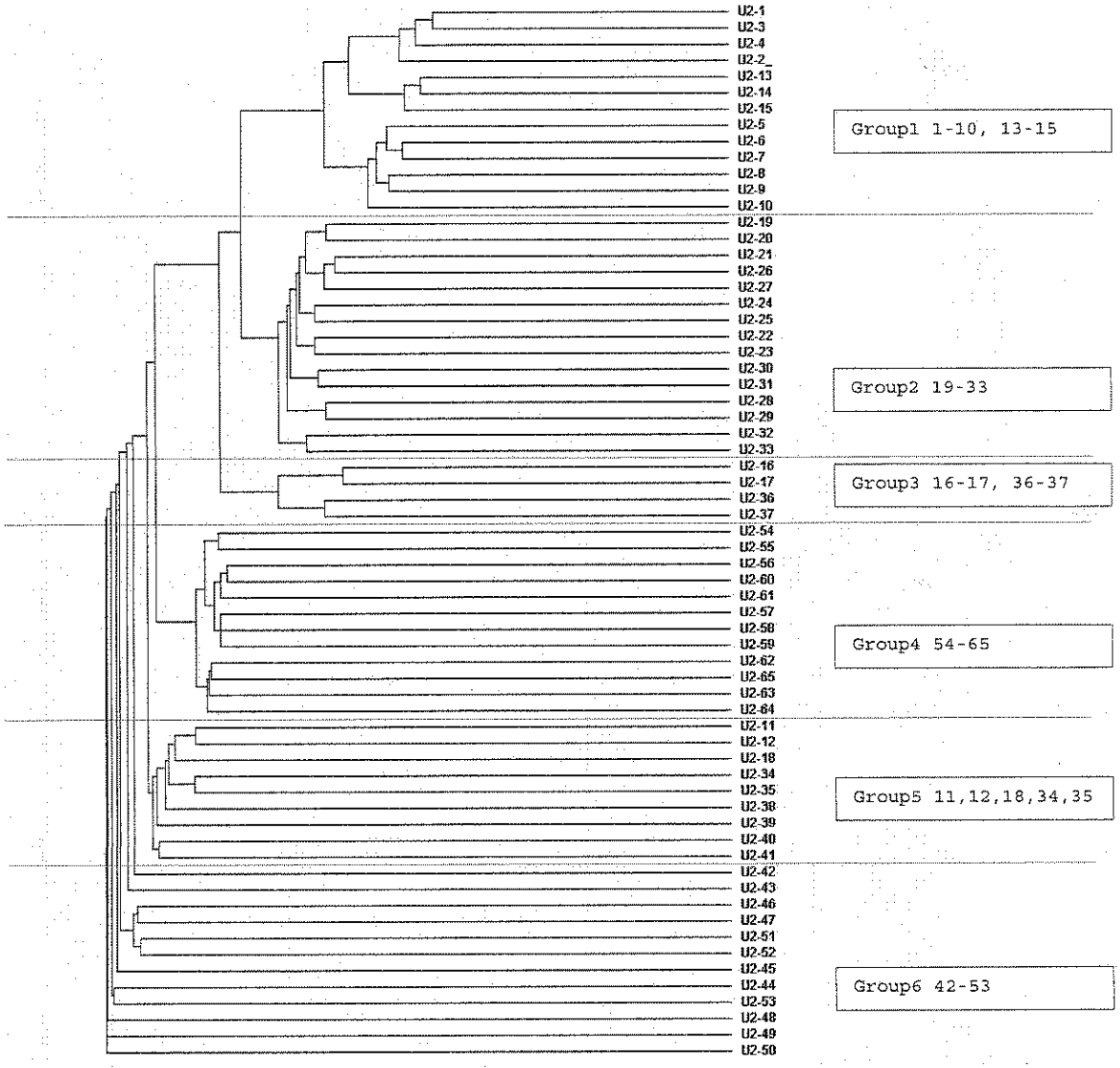


FIG 12A

CDRL3-Cladogram

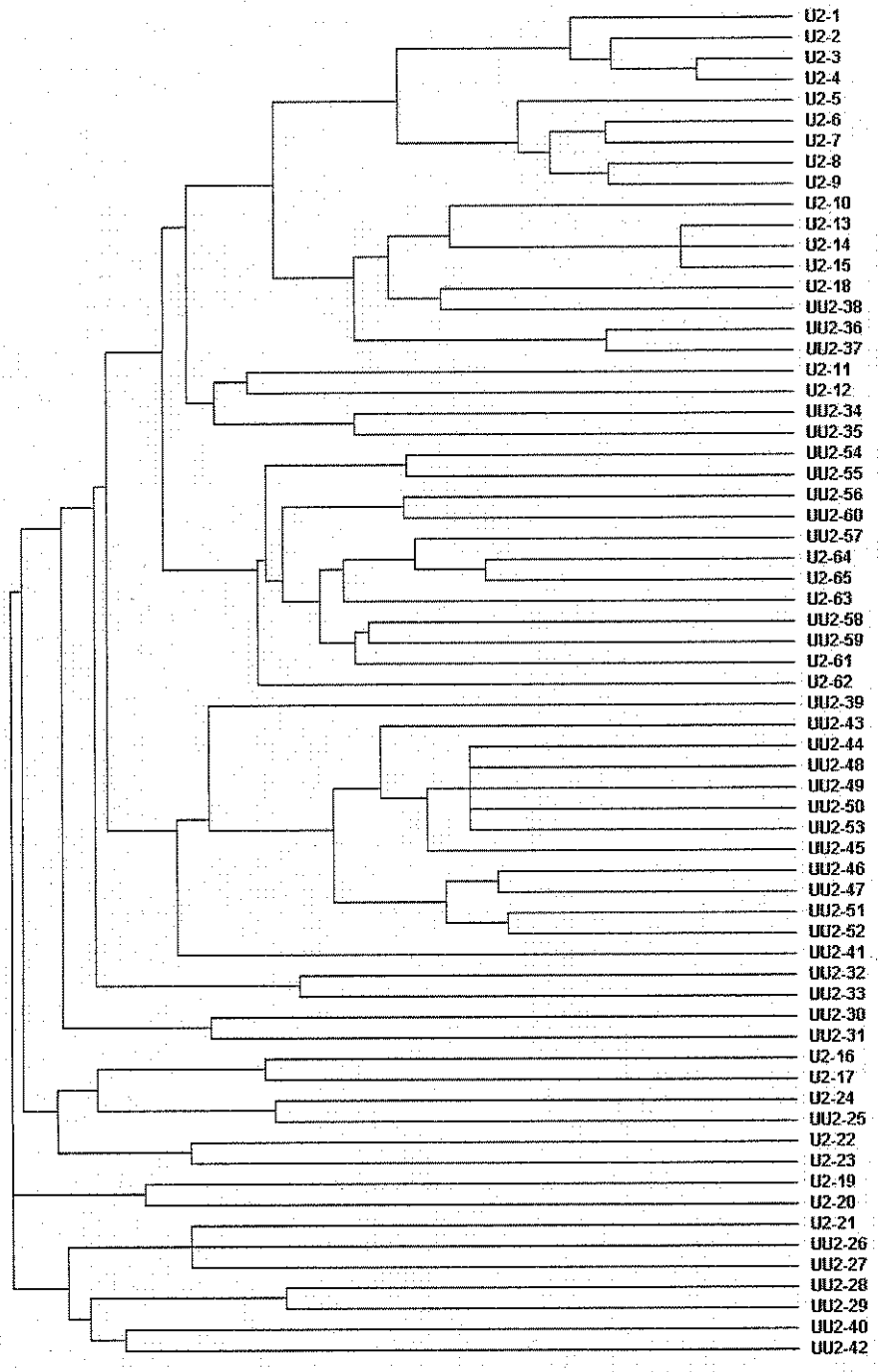


FIG 12B

Cladogram of the Heavy Chain Variable Regions

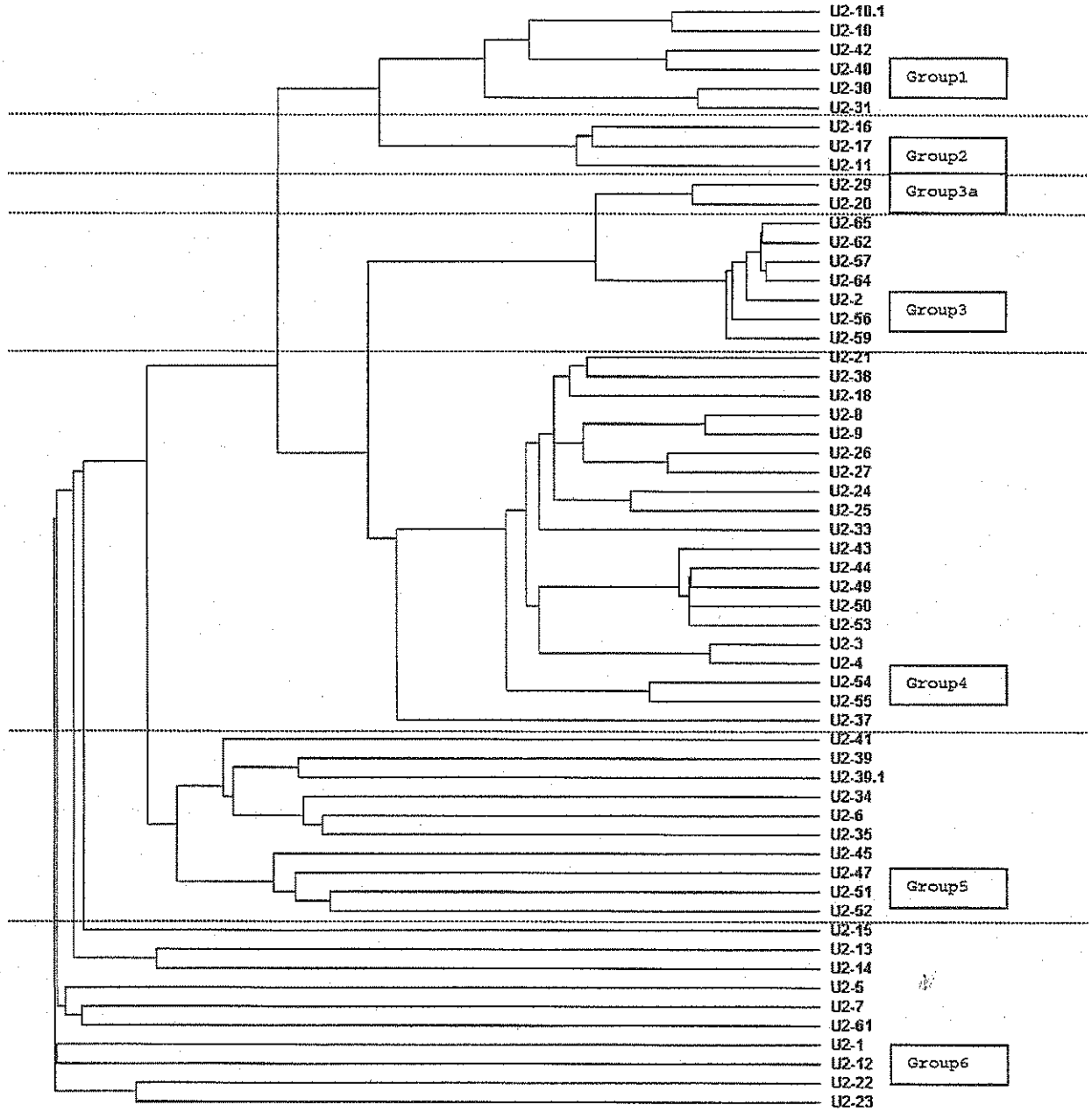


FIGURE 12C

U_L-1 light chain nucleotide sequence (SEQ ID NO:532)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttyaayggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-2 light chain nucleotide sequence (SEQ ID NO:533)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyathcarggnacncaytggccnacnacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-3 light chain nucleotide sequence (SEQ ID NO:534)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggmtncarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13A

U_L-4 light chain nucleotide sequence (SEQ ID NO:534)

gaygtngtnatgacncarwsnccnmtnwsnmtnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtntaywsngayggnaayacntaymtnaaytggmtncarca
rmgnccnggncarwsnccnmgnmgnmtnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnacncaytggccnathacnttyggncarggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-5 light chain nucleotide sequence (SEQ ID NO:535)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnathcarmtnccntgywsnttyggncarggnac
naarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-6 light chain nucleotide sequence (SEQ ID NO:536)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnmtnacnttyggnggnggnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13B

U_L-7 light chain nucleotide sequence (SEQ ID NO:536)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggtaymtnca
raarccnggncarccnccncarmtnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnmtnacnttyggnggnggnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-8 light chain nucleotide sequence (SEQ ID NO:537)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggttymtnca
raarccnggncarccnccncarccnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnathacnttyggncayggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-9 light chain nucleotide sequence (SEQ ID NO:537)

gayathgtnatgacncaracnccnmtnwsnmtnwsngtnacnccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnmtnmtncaywsngayggnaaracntaymtntaytggttymtnca
raarccnggncarccnccncarccnmtnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarmtnccnathacnttyggncayggnac
nmgnmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13C

U_L-11 light chain nucleotide sequence (SEQ ID NO:538)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarggnathgcnaaytaymtngcntggtaycarcaraarccnggnaargt
nccnaarmtnmtnathtaygtngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargaygtngcnacnt
aytaytgycaraaytayaaywsngcnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-12 light chain nucleotide sequence (SEQ ID NO:539)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
thtgymgngcnwsncarggnathwsnaaygaymtngcntggtaycarcaraarccnggnaargt
nccnaarmtnmtnathtaygcngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargaygtngcnacnt
aytaytgycaraartayaaywsngtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-13 light chain nucleotide sequence (SEQ ID NO:540)

aayathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnccnggnac
naargtngayathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

FIGURE 13D

U_L-14 light chain nucleotide sequence (SEQ ID NO:540)

aayathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnccnggnac
naargtngayathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-15 light chain nucleotide sequence (SEQ ID NO:541)

garathgtnatgacncaracnccnmtnwsnwsnccngtnacnmtnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnmtngtncaywsngayggnaayacntaymtnwsntggmtncarca
rmgnccnggncarccnccnmgnmtnmtnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnacnggngcnggnacngayttyacnmtnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcnacncarttyccncayacnttyggnggnggnac
naargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygar
carmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcna
argtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarca
rgaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygar
aarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnt
tyaaymgnggngartgy

U_L-16 light chain nucleotide sequence (SEQ ID NO:542)

garathgtnmtnacncarwsnccnggnacnmtnwsnmtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncaracngtnathwsnwsntaymtngcntggtaycarcaraarccnggnca
rgcnccnmgnmtnmtnathwsnggngcnwsnwsnmgngcnacnggnathccngaymgnttywsn
ggnwsnggnwsnggnacngayttyacnmtnacnathwsnmgnmtngarccngargayttygcng
tntaytaytgycarcartayggnwsnwsnccnmgnacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

FIGURE 13E

U_L-17 light chain nucleotide sequence (SEQ ID NO:543)

garathgtnmtnacncarwsnccnggnacnmtnwsnmtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnmgnmtngcntggtaycarcaraarccnggncargcncc
nmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngaymgnttywsnggnwsn
ggnwsnggnacngayttyacnmtnacnathwsnmgnmtngarccngargayttygcngtntayt
aytgycarcartayggnwsnwsnccnmgnwsnttyggncarggnacnaarmtngarathaarmg
nacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggnacn
gcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaargtng
ayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargaywsnac
ntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntaygcn
tgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngartgy

U_L-18 light chain nucleotide sequence (SEQ ID NO:544)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarggnathmgnaaygaymtnggntggtaycarcaraarccnggnaargc
nccnaarmgnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgymtncarcayaaywsntayccnccnacnttyggncarggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-19 light chain nucleotide sequence (SEQ ID NO:545)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngtntggtayca
rcaraarccnggncarccnccnaarmtnttyathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyacnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13F

U_L-20 light chain nucleotide sequence (SEQ ID NO:545)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngtntggtayca
rcaraarccnggncarccnccnaarmtnttyathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyacnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-21 light chain nucleotide sequence (SEQ ID NO:546)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-22 light chain nucleotide sequence (SEQ ID NO:547)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncaraaygtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartaytayggnacnccnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13G

U_L-23 light chain nucleotide sequence (SEQ ID NO:548)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncaraaygtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartaytayggnacnccnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-24 light chain nucleotide sequence (SEQ ID NO:549)

gayathgtnatgacncarwsnccngaywsnmtnacngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-25 light chain nucleotide sequence (SEQ ID NO:549)

gayathgtnatgacncarwsnccngaywsnmtnacngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgnacnttyggncargg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13H

U_L-26 light chain nucleotide sequence (SEQ ID NO:550)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntayaaywsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggnccngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-27 light chain nucleotide sequence (SEQ ID NO:551)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntayaaywsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsnacnacntggacnttyggnccngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-28 light chain nucleotide sequence (SEQ ID NO:552)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaargtnmtnathtaytgggcnwsnacnmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnggnmtncarg
cngargaygtngcnmtntaytaytgycarcartaytaywsnacnatgttywsnttyggncargg
nacnaarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13I

$_L$-29 light chain nucleotide sequence (SEQ ID NO:552)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtntaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaargtnmtnathtaytgggcnwsnacnmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnggnmtncarg
cngargaygtngcnmtntaytaytgycarcartaytaywsnacnatgttywsnttyggncargg
nacnaarmtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-30 light chain nucleotide sequence (SEQ ID NO:553)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtngaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtnttytaytgycaycartaytaywsnacnccnmtnacnttyggnggngg
nacnaargtngcnathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-31 light chain nucleotide sequence (SEQ ID NO:553)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsngtnmtngaywsnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsnacnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtnttytaytgycaycartaytaywsnacnccnmtnacnttyggnggngg
nacnaargtngcnathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

FIGURE 13J

U_L-32 light chain nucleotide sequence (SEQ ID NO:554)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsnathmtntaymgnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartayttyathacnccnmtnacnttyggnggngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-33 light chain nucleotide sequence (SEQ ID NO:554)

gayathgtnatgacncarwsnccngaywsnmtngcngtnwsnmtnggngarmgngcnacnatha
aytgyaarwsnwsncarwsnathmtntaymgnwsnaayaayaaraaytaymtngcntggtayca
rcaraarccnggncarccnccnaarmtnmtnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarg
cngargaygtngcngtntayttytgycarcartayttyathacnccnmtnacnttyggnggngg
nacnaargtngarathaarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngay
garcarmtnaarwsnggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngarg
cnaargtncartggaargtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacnga
rcargaywsnaargaywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytay
garaarcayaargtntaygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarw
snttyaaymgnggngartgy

U_L-34 light chain nucleotide sequence (SEQ ID NO:555)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncargayathwsncaytaymtngcntggttycarcaraarccnggnaargc
nccnaarwsnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnaarttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcartayaayaaytayccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13K

U_L-35 light chain nucleotide sequence (SEQ ID NO:556)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgymgngcnwsncargayathwsnaaytaymtngcntggmtncarcaraarccnggnaargc
nccnaarwsnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcartayaayacntayccnttyacnttyggnccnggnacnaaratggayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-36 light chain nucleotide sequence (SEQ ID NO:557)

garathgtnatgacncarwsnccngcnacnmtnwsngtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnwsnaaymtngcntggtaycarcargayccnggncargc
nccnmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngcnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

U_L-37 light chain nucleotide sequence (SEQ ID NO:557)

garathgtnatgacncarwsnccngcnacnmtnwsngtnwsnccnggngarmgngcnacnmtnw
sntgymgngcnwsncarwsngtnwsnwsnaaymtngcntggtaycarcargayccnggncargc
nccnmgnmtnmtnathtayggngcnwsnmgnmgngcnacnggnathccngcnmgnttywsnggn
wsnggnwsnggnacngarttyacnmtnacnathwsnwsnmtncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggacnttyggncarggnacnaargtngarat
haarmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsn
ggnacngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartgga
argtngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaarga
ywsnacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtn
taygcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggng
artgy

FIGURE 13L

U_L-38 light chain nucleotide sequence (SEQ ID NO:558)

gayathcaratgacncarwsnccnwsnwsngtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncargayathwsnmgntggmtngcntggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcargcnaaywsnttyccnccnacnttyggncarggnacnaargtngarttyaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-39 light chain nucleotide sequence (SEQ ID NO:559)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnacntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarttymtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcngcnt
aytaytgycarcarwsncaywsngcnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-40 light chain nucleotide sequence (SEQ ID NO:560)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsnmtnggngaymgngtnacnatha
cntgymgngcnwsncaracnathwsnathtaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntaywsnacnmtnacnttyggnggnggnacnaargtngarathaarmg
nacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggnacn
gcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaargtng
ayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargaywsnac
ntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntaygcn
tgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngartgy

FIGURE 13M

U_L-41 light chain nucleotide sequence (SEQ ID NO:561)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathmgnwsntaymtnaaytggtaycarcarmgnccnggnaaygc
nccnaarmtnmtnathtaygcngcnwsnwsnmtncarwsnggngtnccnwsnmgngtnwsnggn
wsnggnwsnggnacngayttyacnmtnacnathmgnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntaywsnathccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-42 light chain nucleotide sequence (SEQ ID NO:562)

gayathcaratgacncarwsnccnwsnwsnmgnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncaracnathwsnmgntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygcngcnwsnacnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarathtaywsnacnwsnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-43 light chain nucleotide sequence (SEQ ID NO:563)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarmgnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaargtnmtnathtaygcngarwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayathacnccnathacnttyggncarggnacnmgnmtngarathat
hmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13N

U_L-44 light chain nucleotide sequence (SEQ ID NO:564)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnmgntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngaraayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-45 light chain nucleotide sequence (SEQ ID NO:565)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnttywsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttywsnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-46 light chain nucleotide sequence (SEQ ID NO:566)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytayacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13O

U_L-47 light chain nucleotide sequence (SEQ ID NO:566)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnmtnwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytayacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-48 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-49 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13P

U_L-50 light chain nucleotide sequence (SEQ ID NO:567)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngtnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-51 light chain nucleotide sequence (SEQ ID NO:568)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-52 light chain nucleotide sequence (SEQ ID NO:568)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaaytttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13Q

U_L-53 light chain nucleotide sequence (SEQ ID NO:569)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgymgngcnwsncarwsnathwsnwsntaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtayacngcnwsnwsnmtncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnmtnacnathwsnwsnmtncarccngargayttygcnacnt
aytaytgycarcarwsntayttyacnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-54 light chain nucleotide sequence (SEQ ID NO:570)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaytaymtnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-55 light chain nucleotide sequence (SEQ ID NO:570)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaytaymtnccnttyacnttyggnccnggnacnaargtngayathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13R

U_L-56 light chain nucleotide sequence (SEQ ID NO:571)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccngarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartgygaygaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-57 light chain nucleotide sequence (SEQ ID NO:572)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsngaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-58 light chain nucleotide sequence (SEQ ID NO:573)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13S

U_L-59 light chain nucleotide sequence (SEQ ID NO:573)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtngcnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtnacnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-60 light chain nucleotide sequence (SEQ ID NO:574)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnathmtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsngaracngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartgygayathmtnccnmtnwsnttyggnggnggnacnaargtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-61 light chain nucleotide sequence (SEQ ID NO:575)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnmtngcnttyggnggnggnacnaargtngarathmg
nmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13T

U_L-62 light chain nucleotide sequence (SEQ ID NO:576)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngayggngtnacnatha
cntgycargcnwsncargayathacnaaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygaywsnmtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-63 light chain nucleotide sequence (SEQ ID NO:577)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaytaymtnaaytggtaycarcaraarmtnggnaargc
nccnaarmtnmtnathcaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcartaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

U_L-64 light chain nucleotide sequence (SEQ ID NO:578)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsngaytaymtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13U

U_L-65 light chain nucleotide sequence (SEQ ID NO:579)

gayathcaratgacncarwsnccnwsnwsnmtnwsngcnwsngtnggngaymgngtnacnatha
cntgycargcnwsncargayathwsnaaywsnmtnaaytggtaycarcaraarccnggnaargc
nccnaarmtnmtnathtaygaygcnwsnaaymtngaracnggngtnccnwsnmgnttywsnggn
wsnggnwsnggnacngayttyacnttyacnathwsnwsnmtncarccngargayathgcnacnt
aytaytgycarcaytaygayaaymtnccnathacnttyggncarggnacnmgnmtngarathaa
rmgnacngtngcngcnccnwsngtnttyathttyccnccnwsngaygarcarmtnaarwsnggn
acngcnwsngtngtntgymtnmtnaayaayttytayccnmgngargcnaargtncartggaarg
tngayaaygcnmtncarwsnggnaaywsncargarwsngtnacngarcargaywsnaargayws
nacntaywsnmtnwsnwsnacnmtnacnmtnwsnaargcngaytaygaraarcayaargtntay
gcntgygargtnacncaycarggnmtnwsnwsnccngtnacnaarwsnttyaaymgnggngart
gy

FIGURE 13V

U_H-1 heavy chain nucleotide sequence (SEQ ID NO:580)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnwsntayggnathwsntgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathwsngcnwsnaayggnaayacnaaytaygcncaraarmtn
cargaymgngtnacnatgacnacngayacnwsnacnwsnacngcntayatggarmtnmgnwsnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-2 heavy chain nucleotide sequence (SEQ ID NO:580)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnwsntayggnathwsntgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathwsngcnwsnaayggnaayacnaaytaygcncaraarmtn
cargaymgngtnacnatgacnacngayacnwsnacnwsnacngcntayatggarmtnmgnwsnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14A

U_H-3 heavy chain nucleotide sequence (SEQ ID NO:581)

cargtncaymtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnttyacnggncaytayatgcaytgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathaayccnaaywsnggnggnacnaaytgygcncaraartty
carggnmgngtnacnatgacnmgngayacnwsnathwsnacngcntayatggarmtnwsnmgnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgnwsnathgcngtngcnmtngaytaytg
gggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtn
gcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayt
tyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttycc
ngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaay
ttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaara
cngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnws
ngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacn
tgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggng
tngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngt
nwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsn
aayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarc
cncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntg
ymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngar
aayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarm
tnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargc
nmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-4 heavy chain nucleotide sequence (SEQ ID NO:582)

cargtncarmtngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntayacnttyacnggntaytayatgcaytgggtnmgncargcnccnggnca
rggnmtngartggatgggntggathaayccnaaywsnggnggnacnaaycayacncaraartty
carggnmgngtnacnatgacnmgngayacnwsnathwsnacngcntayatggarmtnwsnmgnm
tnmgnwsngaygayacngcngtntaytaytgygcnmgnwsnathgcngtngcnmtngaytaytg
gggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtn
gcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayt
tyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttycc
ngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaay
ttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaara
cngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnws
ngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacn
tgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggng
tngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngt
nwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsn
aayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarc
cncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntg
ymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngar
aayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarm
tnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargc
nmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14B

U_H-5 heavy chain nucleotide sequence (SEQ ID NO:583)

cargtncarmtngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnmtnacngarmtnwsnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartggatgggnwsnttygayccngargayggngaracnathtaygcncaraartty
carggnmgngtnacnatgmtngargayacnwsnacngayacngcntayatggarmtnwsnwsnm
tnmgnwsngargayacngcngtntaytaytgygcnacngarggngayggnggntaytaytayta
yggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-6 heavy chain nucleotide sequence (SEQ ID NO:583)

cargtncarmtngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntayacnmtnacngarmtnwsnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartggatgggnwsnttygayccngargayggngaracnathtaygcncaraartty
carggnmgngtnacnatgmtngargayacnwsnacngayacngcntayatggarmtnwsnwsnm
tnmgnwsngargayacngcngtntaytaytgygcnacngarggngayggnggntaytaytayta
yggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14C

U_H-7 heavy chain nucleotide sequence (SEQ ID NO:584)

cargtnacnmtnaargarwsnggnccngtnmtngtnaarccnacngaracnmtnacnmtnacnt
gyacngtnwsnggnttywsnmtnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnmtngartggmtngcncayathttywsnaaygaygaraarwsntaywsnacnwsn
mtnaarwsnmgnmtnacnathwsnaargayacnwsnaarwsncargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcnmgnatgtaywsnwsnggntggtaygg
ngtnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaayws
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-8 heavy chain nucleotide sequence (SEQ ID NO:585)

cargtnacnmtnaargarwsnggnccngtnmtngtnaarccnacngaracnmtnacnmtnacnt
gyacngtnwsnggnttywsnmtnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnmtngartggmtngtnmtnathttywsnaaygaygaraarwsntaywsnacnwsn
mtnaarwsnmgnmtnacnathwsnaargayacnwsnaarwsncargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcnmgngtntaywsnwsnggntggwsntt
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14D

U_H-9 heavy chain nucleotide sequence (SEQ ID NO:586)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnmgngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-10 heavy chain nucleotide sequence (SEQ ID NO:587)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaracncargtngtnmtnacngtnacng
ayatggayccngtngayacngcnacntaytaytgygcncaymgnaaytggacnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14E

U_H-11 heavy chain nucleotide sequence (SEQ ID NO:588)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnaayacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnmtngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-12 heavy chain nucleotide sequence (SEQ ID NO:589)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
aymtngayccngtngayacngcnacntaytaytgygcncaymgnmgngargtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14F

U_H-13 heavy chain nucleotide sequence (SEQ ID NO:590)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygtngaraarmgntaywsnccnwsn
mtnmgnwsnmgnmtnacnathacnaargcnacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgncayacnaayccnttygarta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-14 heavy chain nucleotide sequence (SEQ ID NO:591)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnggngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14G

UH-15 heavy chain nucleotide sequence (SEQ ID NO:591)

carathacnmtnaargarwsnggnccnacnmtngtnaarccnacncaracnmtnacnmtnacnt
gyacnttywsnggnttywsnmtnwsnacnggnggngtnggngtnggntggathmgncarccncc
nggnaargcnmtngartggmtngcnmtnathtaytggaaygaygayaarmgntaywsnccnwsn
mtnaarwsnmgnmtnacnathacnaargayacnwsnaaraaycargtngtnmtnacnatgacna
ayatggayccngtngayacngcnacntaytaytgygcncaymgnggngarmtnccnttygayta
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttytttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-16 heavy chain nucleotide sequence (SEQ ID NO:592)

gargtncarmtngtngarwsnggnggnggnmtngtnaarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyccnttywsnmgntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnwsnwsnwsnwsntayathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgngaymgngtnggngcnacnccngaygc
nttygayathtggggncarggnacnatggtnacngtnwsnwsngcnwsnacnaarggnccnwsn
gtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtng
tnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngt
ncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtn
ccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacna
argtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngt
ngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacn
ccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggt
aygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnac
nttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaar
tgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggnc
arccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargt
nwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaay
ggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttytttym
tntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngt
natgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14H

U_H-17 heavy chain nucleotide sequence (SEQ ID NO:593)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygcnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnaargarggnathgcngtngcnggnacngc
ngartaytaytaytaytaygcnatggaygtntggggncarggnacnacngtnacngtnwsnwsn
gcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsna
cngcngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaayws
nggngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsn
mtnwsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtng
aycayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgycc
nccntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargay
acnmtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayc
cngargtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmg
ngargarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytgg
mtnaayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraara
cnathwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgnga
rgaratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayath
gcngtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtng
aywsngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcargg
naaygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtn
wsnmtnwsnccnggnaar

U_H-18 heavy chain nucleotide sequence (SEQ ID NO:594)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnaargarggnathgcngcnmgngaywsnta
ytaytaytaygcnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14I

U_H-19 heavy chain nucleotide sequence (SEQ ID NO:595)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gyacngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_H-20 heavy chain nucleotide sequence (SEQ ID NO:595)

gargtncarmtnmtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gyacngcnwsnggnttyacnttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsngcnathwsnggnwsnggnggnwsnacntaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14J

U_H-21 heavy chain nucleotide sequence (SEQ ID NO:596)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcnttyathwsngaygayggnwsnacnaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnatgaayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

U_H-22 heavy chain nucleotide sequence (SEQ ID NO:596)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcnttyathwsngaygayggnwsnacnaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnatgaayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14K

U_H-23 heavy chain nucleotide sequence (SEQ ID NO:597)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnaaygtnathgaytaytggggncargg
nacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgy
wsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccngarc
cngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngtnmt
ncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggnacn
caracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtngarm
gnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtnttymt
nttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtngtn
gtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngargtnc
ayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngtnmt
nacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaarggn
mtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncargtnt
ayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngtnaa
rggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaaytay
aaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacngtng
ayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtncayaa
ycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-24 heavy chain nucleotide sequence (SEQ ID NO:598)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnggnggngcnacnggngcngartaytt
ycarcaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14L

U_H-25 heavy chain nucleotide sequence (SEQ ID NO:598)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnggnggngcnacnggngcngartaytt
ycarcaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-26 heavy chain nucleotide sequence (SEQ ID NO:599)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygtnmtnmtntggttyggngaracnttygayta
ytggggncarggnwsnmtngtnacngtnwsnccngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14M

U_H-27 heavy chain nucleotide sequence (SEQ ID NO:600)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggwsngayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnaaymtnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-28 heavy chain nucleotide sequence (SEQ ID NO:601)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtgggaygayggnwsnaaycartaytayacngaywsngtn
aarggnmgnttyacngtnwsnmgngayaaywsnaaraayacnmtnttymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgnwsncaytayggnggngaytaygayta
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

FIGURE 14N

U_H-29 heavy chain nucleotide sequence (SEQ ID NO:602)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaarmgntaygtngaywsngtn
aarggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtntaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgngayggntggcarcarcargcnccntt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-30 heavy chain nucleotide sequence (SEQ ID NO:603)

cargtncarmtngtngarwsnggnggnggngtngtncarccnggnmgnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttymgnwsncayggnatgcaytgggtnmgncargcnccnggnaa
rggnmtngartgggtngcngtnathtggtaygayggnwsnaayaaraaytaygcngaywsngtn
mgnggnmgnttyacnathwsnmgngayaaywsnaaraayacnmtngaymtncaratgaaywsnm
tnmgngcngargayacngcngtntaytaytgygcnmgntggggnathwsngcnccnttygaytg
ytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14O

U_H-31 heavy chain nucleotide sequence (SEQ ID NO:604)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsntayathwsnwsnwsnggnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtnttymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmtntgggcnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-32 heavy chain nucleotide sequence (SEQ ID NO:605)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnwsnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsngtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayggnggngg
naaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaaytttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14P

U_H-33 heavy chain nucleotide sequence (SEQ ID NO:606)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnmgnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_H-34 heavy chain nucleotide sequence (SEQ ID NO:606)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsncayathwsnmgnwsnwsnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtntaymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14Q

U_H-35 heavy chain nucleotide sequence (SEQ ID NO:607)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaaymtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnggnccntaytayggnatggaygt
ntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccn
mtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargayt
ayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacntt
yccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsn
aayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngaya
aracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggncc
nwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtn
acntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayg
gngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngt
ngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtn
wsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgng
arccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnac
ntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccn
garaayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttytttymtntaywsna
armtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcayga
rgcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-36 heavy chain nucleotide sequence (SEQ ID NO:608)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaycaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnaayatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngcnmtnmgnggnathgtnmtnat
ggtntaygtnmtnggngcnmtngayathtggggncarggnacnaargtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttytttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14R

U_H-37 heavy chain nucleotide sequence (SEQ ID NO:608)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaycaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnaayatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngcnmtnmgnggnathgtnmtnat
ggtntaygtnmtnggngcnmtngayathtggggncarggnacnaargtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

U_H-38 heavy chain nucleotide sequence (SEQ ID NO:609)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaygaracngtngtnmgnggnmt
nathmgntaytgytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14S

U_H-39 heavy chain nucleotide sequence (SEQ ID NO:610)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnaayt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnathwsngcngayacnwsnaaraaycarttywsnmtnaarmtnaayw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywss
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-40 heavy chain nucleotide sequence (SEQ ID NO:611)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnaayt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnathwsngcngayacnwsnaaraaycarttywsnmtnaarmtnaayw
sngtnacngcngcngayacngcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggnccn
wsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgym
tngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsngg
ngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacn
gtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaaya
cnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccncc
ngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgn
acnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaayt
ggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywss
nacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartay
aartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarg
gncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraayca
rgtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsn
aayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyt
tymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgyws
ngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14T

U_H-41 heavy chain nucleotide sequence (SEQ ID NO:612)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnaarwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nmtntggggnmgnggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtntty
ccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaarg
aytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayac
nttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsn
wsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtng
ayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcngg
nccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngar
gtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtng
ayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymg
ngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaar
gtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnm
gngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmt
nacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncar
ccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttytttymtntayw
snaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgca
ygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-42 heavy chain nucleotide sequence (SEQ ID NO:613)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaywsnwsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgnathacnaarwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nmtntggggnmgnggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtntty
ccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaarg
aytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayac
nttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsn
wsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtng
ayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcngg
nccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngar
gtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtng
ayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymg
ngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaar
gtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnm
gngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmt
nacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggncar
ccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttytttymtntayw
snaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgca
ygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14U

U_H-43 heavy chain nucleotide sequence (SEQ ID NO:614)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnmtngartggathggntayathcaytaywsnggnwsnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnwsnggntayaaytayggnmtntayta
ytaygaywsnwsnggntayccnwsntaytaytayggnatggaygtntggggncarggnacnacn
gtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnw
snacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccngarccngtnac
ngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsn
wsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracnt
ayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtngarmgnaartg
ytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccn
ccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtngtngtngayg
tnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngargtncayaaygc
naaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtn
gtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaarggnmtnccng
cnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncargtntayacnmt
nccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngtnaarggntty
tayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaaytayaaracna
cnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacngtngayaarws
nmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytay
acncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-44 heavy chain nucleotide sequence (SEQ ID NO:615)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnggnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnttyw
sngtnacngcngcngayacngcngtntayttytgygcnmgnacntaytaygayathmtnacngg
ntayccnttytayttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

FIGURE 14V

U_H-45 heavy chain nucleotide sequence (SEQ ID NO:616)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnmtngartggathggntayathtaytaywsnggnggnacntaytayaayccnwsn
mtnaarwsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnttyw
sngtnacngcngcngayacngcngtntayttytgygcnmgnacntaytaygayathmtnacngg
ntayccnttytayttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_H-46 heavy chain nucleotide sequence (SEQ ID NO:617)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggtaytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14W

U_H-47 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-48 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14X

U_H-49 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-50 heavy chain nucleotide sequence (SEQ ID NO:618)

cargtncarmtncarcartggggngcnggnmtnmtnaarccnwsngaracnmtnwsnmtnacnt
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnmtngartggathggngarathaaycaywsnggnwsnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnathwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14Y

U_H-51 heavy chain nucleotide sequence (SEQ ID NO:619)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsnathwsnwsntaytaytggwsntggathmgncarccngcnggnaa
rggnmtngartggathggnmgnathtayacnwsnggnacnacnaaytayaayccnwsnmtnaar
wsnmgngtnacnatgwsngtngayacnwsnaaraaycarttywsnmtnaarmtnwsnwsngtna
cngcngcngayacngcngtntaytaytgygcnmgngayggntaywsntayggncaytaytayta
ytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacnaarggn
ccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggnt
gymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnws
nggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtn
acngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsna
ayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcncc
nccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsn
mgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttya
aytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaa
ywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargar
tayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracna
arggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraa
ycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggar
wsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnt
tyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntg
ywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggn
aar

U_H-52 heavy chain nucleotide sequence (SEQ ID NO:620)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacnaaytayaayccnwsn
mtnaarwsnmgngtnacnathwsnathgtnacnwsnmgnaaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsngcnmtnmgntayttygaytg
gmtnttywsngaygtnwsngayathtggggncarggnacnatggtnacngtnwsnwsngcnwsn
acnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcng
cnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngc
nmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsn
wsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycaya
arccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntg
yccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtn
atgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngarg
tncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngarga
rcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaay
ggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathw
snaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargarat
gacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtn
gartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsng
ayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygt
nttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtn
wsnccnggnaar

FIGURE 14Z

U_H-53 heavy chain nucleotide sequence (SEQ ID NO:620)

cargtncarmtncargarwsnggnccnggnmtngtnaarccnwsngaracnmtnwsnmtnacnt
gyacngtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnmtngartggathggntayathtaytaywsnggnwsnacnaaytayaayccnwsn
mtnaarwsnmgngtnacnathwsnathgtnacnwsnmgnaaycarttywsnmtnaarmtnwsnw
sngtnacngcngcngayacngcngtntaytaytgygcnmgnwsngcnmtnmgntayttygaytg
gmtnttywsngaygtnwsngayathtggggncarggnacnatggtnacngtnwsnwsngcnwsn
acnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcng
cnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngc
nmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsn
wsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycaya
arccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntg
yccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtn
atgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngarg
tncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngarga
rcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaay
ggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathw
snaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargarat
gacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtn
gartgggarwsnaaygggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsng
ayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygt
nttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtn
wsnccnggnaar

U_H-54 heavy chain nucleotide sequence (SEQ ID NO:621)

gargtncarmtngtncarwsnggngcngarmtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaymgnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccngaygaywsngayacnmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathwsnacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncaraarwsntayggntaywsntaytt
ygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtn
ttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtna
argaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtnca
yacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccn
wsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacnaarg
tngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngtngc
nggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccn
gargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggtayg
tngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacntt
ymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaartgy
aargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarc
cnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnws
nmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaayggn
carccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtnt
aywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnat
gcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14AA

U_H-55 heavy chain nucleotide sequence (SEQ ID NO:622)

gargtncarmtngtncarwsnggngcngargtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaywsnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccngaygaywsngaygcnmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathaayacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncarggntayggnwsnggntggggnta
yttygaytaytggggncarggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsn
gtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtng
tnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngt
ncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtn
ccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarccnwsnaayacna
argtngayaaracngtngarmgnaartgytgygtngartgyccnccntgyccngcnccnccngt
ngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacn
ccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtncarttyaaytggt
aygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarcarttyaaywsnac
nttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggnaargartayaar
tgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsnaaracnaarggnc
arccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgacnaaraaycargt
nwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngartgggarwsnaay
ggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayggnwsnttyttym
tntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngt
natgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

U_H-56 heavy chain nucleotide sequence (SEQ ID NO:623)

gargtncarmtngtncarwsnggngcngargtnaaraarccnggngarwsnmtnaarathwsnt
gyaarggnwsnggntaywsnttyacnwsntaytggathggntgggtnmgncaratgccnggnaa
rggnmtngartggatgggnathathtayccnggngaywsngayathmgntaywsnccnwsntty
carggncargtnacnathwsngcngayaarwsnathwsnacngcntaymtncartggwsnwsnm
tnaargcnwsngayacngcnatgtaytaytgygcnmgncarggnmtngcngtngcnggnacnws
ntaytaytaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcn
wsnacnaarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacng
cngcnmtnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsngg
ngcnmtnacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtn
wsnwsngtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngayc
ayaarccnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccncc
ntgyccngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacn
mtnatgathwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccng
argtncarttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgnga
rgarcarttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtn
aayggnaargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracna
thwsnaaracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngarga
ratgacnaaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcn
gtngartgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngayw
sngayggnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaa
ygtnttywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsn
mtnwsnccnggnaar

FIGURE 14AB

U_H-57 heavy chain nucleotide sequence (SEQ ID NO:624)

cargtncarmtncarcarwsnggnccnggnmtngtnaarccnwsncaracnmtnwsnmtnacnt
gygcnathwsnggngaywsngtnwsnwsntaywsngcngcntggaaytggathmgncarwsncc
nwsnmgnggnmtngartggmtnggnmgnacntaytgymgnwsnaartggtayaaygaytaygcn
gtnwsngtnaarwsnmgnathacnathaayccngayacnwsnaaraaycarttywsnmtncarm
tnaaywsngtnacnccngargayacngcngtntaytaytgygcnmgngaymgngcngtngcngg
ntaytaytayggnatggaygtntggggncarggnacnacngtnacngtnwsnwsngcnwsnacn
aarggnccnwsngtnttyccnmtngcnccntgywsnmgnwsnacnwsngarwsnacngcngcnm
tnggntgymtngtnaargaytayttyccngarccngtnacngtnwsntggaaywsnggngcnmt
nacnwsnggngtncayacnttyccngcngtnmtncarwsnwsnggnmtntaywsnmtnwsnwsn
gtngtnacngtnccnwsnwsnaayttyggnacncaracntayacntgyaaygtngaycayaarc
cnwsnaayacnaargtngayaaracngtngarmgnaartgytgygtngartgyccnccntgycc
ngcnccnccngtngcnggnccnwsngtnttymtnttyccnccnaarccnaargayacnmtnatg
athwsnmgnacnccngargtnacntgygtngtngtngaygtnwsncaygargayccngargtnc
arttyaaytggtaygtngayggngtngargtncayaaygcnaaracnaarccnmgngargarca
rttyaaywsnacnttymgngtngtnwsngtnmtnacngtngtncaycargaytggmtnaayggn
aargartayaartgyaargtnwsnaayaarggnmtnccngcnccnathgaraaracnathwsna
aracnaarggncarccnmgngarccncargtntayacnmtnccnccnwsnmgngargaratgac
naaraaycargtnwsnmtnacntgymtngtnaarggnttytayccnwsngayathgcngtngar
tgggarwsnaayggncarccngaraayaaytayaaracnacnccnccnatgmtngaywsngayg
gnwsnttyttymtntaywsnaarmtnacngtngayaarwsnmgntggcarcarggnaaygtntt
ywsntgywsngtnatgcaygargcnmtncayaaycaytayacncaraarwsnmtnwsnmtnwsn
ccnggnaar

U_B-58 heavy chain nucleotide sequence (SEQ ID NO:604)

gargtncarmtngtngarwsnggnggnggnmtngtncarccnggnggnwsnmtnmgnmtnwsnt
gygcngcnwsnggnttyacnttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnmtngartgggtnwsntayathwsnwsnwsnggnmgnacnathtaytaygcngaywsngtn
aarggnmgnttyacnathwsnmgngayaaygcnaaraaywsnmtnttymtncaratgaaywsnm
tnmgngaygargayacngcngtntaytaytgygcnmtntgggcnccnttygaytaytggggnca
rggnacnmtngtnacngtnwsnwsngcnwsnacnaarggnccnwsngtnttyccnmtngcnccn
tgywsnmgnwsnacnwsngarwsnacngcngcnmtnggntgymtngtnaargaytayttyccng
arccngtnacngtnwsntggaaywsnggngcnmtnacnwsnggngtncayacnttyccngcngt
nmtncarwsnwsnggnmtntaywsnmtnwsnwsngtngtnacngtnccnwsnwsnaayttyggn
acncaracntayacntgyaaygtngaycayaarccnwsnaayacnaargtngayaaracngtng
armgnaartgytgygtngartgyccnccntgyccngcnccnccngtngcnggnccnwsngtntt
ymtnttyccnccnaarccnaargayacnmtnatgathwsnmgnacnccngargtnacntgygtn
gtngtngaygtnwsncaygargayccngargtncarttyaaytggtaygtngayggngtngarg
tncayaaygcnaaracnaarccnmgngargarcarttyaaywsnacnttymgngtngtnwsngt
nmtnacngtngtncaycargaytggmtnaayggnaargartayaartgyaargtnwsnaayaar
ggnmtnccngcnccnathgaraaracnathwsnaaracnaarggncarccnmgngarccncarg
tntayacnmtnccnccnwsnmgngargaratgacnaaraaycargtnwsnmtnacntgymtngt
naarggnttytayccnwsngayathgcngtngartgggarwsnaayggncarccngaraayaay
tayaaracnacnccnccnatgmtngaywsngayggnwsnttyttymtntaywsnaarmtnacng
tngayaarwsnmgntggcarcarggnaaygtnttywsntgywsngtnatgcaygargcnmtnca
yaaycaytayacncaraarwsnmtnwsnmtnwsnccnggnaar

FIGURE 14AC

U-V_L-1 light chain variable region nucleotide sequence (SEQ ID NO:625)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttyaayggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-2 light chain variable region nucleotide sequence (SEQ ID NO:626)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggttycarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyathcarggncancaytggccncancanttyggncarggnca
nmgnytngarathaar

U-V_L-3 light chain variable region nucleotide sequence (SEQ ID NO:627)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggytncarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-4 light chain variable region nucleotide sequence (SEQ ID NO:627)

gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaaytggytncarca
rmgnccnggncarwsnccnmgnmgnytnathtayaargtnwsnaaytgggaywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggncancaytggccnathcanttyggncarggnca
nmgnytngarathaar

U-V_L-5 light chain variable region nucleotide sequence (SEQ ID NO:628)

Gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarggnathcarytnccntgywsnttyggncarggnca
naarytngarathaar

FIGURE 15A

U-V_L-6 light chain variable region nucleotide sequence (SEQ ID NO:629)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnytncanttyggnggnggnca
naargtngarathaar

U-V_L-7 light chain variable region nucleotide sequence (SEQ ID NO:629)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggtayytnca
raarccnggncarccnccncarytnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnytncanttyggnggnggnca
naargtngarathaar

U-V_L-8 light chain variable region nucleotide sequence (SEQ ID NO:630)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggttyytnca
raarccnggncarccnccncarccnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnathcanttyggncayggnca
nmgnytngarathaar

U-V_L-9 light chain variable region nucleotide sequence (SEQ ID NO:630)

gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggncarccngcnwsnathw
sntgyaarwsnwsncarwsnytnytncaywsngayggnaarcantayytntaytggttyytnca
raarccnggncarccnccncarccnytnathtaygargtnwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggnwsnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcarwsnathcarytnccnathcanttyggncayggnca
nmgnytngarathaar

U-V_L-11 light chain variable region nucleotide sequence (SEQ ID NO:631)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarggnathgcnaaytayytngcntggtaycarcaraarccnggnaargt
nccnaarytnytnathtaygtngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargaygtngcncant
aytaytgycaraaytayaaywsngcnccnttycanttyggnccnggncanaargtngayathaa
r

FIGURE 15B

U-V_L-12 light chain variable region nucleotide sequence (SEQ ID NO:632)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanatha
thtgymgngcnwsncarggnathwsnaaygayytngcntggtaycarcaraarccnggnaargt
nccnaarytnytnathtaygcngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargaygtngcncant
aytaytgycaraartayaaywsngtnccnytncanttyggnggnggncanaargtngarathaa
r

U-V_L-13 light chain variable region nucleotide sequence (SEQ ID NO:633)

aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnccnggnca
naargtngayathaar

U-V_L-14 light chain variable region nucleotide sequence (SEQ ID NO:633)

aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggnwsnggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnccnggnca
naargtngayathaar

U-V_L-15 light chain variable region nucleotide sequence (SEQ ID NO:634)

garathgtnatgcancarcanccnytnwsnwsnccngtncanytnggncarccngcnwsnathw
sntgymgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsntggytncarca
rmgnccnggncarccnccnmgnytnytnathtayaarathwsnaaymgnttywsnggngtnccn
gaymgnttywsnggncanggngcnggncangayttycanytnaarathwsnmgngtngargcng
argaygtnggngtntaytaytgyatgcargcncancarttyccncaycanttyggnggnggnca
naargtngarathaar

U-V_L-16 light chain variable region nucleotide sequence (SEQ ID NO:635)

garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarcangtnathwsnwsntayytngcntggtaycarcaraarccnggnca
rgcnccnmgnytnytnathwsnggngcnwsnwsnmgngcncanggnathccngaymgnttywsn
ggnwsnggnwsnggncangayttycanytncanathwsnmgnytngarccngargayttygcng
tntaytaytgycarcartayggnwsnwsnccnmgncanttyggncarggncanaargtngarat
haar

FIGURE 15C

U-V_L-17 light chain variable region nucleotide sequence (SEQ ID NO:636)

garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnmgnytngcntggtaycarcaraarccnggncargcncc
nmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngaymgnttywsnggnwsn
ggnwsnggncangayttycanytncanathwsnmgnytngarccngargayttygcngtntayt
aytgycarcartayggnwsnwsnccnmgnwsnttyggncarggncanaarytngarathaar

U-V_L-18 light chain variable region nucleotide sequence (SEQ ID NO:637)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarggnathmgnaaygayytnggntggtaycarcaraarccnggnaargc
nccnaarmgnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgyytncarcayaaywsntayccnccncanttyggncarggncanaargtngarathaa
r

U-V_L-19 light chain variable region nucleotide sequence (SEQ ID NO:638)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtntggtayca
rcaraarccnggncarccnccnaarytnttyathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttycanggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggcanttyggncargg
ncanaargtngarathaar

U-V_L-20 light chain variable region nucleotide sequence (SEQ ID NO:638)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtntggtayca
rcaraarccnggncarccnccnaarytnttyathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttycanggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnttyccntggcanttyggncargg
ncanaargtngarathaar

U-V_L-21 light chain variable region nucleotide sequence (SEQ ID NO:639)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggncargg
ncanaargtngarathaar

FIGURE 15D

U-V_L-22 light chain variable region nucleotide sequence (SEQ ID NO:640)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartaytayggncanccnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-23 light chain variable region nucleotide sequence (SEQ ID NO:641)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartaytayggncanccnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-24 light chain variable region nucleotide sequence (SEQ ID NO:642)

gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-25 light chain variable region nucleotide sequence (SEQ ID NO:642)

gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttyggnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntaytaytgycarcartaytaywsnathwsnmgncanttyggncargg
ncanaargtngarathaar

U-V_L-26 light chain variable region nucleotide sequence (SEQ ID NO:643)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggnccngg
ncanaargtngarathaar

FIGURE 15E

U-V_L-27 light chain variable region nucleotide sequence (SEQ ID NO:644)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngaygaygtngcngtntaytaytgycarcartaytaywsncancantggcanttyggnccngg
ncanaargtngarathaar

U-V_L-28 light chain variable region nucleotide sequence (SEQ ID NO:645)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaargtnytnathtaytgggcnwsncanmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnggnytncarg
cngargaygtngcnytntaytaytgycarcartaytaywsncanatgttywsnttyggncargg
ncanaarytngarathaar

U-V_L-29 light chain variable region nucleotide sequence (SEQ ID NO:645)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaargtnytnathtaytgggcnwsncanmgnaarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnggnytncarg
cngargaygtngcnytntaytaytgycarcartaytaywsncanatgttywsnttyggncargg
ncanaarytngarathaar

U-V_L-30 light chain variable region nucleotide sequence (SEQ ID NO:646)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtnttytaytgycaycartaytaywsncanccnytncanttyggnggngg
ncanaargtngcnathaar

U-V_L-31 light chain variable region nucleotide sequence (SEQ ID NO:646)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsncanmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtnttytaytgycaycartaytaywsncanccnytncanttyggnggngg
ncanaargtngcnathaar

FIGURE 15F

U-V_L-32 light chain variable region nucleotide sequence (SEQ ID NO:647)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartayttyathcanccnytncanttyggnggngg
ncanaargtngarathaar

U-V_L-33 light chain variable region nucleotide sequence (SEQ ID NO:647)

gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggngarmgngcncanatha
aytgyaarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcntggtayca
rcaraarccnggncarccnccnaarytnytnathtaytgggcnwsngcnmgngarwsnggngtn
ccngaymgnttywsnggnwsnggnwsnggncangayttycanytncanathwsnwsnytncarg
cngargaygtngcngtntayttytgycarcartayttyathcanccnytncanttyggnggngg
ncanaargtngarathaar

U-V_L-34 light chain variable region nucleotide sequence (SEQ ID NO:648)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncargayathwsncaytayytngcntggttycarcaraarccnggnaargc
nccnaarwsnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnaarttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcartayaayaaytayccnttycanttyggnccnggncanaargtngayathaa
r

U-V_L-35 light chain variable region nucleotide sequence (SEQ ID NO:649)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgymgngcnwsncargayathwsnaaytayytngcntggytncarcaraarccnggnaargc
nccnaarwsnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcartayaaycantayccnttycanttyggnccnggncanaaratggayathaa
r

U-V_L-36 light chain variable region nucleotide sequence (SEQ ID NO:650)

garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnwsnaayytngcntggtaycarcargayccnggncargc
nccnmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngcnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggcanttyggncarggncanaargtngarat
haar

FIGURE 15G

U-V_L-37 light chain variable region nucleotide sequence (SEQ ID NO:650)

garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggngarmgngcncanytnw
sntgymgngcnwsncarwsngtnwsnwsnaayytngcntggtaycarcargayccnggncargc
nccnmgnytnytnathtayggngcnwsnmgnmgngcncanggnathccngcnmgnttywsnggn
wsnggnwsnggncangarttycanytncanathwsnwsnytncarwsngargayttygcngtnt
aytaytgycarcarcayaayaaytggccnccntggcanttyggncarggncanaargtngarat
haar

U-V_L-38 light chain variable region nucleotide sequence (SEQ ID NO:651)

Gayathcaratgcancarwsnccnwsnwsngtnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncargayathwsnmgntggytngcntggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcargcnaaywsnttyccnccncanttyggncarggncanaargtngarttyaa
r

U-V_L-39 light chain variable region nucleotide sequence (SEQ ID NO:652)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsncantayytnaaytggtaycarcaraarccnggnaargc
nccnaarttyytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcngcnt
aytaytgycarcarwsncaywsngcnccnttycanttyggnccnggncanaargtngayathaa
r

U-V_L-40 light chain variable region nucleotide sequence (SEQ ID NO:653)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsnytnggngaymgngtncanathc
antgymgngcnwsncarcanathwsnathtayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntaywsncanytncanttyggnggnggncanaargtngarathaar

U-V_L-41 light chain variable region nucleotide sequence (SEQ ID NO:654)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathmgnwsntayytnaaytggtaycarcarmgnccnggnaaygc
nccnaarytnytnathtaygcngcnwsnwsnytncarwsnggngtnccnwsnmgngtnwsnggn
wsnggnwsnggncangayttycanytncanathmgnwsnytncarccngargayttygcncant
aytaytgycarcarwsntaywsnathccnytncanttyggnggnggncanaargtngarathaa
r

FIGURE 15H

U-V_L-42 light chain variable region nucleotide sequence (SEQ ID NO:655)

gayathcaratgcancarwsnccnwsnwsnmgnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarcanathwsnmgntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygcngcnwsncanytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcncant
aytaytgycarcarathtaywsncanwsnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-43 light chain variable region nucleotide sequence (SEQ ID NO:656)

Gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarmgnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaargtnytnathtaygcngarwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayathcanccnathcanttyggncarggncanmgnytngarathat
h

U-V_L-44 light chain variable region nucleotide sequence (SEQ ID NO:657)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnmgntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngaraayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-45 light chain variable region nucleotide sequence (SEQ ID NO:658)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanttywsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttywsnccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-46 light chain variable region nucleotide sequence (SEQ ID NO:659)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaycanccnathcanttyggncarggncanmgnytngarathaa
r

FIGURE 15I

U-V_L-47 light chain variable region nucleotide sequence (SEQ ID NO:659)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanytnwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-48 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-49 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-50 light chain variable region nucleotide sequence (SEQ ID NO:660)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangtnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-51 light chain variable region nucleotide sequence (SEQ ID NO:661)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathcanttyggncarggncanmgnytngarathaa
r

FIGURE 15J

U-V_L-52 light chain variable region nucleotide sequence (SEQ ID NO:661)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcnwsnt
aytaytgycarcarwsnttytaygcnccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-53 light chain variable region nucleotide sequence (SEQ ID NO:662)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgymgngcnwsncarwsnathwsnwsntayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaycangcnwsnwsnytncarwsnggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanytncanathwsnwsnytncarccngargayttygcncant
aytaytgycarcarwsntayttycanccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-54 light chain variable region nucleotide sequence (SEQ ID NO:663)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaytayytnccnttycanttyggnccnggncanaargtngayathaa
r

U-V_L-55 light chain variable region nucleotide sequence (SEQ ID NO:663)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaytayytnccnttycanttyggnccnggncanaargtngayathaa
r

U-V_L-56 light chain variable region nucleotide sequence (SEQ ID NO:664)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccngarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartgygaygayytnccnytncanttyggnggnggncanaargtngarathaa
r

FIGURE 15K

U-V_L-57 light chain variable region nucleotide sequence (SEQ ID NO:665)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsngaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnytncanttyggnggnggncanaargtngarathaa
r

U-V_L-58 light chain variable region nucleotide sequence (SEQ ID NO:666)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytncanttyggnggnggncanaargtngarathaa
r

U-V_L-59 light chain variable region nucleotide sequence (SEQ ID NO:666)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtngcnathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytncanttyggnggnggncanaargtngarathaa
r

U-V_L-60 light chain variable region nucleotide sequence (SEQ ID NO:667)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnathytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsngarcangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartgygayathytnccnytnwsnttyggnggnggncanaargtngarathaa
r

U-V_L-61 light chain variable region nucleotide sequence (SEQ ID NO:668)

Gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnytngcnttyggnggnggncanaargtngarathmg
n

FIGURE 15L

U-V_L-62 light chain variable region nucleotide sequence (SEQ ID NO:669)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngayggngtncanathc
antgycargcnwsncargayathcanaaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygaywsnytnccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-63 light chain variable region nucleotide sequence (SEQ ID NO:670)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaytayytnaaytggtaycarcaraarytnggnaargc
nccnaarytnytnathcaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcartaygayaayytnccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-64 light chain variable region nucleotide sequence (SEQ ID NO:671)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsngaytayytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnathcanttyggncarggncanmgnytngarathaa
r

U-V_L-65 light chain variable region nucleotide sequence (SEQ ID NO:672)

gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggngaymgngtncanathc
antgycargcnwsncargayathwsnaaywsnytnaaytggtaycarcaraarccnggnaargc
nccnaarytnytnathtaygaygcnwsnaayytngarcanggngtnccnwsnmgnttywsnggn
wsnggnwsnggncangayttycanttycanathwsnwsnytncarccngargayathgcncant
aytaytgycarcaytaygayaayytnccnathcanttyggncarggncanmgnytngarathaa
r

FIGURE 15M

U-V_H-1 heavy chain variable region nucleotide sequence (SEQ ID NO:673)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanwsntayggnathwsntgggtnmgncargcnccnggnca
rggnytngartggatgggntggathwsngcnwsnaayggnaaycanaaytaygcncaraarytn
cargaymgngtncanatgcancangaycanwsncanwsncangcntayatggarytnmgnwsny
tnmgnwsngaygaycangcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-2 heavy chain variable region nucleotide sequence (SEQ ID NO:673)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanwsntayggnathwsntgggtnmgncargcnccnggnca
rggnytngartggatgggntggathwsngcnwsnaayggnaaycanaaytaygcncaraarytn
cargaymgngtncanatgcancangaycanwsncanwsncangcntayatggarytnmgnwsny
tnmgnwsngaygaycangcngtntaytaytgygcnmgngargayaaytggaaytayggnttytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-3 heavy chain variable region nucleotide sequence (SEQ ID NO:674)

cargtncayytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanttycanggncaytayatgcaytgggtnmgncargcnccnggnca
rggnytngartggatgggntggathaayccnaaywsnggnggncanaaytgygcncaraartty
carggnmgngtncanatgcanmgngaycanwsnathwsncangcntayatggarytnwsnmgny
tnmgnwsngaygaycangcngtntaytaytgygcnmgnwsnathgcngtngcnytngaytaytg
gggncarggncanytngtncangtnwsnwsn

U-V_H-4 heavy chain variable region nucleotide sequence (SEQ ID NO:675)

cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsnt
gyaargcnwsnggntaycanttycanggntaytayatgcaytgggtnmgncargcnccnggnca
rggnytngartggatgggntggathaayccnaaywsnggnggncanaaycaycancaraartty
carggnmgngtncanatgcanmgngaycanwsnathwsncangcntayatggarytnwsnmgny
tnmgnwsngaygaycangcngtntaytaytgygcnmgnwsnathgcngtngcnytngaytaytg
gggncarggncanytngtncangtnwsnwsn

U-V_H-5 heavy chain variable region nucleotide sequence (SEQ ID NO:676)

cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanytncangarytnwsnatgcaytgggtnmgncargcnccnggnaa
rggnytngartggatgggnwsnttygayccngargayggngarcanathtaygcncaraartty
carggnmgngtncanatgytngargaycanwsncangaycangcntayatggarytnwsnwsny
tnmgnwsngargaycangcngtntaytaytgygcncangarggngayggnggntaytaytayta
yggnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16A

U-V_H-6 heavy chain variable region nucleotide sequence (SEQ ID NO:676)

cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsnt
gyaargtnwsnggntaycanytncangarytnwsnatgcaytgggtnmgncargcnccnggnaa
rggnytngartggatgggnwsnttygayccngargayggngarcanathtaygcncaraartty
carggnmgngtncanatgytngargaycanwsncangaycangcntayatggarytnwsnwsny
tnmgnwsngargaycangcngtntaytaytgygcncangarggngayggnggntaytaytayta
yggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-7 heavy chain variable region nucleotide sequence (SEQ ID NO:677)

cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncant
gycangtnwsnggnttywsnytnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnytngartggytngcncayathttywsnaaygaygaraarwsntaywsncanwsn
ytnaarwsnmgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcnmgnatgtaywsnwsnggntggtaygg
ngtnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-8 heavy chain variable region nucleotide sequence (SEQ ID NO:678)

cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncant
gycangtnwsnggnttywsnytnwsnaaygcnmgnatgggngtnwsntggathmgncarccncc
nggnaargcnytngartggytngtnytnathttywsnaaygaygaraarwsntaywsncanwsn
ytnaarwsnmgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcnmgngtntaywsnwsnggntggwsntt
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-9 heavy chain variable region nucleotide sequence (SEQ ID NO:679)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnmgngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-10 heavy chain variable region nucleotide sequence (SEQ ID NO:680)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaarcancargtngtnytncangtncang
ayatggayccngtngaycangcncantaytaytgygcncaymgnaaytggcanccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16B

U-V_H-11 heavy chain variable region nucleotide sequence (SEQ ID NO:681)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnaaycanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnytngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-12 heavy chain variable region nucleotide sequence (SEQ ID NO:682)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayytngayccngtngaycangcncantaytaytgygcncaymgnmgngargtnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-13 heavy chain variable region nucleotide sequence (SEQ ID NO:683)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygtngaraarmgntaywsnccnwsn
ytnmgnwsnmgnytncanathcanaargcncanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgncaycanaayccnttygarta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-14 heavy chain variable region nucleotide sequence (SEQ ID NO:684)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnggngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

U-V_H-15 heavy chain variable region nucleotide sequence (SEQ ID NO:684)

carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncant
gycanttywsnggnttywsnytnwsncanggnggngtnggngtnggntggathmgncarccncc
nggnaargcnytngartggytngcnytnathtaytggaaygaygayaarmgntaywsnccnwsn
ytnaarwsnmgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcana
ayatggayccngtngaycangcncantaytaytgygcncaymgnggngarytnccnttygayta
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16C

U-V_H-16 heavy chain variable region nucleotide sequence (SEQ ID NO:685)

gargtncarytngtngarwsnggnggnggnytngtnaarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttyccnttywsnmgntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnwsnwsnwsnwsntayathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgngaymgngtnggngcncanccngaygc
nttygayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-17 heavy chain variable region nucleotide sequence (SEQ ID NO:686)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygcnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnaargarggnathgcngtngcnggncangc
ngartaytaytaytaytaygcnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-18 heavy chain variable region nucleotide sequence (SEQ ID NO:687)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnaargarggnathgcngcnmgngaywsnta
ytaytaytaygcnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-19 heavy chain variable region nucleotide sequence (SEQ ID NO:688)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gycangcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-20 heavy chain variable region nucleotide sequence (SEQ ID NO:688)

gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gycangcnwsnggnttycanttywsnwsntaygcnatgwsntgggtnmgncargcnccnggnaa
rggnytngartgggtnwsngcnathwsnggnwsnggnggnwsncantaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngartaytaytgygcnaargarggnathgcnggnmgngaywsnta
ytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16D

U-V_H-21 heavy chain variable region nucleotide sequence (SEQ ID NO:689)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcnttyathwsngaygayggnwsncanaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnatgaaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-22 heavy chain variable region nucleotide sequence (SEQ ID NO:689)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcnttyathwsngaygayggnwsncanaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnatgaaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsntaytaygaywsnwsnggntayta
ytayggnttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-23 heavy chain variable region nucleotide sequence (SEQ ID NO:690)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnaaygtnathgaytaytggggncargg
ncanytngtncangtnwsnwsn

U-V_H-24 heavy chain variable region nucleotide sequence (SEQ ID NO:691)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnggnggngcncanggngcngartaytt
ycarcaytggggncarggncanytngtncangtnwsnwsn

U-V_H-25 heavy chain variable region nucleotide sequence (SEQ ID NO:691)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaygayatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnathaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnggnggngcncanggngcngartaytt
ycarcaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16E

U-V_H-26 heavy chain variable region nucleotide sequence (SEQ ID NO:692)

Cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygtnytnytntggttyggngarcanttygayta
ytggggncarggnwsnytngtncangtnwsnccn

U-V_H-27 heavy chain variable region nucleotide sequence (SEQ ID NO:693)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggwsngayggnwsnaayaartaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnaayytnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

U-V_H-28 heavy chain variable region nucleotide sequence (SEQ ID NO:694)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtgggaygayggnwsnaaycartaytaycangaywsngtn
aarggnmgnttycangtnwsnmgngayaaywsnaaraaycanytnttyytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgnwsncaytayggnggngaytaygayta
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-29 heavy chain variable region nucleotide sequence (SEQ ID NO:695)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaarmgntaygtngaywsngtn
aarggnmgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgngayggntggcarcarcargcnccntt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-30 heavy chain variable region nucleotide sequence (SEQ ID NO:696)

cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttymgnwsncayggnatgcaytgggtnmgncargcnccnggnaa
rggnytngartgggtngcngtnathtggtaygayggnwsnaayaaraaytaygcngaywsngtn
mgnggnmgnttycanathwsnmgngayaaywsnaaraaycanytngayytncaratgaaywsny
tnmgngcngargaycangcngtntaytaytgygcnmgntggggnathwsngcnccnttygaytg
ytggggncarggncanytngtncangtnwsnwsn

FIGURE 16F

U-V_H-31 heavy chain variable region nucleotide sequence (SEQ ID NO:697)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsntayathwsnwsnwsnggnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytnttyytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnytntgggcnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

U-V_H-32 heavy chain variable region nucleotide sequence (SEQ ID NO:698)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnwsnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsngtntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayggnggngg
naaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-33 heavy chain variable region nucleotide sequence (SEQ ID NO:699)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnmgnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-34 heavy chain variable region nucleotide sequence (SEQ ID NO:699)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsnwsntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsncayathwsnmgnwsnwsnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnmgngayggntayaaytggaayaayggngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-35 heavy chain variable region nucleotide sequence (SEQ ID NO:700)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaayytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnggnccntaytayggnatggaygt
ntggggncarggncancangtncangtnwsnwsn

FIGURE 16G

U-V_H-36 heavy chain variable region nucleotide sequence (SEQ ID NO:701)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaycaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtnaayatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngcnytnmgnggnathgtnytnat
ggtntaygtnytnggngcnytngayathtggggncarggncanaargtncangtnwsnwsn

U-V_H-37 heavy chain variable region nucleotide sequence (SEQ ID NO:701)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnmgnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaycaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtnaayatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngcnytnmgnggnathgtnytnat
ggtntaygtnytnggngcnytngayathtggggncarggncanaargtncangtnwsnwsn

U-V_H-38 heavy chain variable region nucleotide sequence (SEQ ID NO:702)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaygarcangtngtnmgnggnyt
nathmgntaytgytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-39 heavy chain variable region nucleotide sequence (SEQ ID NO:703)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaayt
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanathwsngcngaycanwsnaaraaycarttywsnytnaarytnaayw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-40 heavy chain variable region nucleotide sequence (SEQ ID NO:704)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaayt
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanathwsngcngaycanwsnaaraaycarttywsnytnaarytnaayw
sngtncangcngcngaycangcngtntaytaytgygcnmgngaymgnggnggnggngaytaygg
nmgnatggaygtntggggncarggncancangtncangtnwsnwsn

FIGURE 16H

U-V_H-41 heavy chain variable region nucleotide sequence (SEQ ID NO:705)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanaarwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nytntggggnmgnggncanytngtncangtnwsnwsn

U-V_H-42 heavy chain variable region nucleotide sequence (SEQ ID NO:706)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaywsnwsnggnwsncantaytayaayccnwsn
ytnaarwsnmgnathcanaarwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsnaayaaytayggntgyttygc
nytntggggnmgnggncanytngtncangtnwsnwsn

U-V_H-43 heavy chain variable region nucleotide sequence (SEQ ID NO:707)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggnggntaytaytggwsntggathmgncarcaycc
nggnaarggnytngartggathggntayathcaytaywsnggnwsncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnwsnggntayaaytayggnytntayta
ytaygaywsnwsnggntayccnwsntaytaytayggnatggaygtntggggncarggncancan
gtncangtnwsnwsn

U-V_H-44 heavy chain variable region nucleotide sequence (SEQ ID NO:708)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnggncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnttyw
sngtncangcngcngaycangcngtntayttytgygcnmgncantaytaygayathytncangg
ntayccnttytayttygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-45 heavy chain variable region nucleotide sequence (SEQ ID NO:709)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsnggngaytaytaytggaaytgggtnmgncarcaycc
nggnaarggnytngartggathggntayathtaytaywsnggnggncantaytayaayccnwsn
ytnaarwsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnttyw
sngtncangcngcngaycangcngtntayttytgygcnmgncantaytaygayathytncangg
ntayccnttytayttygaytaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16I

U-V_H-46 heavy chain variable region nucleotide sequence (SEQ ID NO:710)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggtaytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-47 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-48 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-49 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

U-V_H-50 heavy chain variable region nucleotide sequence (SEQ ID NO:711)

cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncant
gygcngtntayggnggnwsnttywsnggntaytaytggwsntggathmgncarccnccnggnaa
rggnytngartggathggngarathaaycaywsnggnwsncanaaytayaayccnwsnytnaar
wsnmgngtncanathwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgnggnggntaywsnwsnwsntggttytggtt
ygayccntggggncarggncanytngtncangtnwsnwsn

FIGURE 16J

U-V_H-51 heavy chain variable region nucleotide sequence (SEQ ID NO:712)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsnathwsnwsntaytaytggwsntggathmgncarccngcnggnaa
rggnytngartggathggnmgnathtaycanwsnggncancanaaytayaayccnwsnytnaar
wsnmgngtncanatgwsngtngaycanwsnaaraaycarttywsnytnaarytnwsnwsngtnc
angcngcngaycangcngtntaytaytgygcnmgngayggntaywsntayggncaytaytayta
ytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-52 heavy chain variable region nucleotide sequence (SEQ ID NO:713)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncanaaytayaayccnwsn
ytnaarwsnmgngtncanathwsnathgtncanwsnmgnaaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsngcnytnmgntayttygaytg
gytnttywsngaygtnwsngayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-53 heavy chain variable region nucleotide sequence (SEQ ID NO:713)

cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncant
gycangtnwsnggnggnwsngtnwsnwsnggnggnwsntaytggwsntggathmgncarccncc
nggnaarggnytngartggathggntayathtaytaywsnggnwsncanaaytayaayccnwsn
ytnaarwsnmgngtncanathwsnathgtncanwsnmgnaaycarttywsnytnaarytnwsnw
sngtncangcngcngaycangcngtntaytaytgygcnmgnwsngcnytnmgntayttygaytg
gytnttywsngaygtnwsngayathtggggncarggncanatggtncangtnwsnwsn

U-V_H-54 heavy chain variable region nucleotide sequence (SEQ ID NO:714)

gargtncarytngtncarwsnggngcngarytnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaymgnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccngaygaywsngaycanmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathwsncangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncaraarwsntayggntaywsntaytt
ygaytaytggggncarggncanytngtncangtnwsnwsn

U-V_H-55 heavy chain variable region nucleotide sequence (SEQ ID NO:715)

gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaywsnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccngaygaywsngaygcnmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathaaycangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncarggntayggnwsnggntggggnta
yttygaytaytggggncarggncanytngtncangtnwsnwsn

FIGURE 16K

U-V_H-56 heavy chain variable region nucleotide sequence (SEQ ID NO:716)

gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsnt
gyaarggnwsnggntaywsnttycanwsntaytggathggntgggtnmgncaratgccnggnaa
rggnytngartggatgggnathathtayccnggngaywsngayathmgntaywsnccnwsntty
carggncargtncanathwsngcngayaarwsnathwsncangcntayytncartggwsnwsny
tnaargcnwsngaycangcnatgtaytaytgygcnmgncarggnytngcngtngcnggncanws
ntaytaytaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-57 heavy chain variable region nucleotide sequence (SEQ ID NO:717)

cargtncarytncarcarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncant
gygcnathwsnggngaywsngtnwsnwsntaywsngcngcntggaaytggathmgncarwsncc
nwsnmgnggnytngartggytnggnmgncantaytgymgnwsnaartggtayaaygaytaygcn
gtnwsngtnaarwsnmgnathcanathaayccngaycanwsnaaraaycarttywsnytncary
tnaaywsngtncanccngargaycangcngtntaytaytgygcnmgngaymgngcngtngcngg
ntaytaytayggnatggaygtntggggncarggncancangtncangtnwsnwsn

U-V_H-58 heavy chain variable region nucleotide sequence (SEQ ID NO:697)

gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsnt
gygcngcnwsnggnttycanttywsngcntaywsnatgaaytgggtnmgncargcnccnggnaa
rggnytngartgggtnwsntayathwsnwsnwsnggnmgncanathtaytaygcngaywsngtn
aarggnmgnttycanathwsnmgngayaaygcnaaraaywsnytnttyytncaratgaaywsny
tnmgngaygargaycangcngtntaytaytgygcnytntgggcnccnttygaytaytggggnca
rggncanytngtncangtnwsnwsn

FIGURE 16L

LIGHT CHAIN CONSTANT REGION NUCLEOTIDE SEQUENCE

CGAACTGTGGCTGCACCATCTGTCTTCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCTAGCGTTGT
GTGCCTGCTGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGATAACGCCCTCCAATCGGGTAACT
CCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGACAGCACCTACAGCCTCAGCAGCACCCTGACGCTGAGCAAAGCA
GACTACGAGAAACACAAAGTCTACGCCTGCGAAGTCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAA
CAGGGGAGAGTGTTAG (SEQ ID NO:718)

FIGURE 17A

HEAVY CHAIN CONSTANT REGION NUCLEOTIDE SEQUENCE

GCCTCCACCAAGGGCCCATCGGTCTTCCCCCTGGCGCCCTGCTCTAGAAGCACCTCCGAGAGCACAGCGGCCCTGGG
CTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCGTGGAACTCAGGCGCTCTGACCAGCGGCGTGCACA
CCTTCCCAGCTGTCCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAACTTCGGC
ACCCAGACCTACACATGCAACGTAGATCACAAGCCCAGCAACACCAAGGTGGACAAGACAGTTGAGCGCAAATGTTG
TGTCGAGTGCCCACCGTGCCCAGCACCACCTGTGGCAGGACCGTCAGTCTTCCTCTTCCCCCCAAAACCCAAGGACA
CCCTCATGATCTCCCGGACCCCTGAGGTCACGTGCGTGGTGGTGGACGTGAGCCACGAAGACCCCGAGGTCCAGTTC
AACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCACGGGAGGAGCAGTTCAACAGCACGTTCCG
TGTGGTCAGCGTCCTCACCGTTGTGCACCAGGACTGGCTGAACGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAG
GCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAAACCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCC
CCATCCCGGGAGGAGATGACCAAGAACCAGGTCAGCCTGACCTGCCTGGTCAAAGGCTTCTACCCCAGCGACATCGC
CGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACTACAAGACCACACCTCCCATGCTGGACTCCGACGGCTCCT
TCTTCCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCAT
GAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATGA (SEQ ID NO:719)

FIGURE 17B

LIGHT CHAIN CDR NUCLEOTIDE SEQUENCES

NAME	SEQUENCE	SEQ ID NO
CDRL1-1	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-2	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-3	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-4	mgnwsnwsncarwsnytngtntaywsngayggnaaycantayytnaay	720
CDRL1-5	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-6	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-7	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-8	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-9	aarwsnwsncarwsnytnytncaywsngayggnaarcantayytntay	721
CDRL1-11	mgngcnwsncarggnathgcnaaytayytngcn	722
CDRL1-12	mgngcnwsncarggnathwsnaaygayytngcn	723
CDRL1-13	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-14	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-15	mgnwsnwsncarwsnytngtncaywsngayggnaaycantayytnwsn	724
CDRL1-16	mgngcnwsncarcangtnathwsnwsntayytngcn	725
CDRL1-17	mgngcnwsncarwsngtnwsnmgnytngcn	726
CDRL1-18	mgngcnwsncarggnathmgnaaygayytnggn	727
CDRL1-19	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtn	728
CDRL1-20	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngtn	728
CDRL1-21	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-22	aarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcn	730
CDRL1-23	aarwsnwsncaraaygtnytntaywsnwsnaayaayaaraaytayytngcn	730
CDRL1-24	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-25	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-26	aarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcn	731

FIGURE 18A

NAME	SEQUENCE	SEQ ID NO
CDRL1-27	aarwsnwsncarwsngtnytntayaaywsnaayaayaaraaytayytngcn	731
CDRL1-28	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-29	aarwsnwsncarwsngtnytntaywsnwsnaayaayaaraaytayytngcn	729
CDRL1-30	aarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcn	732
CDRL1-31	aarwsnwsncarwsngtnytngaywsnwsnaayaayaaraaytayytngcn	732
CDRL1-32	aarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcn	733
CDRL1-33	aarwsnwsncarwsnathytntaymgnwsnaayaayaaraaytayytngcn	733
CDRL1-34	mgngcnwsncargayathwsncaytayytngcn	734
CDRL1-35	mgngcnwsncargayathwsnaaytayytngcn	735
CDRL1-36	mgngcnwsncarwsngtnwsnwsnaayytngcn	736
CDRL1-37	mgngcnwsncarwsngtnwsnwsnaayytngcn	736
CDRL1-38	mgngcnwsncargayathwsnmgntggytngcn	737
CDRL1-39	mgngcnwsncarwsnathwsncantayytnaay	738
CDRL1-40	mgngcnwsncarcanathwsnathtayytnaay	739
CDRL1-41	mgngcnwsncarwsnathmgnwsntayytnaay	740
CDRL1-42	mgngcnwsncarcanathwsnmgntayytnaay	741
CDRL1-43	mgngcnwsncarmgnathwsnwsntayytnaay	742
CDRL1-44	mgngcnwsncarwsnathwsnmgntayytnaay	743
CDRL1-45	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-46	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-47	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-48	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-49	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-50	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-51	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-52	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-53	mgngcnwsncarwsnathwsnwsntayytnaay	744
CDRL1-54	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-55	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-56	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-57	cargcnwsncargayathwsngaytayytnaay	747

FIGURE 18B

NAME	SEQUENCE	SEQ ID NO
CDRL1-58	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-59	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-60	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-61	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL1-62	cargcnwsncargayathcanaaytayytnaay	748
CDRL1-63	cargcnwsncargayathwsnaaytayytnaay	745
CDRL1-64	cargcnwsncargayathwsngaytayytnaay	747
CDRL1-65	cargcnwsncargayathwsnaaywsnytnaay	746
CDRL2-1	aargtnwsnaaytgggaywsn	749
CDRL2-2	aargtnwsnaaytgggaywsn	749
CDRL2-3	aargtnwsnaaytgggaywsn	749
CDRL2-4	aargtnwsnaaytgggaywsn	749
CDRL2-5	gargtnwsnaaymgnttywsn	750
CDRL2-6	gargtnwsnaaymgnttywsn	750
CDRL2-7	gargtnwsnaaymgnttywsn	750
CDRL2-8	gargtnwsnaaymgnttywsn	750
CDRL2-9	gargtnwsnaaymgnttywsn	750
CDRL2-11	gtngcnwsncanytncarwsn	751
CDRL2-12	gcngcnwsncanytncarwsn	752
CDRL2-13	aarathwsnaaymgnttywsn	753
CDRL2-14	aarathwsnaaymgnttywsn	753
CDRL2-15	aarathwsnaaymgnttywsn	753
CDRL2-16	ggngcnwsnwsnmgngcncan	754
CDRL2-17	ggngcnwsnmgnmgngcncan	755
CDRL2-18	gcngcnwsnwsnytncarwsn	756
CDRL2-19	tgggcnwsncanmgngarwsn	757
CDRL2-20	tgggcnwsncanmgngarwsn	757
CDRL2-21	tgggcnwsncanmgngarwsn	757
CDRL2-22	tgggcnwsncanmgngarwsn	757
CDRL2-23	tgggcnwsncanmgngarwsn	757
CDRL2-24	tgggcnwsncanmgngarwsn	757
CDRL2-25	tgggcnwsncanmgngarwsn	757
CDRL2-26	tgggcnwsncanmgngarwsn	757
CDRL2-27	tgggcnwsncanmgngarwsn	757
CDRL2-28	tgggcnwsncanmgnaarwsn	758
CDRL2-29	tgggcnwsncanmgnaarwsn	758

FIGURE 18C

NAME	SEQUENCE	SEQ ID NO
CDRL2-30	tgggcnwsncanmgngarwsn	757
CDRL2-31	tgggcnwsncanmgngarwsn	757
CDRL2-32	tgggcnwsngcnmgngarwsn	759
CDRL2-33	tgggcnwsngcnmgngarwsn	759
CDRL2-34	gcngcnwsnwsnytncarwsn	756
CDRL2-35	gcngcnwsnwsnytncarwsn	756
CDRL2-36	ggngcnwsnmgnmgngcncan	755
CDRL2-37	ggngcnwsnmgnmgngcncan	755
CDRL2-38	gcngcnwsnwsnytncarwsn	756
CDRL2-39	gcngcnwsnwsnytncarwsn	756
CDRL2-40	gcngcnwsnwsnytncarwsn	756
CDRL2-41	gcngcnwsnwsnytncarwsn	756
CDRL2-42	gcngcnwsncanytncarwsn	752
CDRL2-43	gcngarwsnwsnytncarwsn	760
CDRL2-44	cangcnwsnwsnytncarwsn	761
CDRL2-45	cangcnwsnwsnytncarwsn	761
CDRL2-46	cangcnwsnwsnytncarwsn	761
CDRL2-47	cangcnwsnwsnytncarwsn	761
CDRL2-48	cangtnwsnwsnytncarwsn	762
CDRL2-49	cangtnwsnwsnytncarwsn	762
CDRL2-50	cangtnwsnwsnytncarwsn	762
CDRL2-51	cangcnwsnwsnytncarwsn	761
CDRL2-52	cangcnwsnwsnytncarwsn	761
CDRL2-53	cangcnwsnwsnytncarwsn	761
CDRL2-54	gaygcnwsnaayytngarcan	763
CDRL2-55	gaygcnwsnaayytngarcan	763
CDRL2-56	gaygcnwsnaayytngarcan	763
CDRL2-57	gaygcnwsnaayytngarcan	763
CDRL2-58	gaygcnwsnaayytngarcan	763
CDRL2-59	gaygcnwsnaayytngarcan	763
CDRL2-60	gaygcnwsnathytngarcan	764
CDRL2-61	gaygcnwsnaayytngarcan	763
CDRL2-62	gaygcnwsnaayytngarcan	763
CDRL2-63	gaygcnwsnaayytngarcan	763
CDRL2-64	gaygcnwsnaayytngarcan	763
CDRL2-65	gaygcnwsnaayytngarcan	763

FIGURE 18D

NAME	SEQUENCE	SEQ ID NO
CDRL3-1	atgcarwsncancaytggccnathcan	765
CDRL3-2	athcarggncancaytggccncancan	766
CDRL3-3	atgcarggncancaytggccnathcan	767
CDRL3-4	atgcarggncancaytggccnathcan	767
CDRL3-5	atgcarggnathcarytnccntgywsn	768
CDRL3-6	atgcarwsnathcarytnccnytncan	769
CDRL3-7	atgcarwsnathcarytnccnytncan	769
CDRL3-8	atgcarwsnathcarytnccnathcan	770
CDRL3-9	atgcarwsnathcarytnccnathcan	770
CDRL3-11	caraaytayaaywsngcnccnttycan	771
CDRL3-12	caraartayaaywsngtnccnytncan	772
CDRL3-13	atgcargcncancarttyccncaycan	773
CDRL3-14	atgcargcncancarttyccncaycan	773
CDRL3-15	atgcargcncancarttyccncaycan	773
CDRL3-16	carcartayggnwsnwsnccnmgncan	774
CDRL3-17	carcartayggnwsnwsnccnmgnwsn	775
CDRL3-18	ytncarcayaaywsntayccnccncan	776
CDRL3-19	carcartaytaywsnttyccntggcan	777
CDRL3-20	carcartaytaywsnttyccntggcan	777
CDRL3-21	carcartaytaywsncancantggcan	778
CDRL3-22	carcartaytayggncanccnmgncan	779
CDRL3-23	carcartaytayggncanccnmgncan	779
CDRL3-24	carcartaytaywsnathwsnmgncan	780
CDRL3-25	carcartaytaywsnathwsnmgncan	780
CDRL3-26	carcartaytaywsncancantggcan	778
CDRL3-27	carcartaytaywsncancantggcan	778
CDRL3-28	carcartaytaywsncanatgttywsn	781
CDRL3-29	carcartaytaywsncanatgttywsn	781
CDRL3-30	caycartaytaywsncanccnytncan	782
CDRL3-31	caycartaytaywsncanccnytncan	782
CDRL3-32	carcartayttyathcanccnytncan	783
CDRL3-33	carcartayttyathcanccnytncan	783
CDRL3-34	carcartayaayaaytayccnttycan	784
CDRL3-35	carcartayaaycantayccnttycan	785
CDRL3-36	carcarcayaayaaytggccnccntggcan	786
CDRL3-37	carcarcayaayaaytggccnccntggcan	786

FIGURE 18E

NAME	SEQUENCE	SEQ ID NO
CDRL3-38	carcargcnaaywsnttyccnccncan	787
CDRL3-39	carcarwsncaywsngcnccnttycan	788
CDRL3-40	carcarwsntaywsncanytncan	789
CDRL3-41	carcarwsntaywsnathccnytncan	790
CDRL3-42	carcarathtaywsncanwsnathcan	791
CDRL3-43	carcarwsntayathcanccnathcan	792
CDRL3-44	carcarwsntayttycanccnathcan	793
CDRL3-45	carcarwsntayttywsnccnathcan	794
CDRL3-46	carcarwsnttytaycanccnathcan	795
CDRL3-47	carcarwsnttytaycanccnathcan	795
CDRL3-48	carcarwsntayttycanccnathcan	793
CDRL3-49	carcarwsntayttycanccnathcan	793
CDRL3-50	carcarwsntayttycanccnathcan	793
CDRL3-51	carcarwsnttytaygcnccnathcan	796
CDRL3-52	carcarwsnttytaygcnccnathcan	796
CDRL3-53	carcarwsntayttycanccnathcan	793
CDRL3-54	carcartaygaytayytnccnttycan	797
CDRL3-55	carcartaygaytayytnccnttycan	797
CDRL3-56	carcartgygaygayytnccnytncan	798
CDRL3-57	carcaytaygayaayytnccnytncan	799
CDRL3-58	carcartaygayaayytnccnytncan	800
CDRL3-59	carcartaygayaayytnccnytncan	800
CDRL3-60	carcartgygayathytnccnytnwsn	801
CDRL3-61	carcartaygayaayytnccnytngcn	802
CDRL3-62	carcartaygaywsnytnccnathcan	803
CDRL3-63	carcartaygayaayytnccnathcan	804
CDRL3-64	carcaytaygayaayytnccnathcan	805
CDRL3-65	carcaytaygayaayytnccnathcan	805

FIGURE 18F

HEAVY CHAIN CDR NUCLEOTIDE SEQUENCES

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-1	CDRH1-10.1	ggntaycanttycanwsntayggnathwsn	806
CDRH1-2	CDRH1-10	ggntaycanttycanwsntayggnathwsn	806
CDRH1-3	CDRH1-42	ggntaycanttycanggncaytayatgcay	807
CDRH1-4	CDRH1-40	ggntaycanttycanggntaytayatgcay	808
CDRH1-5	CDRH1-30	ggntaycanytncangarytnwsnatgcay	809
CDRH1-6	CDRH1-31	ggntaycanytncangarytnwsnatgcay	809
CDRH1-7	CDRH1-29	ggnttywsnytnwsnaaygcnmgnatgggngtnwsn	810
CDRH1-8	CDRH1-20	ggnttywsnytnwsnaaygcnmgnatgggngtnwsn	810
CDRH1-9	CDRH1-65	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-10	CDRH1-56	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-11	CDRH1-62	ggnttywsnytnaaycanggnggngtnggngtnggn	812
CDRH1-12	CDRH1-2	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-13	CDRH1-59	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-14	CDRH1-57	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-15	CDRH1-64	ggnttywsnytnwsncanggnggngtnggngtnggn	811
CDRH1-16	CDRH1-41	ggnttyccnttywsnmgntaywsnatgaay	813
CDRH1-17	CDRH1-45	ggnttycanttywsnwsntaygcnatgaay	814
CDRH1-18	CDRH1-47	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-19	CDRH1-51	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-20	CDRH1-52	ggnttycanttywsnwsntaygcnatgwsn	815
CDRH1-21	CDRH1-13	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-22	CDRH1-14	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-23	CDRH1-1	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-24	CDRH1-22	ggnttycanttywsnwsntaygayatgcay	817
CDRH1-25	CDRH1-23	ggnttycanttywsnwsntaygayatgcay	817
CDRH1-26	CDRH1-12	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-27	CDRH1-5	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-28	CDRH1-15	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-29	CDRH1-7	ggnttycanttywsnwsntayggnatgcay	816
CDRH1-30	CDRH1-61	ggnttycanttymgnwsncayggnatgcay	818
CDRH1-31	CDRH1-39	ggnttycanttywsngcntaywsnatgaay	819
CDRH1-32	CDRH1-34	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-33	CDRH1-6	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-34	CDRH1-35	ggnttycanttywsnwsntaywsnatgaay	820
CDRH1-35	CDRH1-21	ggnggnwsngtnwsnwsnggnggntaytaytggwsn	821
CDRH1-36	CDRH1-8	ggnggnwsnathwsnmgnggnggntaytaytggwsn	822
CDRH1-37	CDRH1-9	ggnggnwsnathwsnmgnggnggntaytaytggwsn	822
CDRH1-38	CDRH1-18	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823

FIGURE 19A

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH1-39	CDRH1-24	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-40	CDRH1-25	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-41	CDRH1-26	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-42	CDRH1-27	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-43	CDRH1-38	ggnggnwsnathwsnwsnggnggntaytaytggwsn	823
CDRH1-44	CDRH1-54	ggnggnwsnathwsnwsnggngaytaytaytggaay	824
CDRH1-45	CDRH1-55	ggnggnwsnathwsnwsnggngaytaytaytggaay	824
CDRH1-46	CDRH1-43	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-47	CDRH1-44	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-48	CDRH1-49	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-49	CDRH1-50	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-50	CDRH1-53	ggnggnwsnttywsnggntaytaytggwsn	825
CDRH1-51	CDRH1-33	ggnggnwsnathwsnwsntaytaytggwsn	826
CDRH1-52	CDRH1-3	ggnggnwsngtnwsnwsnggnggnwsntaytggwsn	827
CDRH1-53	CDRH1-4	ggnggnwsngtnwsnwsnggnggnwsntaytggwsn	827
CDRH1-54	CDRH1-16	ggntaymgnttycanwsntaytggathggn	828
CDRH1-55	CDRH1-17	ggntaywsnttycanwsntaytggathggn	829
CDRH1-56	CDRH1-11	ggntaywsnttycanwsntaytggathggn	829
CDRH1-57	CDRH1-37	ggngaywsngtnwsnwsntaywsngcngcntggaay	830
CDRH1-58	CDRH1-39.1	ggnttycanttywsngcntaywsnatgaay	819
CDRH2-1	CDRH2-10.1	tggathwsngcnwsnaayggnaaycanaaytaygcncaraar ytncargay	831
CDRH2-2	CDRH2-10	tggathwsngcnwsnaayggnaaycanaaytaygcncaraar ytncargay	831
CDRH2-3	CDRH2-42	tggathaayccnaaywsnggnggncanaaytgygcncaraar ttycarggn	832
CDRH2-4	CDRH2-40	tggathaayccnaaywsnggnggncanaaycaycancaraar ttycarggn	833
CDRH2-5	CDRH2-30	wsnttygayccngargayggngarcanathtaygcncaraar ttycarggn	834
CDRH2-6	CDRH2-31	wsnttygayccngargayggngarcanathtaygcncaraar ttycarggn	834
CDRH2-7	CDRH2-29	cayathttywsnaaygaygaraarwsntaywsncanwsnytn aarwsn	835
CDRH2-8	CDRH2-20	ytnathttywsnaaygaygaraarwsntaywsncanwsnytn aarwsn	836
CDRH2-9	CDRH2-65	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837

FIGURE 19B

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-10	CDRH2-56	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-11	CDRH2-62	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-12	CDRH2-2	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-13	CDRH2-59	ytnathtaytggaaygtngaraarmgntaywsnccnwsnytn mgnwsn	838
CDRH2-14	CDRH2-57	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-15	CDRH2-64	ytnathtaytggaaygaygayaarmgntaywsnccnwsnytn aarwsn	837
CDRH2-16	CDRH2-41	gcnathwsnwsnwsnwsnwsntayathtaytaygcngaywsn gtnaarggn	839
CDRH2-17	CDRH2-45	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-18	CDRH2-47	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-19	CDRH2-51	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-20	CDRH2-52	gcnathwsnggnwsnggnggnwsncantaytaygcngaywsn gtnaarggn	840
CDRH2-21	CDRH2-13	ttyathwsngaygayggnwsncanaartaytaygcngaywsn gtnaarggn	841
CDRH2-22	CDRH2-14	ttyathwsngaygayggnwsncanaartaytaygcngaywsn gtnaarggn	841
CDRH2-23	CDRH2-1	gtnathtggtaygayggnwsnaayaartaytaygcngaywsn gtnaarggn	842
CDRH2-24	CDRH2-22	gtnathtggtaygayggnwsnathaartaytaygcngaywsn gtnaarggn	843
CDRH2-25	CDRH2-23	gtnathtggtaygayggnwsnathaartaytaygcngaywsn gtnaarggn	843
CDRH2-26	CDRH2-12	gtnathtggtaygayggnwsnaayaartaytaygcngaywsn gtnaarggn	842
CDRH2-27	CDRH2-5	gtnathtggwsngayggnwsnaayaartaytaygcngaywsn gtnaarggn	844
CDRH2-28	CDRH2-15	gtnathtgggaygayggnwsnaaycartaytaycangaywsn gtnaarggn	845

FIGURE 19C

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-29	CDRH2-7	gtnathtggtaygayggnwsnaayaarmgntaygtngaywsn gtnaarggn	846
CDRH2-30	CDRH2-61	gtnathtggtaygayggnwsnaayaaraaytaygcngaywsn gtnmgnggn	847
CDRH2-31	CDRH2-39	tayathwsnwsnwsnggnmgncanathtaytaygcngaywsn gtnaarggn	848
CDRH2-32	CDRH2-34	cayathwsnwsnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	849
CDRH2-33	CDRH2-6	cayathwsnmgnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	850
CDRH2-34	CDRH2-35	cayathwsnmgnwsnwsnmgncanathtaytaygcngaywsn gtnaarggn	850
CDRH2-35	CDRH2-21	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-36	CDRH2-8	tayathtaycaywsnggnwsncantaytayaayccnwsnytn aarwsn	852
CDRH2-37	CDRH2-9	tayathtaycaywsnggnwsncantaytayaayccnwsnytn aarwsn	852
CDRH2-38	CDRH2-18	tayathtaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	853
CDRH2-39	CDRH2-24	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-40	CDRH2-25	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-41	CDRH2-26	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-42	CDRH2-27	tayathcaywsnwsnggnwsncantaytayaayccnwsnytn aarwsn	851
CDRH2-43	CDRH2-38	tayathcaytaywsnggnwsncantaytayaayccnwsnytn aarwsn	854
CDRH2-44	CDRH2-54	tayathtaytaywsnggnggncantaytayaayccnwsnytn aarwsn	855
CDRH2-45	CDRH2-55	tayathtaytaywsnggnggncantaytayaayccnwsnytn aarwsn	855
CDRH2-46	CDRH2-43	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-47	CDRH2-44	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856

FIGURE 19D

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH2-48	CDRH2-49	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-49	CDRH2-50	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-50	CDRH2-53	garathaaycaywsnggnwsncanaaytayaayccnwsnytn aarwsn	856
CDRH2-51	CDRH2-33	mgnathtaycanwsnggncancanaaytayaayccnwsnytn aarwsn	857
CDRH2-52	CDRH2-3	tayathtaytaywsnggnwsncanaaytayaayccnwsnytn aarwsn	858
CDRH2-53	CDRH2-4	tayathtaytaywsnggnwsncanaaytayaayccnwsnytn aarwsn	858
CDRH2-54	CDRH2-16	athathtayccngaygaywsngaycanmgntaywsnccnwsn ttycarggn	859
CDRH2-55	CDRH2-17	athathtayccngaygaywsngaygcnmgntaywsnccnwsn ttycarggn	860
CDRH2-56	CDRH2-11	athathtayccnggngaywsngayathmgntaywsnccnwsn ttycarggn	861
CDRH2-57	CDRH2-37	mgncantaytgymgnwsnaartggtayaaygaytaygcngtn wsngtnaarwsn	862
CDRH2-58	CDRH2-39.1	tayathwsnwsnwsnggnmgncanathtaytaygcngaywsn gtnaarggn	848
CDRH3-1	CDRH3-10.1	gargayaaytggaaytayggnttyttygaytay	863
CDRH3-2	CDRH3-10	gargayaaytggaaytayggnttyttygaytay	863
CDRH3-3	CDRH3-42	wsnathgcngtngcnytngaytay	864
CDRH3-4	CDRH3-40	wsnathgcngtngcnytngaytay	864
CDRH3-5	CDRH3-30	garggngayggnggntaytaytaytayggnatggaygtn	865
CDRH3-6	CDRH3-31	garggngayggnggntaytaytaytayggnatggaygtn	865
CDRH3-7	CDRH3-29	atgtaywsnwsnggntggtayggngtnttygaytay	866
CDRH3-8	CDRH3-20	gtntaywsnwsnggntggwsnttytayggnatggaygtn	867
CDRH3-9	CDRH3-65	mgnmgngarytnccnttygaytay	868
CDRH3-10	CDRH3-56	mgnaaytggcanccnttygaytay	869
CDRH3-11	CDRH3-62	mgnytngarytnccnttygaytay	870
CDRH3-12	CDRH3-2	mgnmgngargtnccnttygaytay	871
CDRH3-13	CDRH3-59	mgncaycanaayccnttygartay	872
CDRH3-14	CDRH3-57	mgnggngarytnccnttygaytay	873
CDRH3-15	CDRH3-64	mgnggngarytnccnttygaytay	873
CDRH3-16	CDRH3-41	gaymgngtnggngcncanccngaygcnttygayath	874

FIGURE 19E

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-17	CDRH3-45	garggnathgcngtngcnggncangcngartaytaytaytay taygcnatggaygtn	875
CDRH3-18	CDRH3-47	garggnathgcngcnmgngaywsntaytaytaytaygcnatg gaygtn	876
CDRH3-19	CDRH3-51	garggnathgcnggnmgngaywsntaytaytaytayggnatg gaygtn	877
CDRH3-20	CDRH3-52	garggnathgcnggnmgngaywsntaytaytaytayggnatg gaygtn	877
CDRH3-21	CDRH3-13	wsntaytaygaywsnwsnggntaytaytayggnttygaytay	878
CDRH3-22	CDRH3-14	wsntaytaygaywsnwsnggntaytaytayggnttygaytay	878
CDRH3-23	CDRH3-1	aaygtnathgaytay	879
CDRH3-24	CDRH3-22	ggnggngcncanggngcngartayttycarcay	880
CDRH3-25	CDRH3-23	ggnggngcncanggngcngartayttycarcay	880
CDRH3-26	CDRH3-12	ytntggttyggngarcanttygaytay	881
CDRH3-27	CDRH3-5	aayytnccnttygaytay	882
CDRH3-28	CDRH3-15	wsncaytayggnggngaytaygaytaytayggnatggaygtn	883
CDRH3-29	CDRH3-7	gayggntggcarcarcargcnccnttygaytay	884
CDRH3-30	CDRH3-61	tggggnathwsngcnccnttygaytgy	885
CDRH3-31	CDRH3-39	tgggcnccnttygaytay	886
CDRH3-32	CDRH3-34	gayggntayaaytggaayggnggnggnaaytaytayggnatg gaygtn	887
CDRH3-33	CDRH3-6	gayggntayaaytggaayaayggnggntaytaytayggnatg gaygtn	888
CDRH3-34	CDRH3-35	gayggntayaaytggaayaayggnggntaytaytayggnatg gaygtn	888
CDRH3-35	CDRH3-21	ggnccntaytayggnatggaygtn	889
CDRH3-36	CDRH3-8	gcnytnmgnggnathgtnytnatggtntaygtnytnggngcn ytngayath	890
CDRH3-37	CDRH3-9	gcnytnmgnggnathgtnytnatggtntaygtnytnggngcn ytngayath	890
CDRH3-38	CDRH3-18	gaygarcangtngtnmgnggnytnathmgntaytgytayggn atggaygtn	891
CDRH3-39	CDRH3-24	gaymgnggnggnggngaytayggnmgnatggaygtn	892
CDRH3-40	CDRH3-25	gaymgnggnggnggngaytayggnmgnatggaygtn	892
CDRH3-41	CDRH3-26	wsnaayaaytayggntgyttygcnytn	893
CDRH3-42	CDRH3-27	wsnaayaaytayggntgyttygcnytn	893
CDRH3-43	CDRH3-38	ggntayaaytayggnytntaytaytaygaywsnwsnggntay ccnwsntaytaytayggnatggaygtn	894
CDRH3-44	CDRH3-54	cantaytaygayathytncanggntayccnttytayttygay tay	895

FIGURE 19F

NAME	NAME	SEQUENCE	SEQ ID NO:
CDRH3-45	CDRH3-55	cantaytaygayathytncanggntayccnttytayttygaytay	895
CDRH3-46	CDRH3-43	ggnggntaywsnwsnwsntggtaytggttygayccn	896
CDRH3-47	CDRH3-44	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-48	CDRH3-49	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-49	CDRH3-50	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-50	CDRH3-53	ggnggntaywsnwsnwsntggttytggttygayccn	897
CDRH3-51	CDRH3-33	gayggntaywsntayggncaytaytaytaytayggnatggaygtn	898
CDRH3-52	CDRH3-3	wsngcnytnmgntayttygaytggytnttywsngaygtnwsngayath	899
CDRH3-53	CDRH3-4	wsngcnytnmgntayttygaytggytnttywsngaygtnwsngayath	899
CDRH3-54	CDRH3-16	caraarwsntayggntaywsntayttygaytay	900
CDRH3-55	CDRH3-17	carggntayggnwsnggntggggntayttygaytay	901
CDRH3-56	CDRH3-11	carggnytngcngtngcnggncanwsntaytaytaytaytayggnatggaygtn	902
CDRH3-57	CDRH3-37	gaymgngcngtngcnggntaytaytayggnatggaygtn	903
CDRH3-58	CDRH3-39.1	tgggcnccnttygaytay	886

FIGURE 19G

LIGHT CHAIN FR NUCLEOTIDE SEQUENCES

NAME	SEQUENCE	SEQ ID NO:
FRL1-1	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	919
FRL1-2	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	919
FRL1-3	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	920
FRL1-4	gaygtngtnatgcancarwsnccnytnwsnytnccngtncanytnggn carccngcnwsnathwsntgy	920
FRL1-5	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-6	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-7	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	921
FRL1-8	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	922
FRL1-9	gayathgtnatgcancarcanccnytnwsnytnwsngtncanccnggn carccngcnwsnathwsntgy	922
FRL1-11	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	923
FRL1-12	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathathtgy	923
FRL1-13	aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-14	aayathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-15	garathgtnatgcancarcanccnytnwsnwsnccngtncanytnggn carccngcnwsnathwsntgy	924
FRL1-16	garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggn garmgngcncanytnwsntgy	925
FRL1-17	garathgtnytncancarwsnccnggncanytnwsnytnwsnccnggn garmgngcncanytnwsntgy	926
FRL1-18	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	927
FRL1-19	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	928

FIGURE 20A

NAME	SEQUENCE	SEQ ID NO:
FRL1-20	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	928
FRL1-21	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-22	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-23	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-24	gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-25	gayathgtnatgcancarwsnccngaywsnytncangtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-26	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-27	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-28	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	930
FRL1-29	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	930
FRL1-30	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-31	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-32	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-33	gayathgtnatgcancarwsnccngaywsnytngcngtnwsnytnggn garmgngcncanathaaytgy	929
FRL1-34	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	931
FRL1-35	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	932
FRL1-36	garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggn garmgngcncanytnwsntgy	933
FRL1-37	garathgtnatgcancarwsnccngcncanytnwsngtnwsnccnggn garmgngcncanytnwsntgy	933
FRL1-38	gayathcaratgcancarwsnccnwsnwsngtnwsngcnwsngtnggn gaymgngtncanathcantgy	934

FIGURE 20B

NAME	SEQUENCE	SEQ ID NO:
FRL1-39	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	935
FRL1-40	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsnytnggn gaymgngtncanathcantgy	934
FRL1-41	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	936
FRL1-42	gayathcaratgcancarwsnccnwsnwsnmgnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-43	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	937
FRL1-44	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-45	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-46	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-47	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-48	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-49	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-50	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-51	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-52	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-53	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-54	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-55	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-56	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	938
FRL1-57	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934

FIGURE 20C

NAME	SEQUENCE	SEQ ID NO:
FRL1-58	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	934
FRL1-59	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtngcnathcantgy	934
FRL1-60	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-61	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-62	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gayggngtncanathcantgy	934
FRL1-63	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	939
FRL1-64	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL1-65	gayathcaratgcancarwsnccnwsnwsnytnwsngcnwsngtnggn gaymgngtncanathcantgy	934
FRL2-1	tggttycarcarmgnccnggncarwsnccnmgnmgnytnathtay	939
FRL2-2	tggttycarcarmgnccnggncarwsnccnmgnmgnytnathtay	939
FRL2-3	tggytncarcarmgnccnggncarwsnccnmgnmgnytnathtay	940
FRL2-4	tggytncarcarmgnccnggncarwsnccnmgnmgnytnathtay	940
FRL2-5	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-6	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-7	tggtayytncaraarccnggncarccnccncarytnytnathtay	941
FRL2-8	tggttyytncaraarccnggncarccnccncarccnytnathtay	942
FRL2-9	tggttyytncaraarccnggncarccnccncarccnytnathtay	942
FRL2-11	tggtaycarcaraarccnggnaargtnccnaarytnytnathtay	943
FRL2-12	tggtaycarcaraarccnggnaargtnccnaarytnytnathtay	943
FRL2-13	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-14	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-15	tggytncarcarmgnccnggncarccnccnmgnytnytnathtay	944
FRL2-16	tggtaycarcaraarccnggncargcnccnmgnytnytnathwsn	945
FRL2-17	tggtaycarcaraarccnggncargcnccnmgnytnytnathtay	946
FRL2-18	tggtaycarcaraarccnggnaargcnccnaarmgnytnathtay	947
FRL2-19	tggtaycarcaraarccnggncarccnccnaarytnttyathtay	948
FRL2-20	tggtaycarcaraarccnggncarccnccnaarytnttyathtay	948
FRL2-21	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-22	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-23	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949

FIGURE 20D

NAME	SEQUENCE	SEQ ID NO:
FRL2-24	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-25	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-26	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-27	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-28	tggtaycarcaraarccnggncarccnccnaargtnytnathtay	950
FRL2-29	tggtaycarcaraarccnggncarccnccnaargtnytnathtay	950
FRL2-30	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-31	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-32	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-33	tggtaycarcaraarccnggncarccnccnaarytnytnathtay	949
FRL2-34	tggttycarcaraarccnggnaargcnccnaarwsnytnathtay	951
FRL2-35	tggytncarcaraarccnggnaargcnccnaarwsnytnathtay	952
FRL2-36	tggtaycarcargayccnggncargcnccnmgnytnytnathtay	953
FRL2-37	tggtaycarcargayccnggncargcnccnmgnytnytnathtay	953
FRL2-38	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-39	tggtaycarcaraarccnggnaargcnccnaarttyytnathtay	955
FRL2-40	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-41	tggtaycarcarmgnccnggnaaygcnccnaarytnytnathtay	956
FRL2-42	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-43	tggtaycarcaraarccnggnaargcnccnaargtnytnathtay	957
FRL2-44	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-45	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-46	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-47	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-48	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-49	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-50	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-51	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-52	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-53	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-54	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-55	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-56	tggtaycarcaraarccnggnaargcnccngarytnytnathtay	958
FRL2-57	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-58	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-59	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954

FIGURE 20E

NAME	SEQUENCE	SEQ ID NO:
FRL2-60	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-61	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-62	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-63	tggtaycarcaraarytnggnaargcnccnaarytnytnathcay	959
FRL2-64	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL2-65	tggtaycarcaraarccnggnaargcnccnaarytnytnathtay	954
FRL3-1	ggngtnccngaymgnttyaayggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	960
FRL3-2	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-3	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-4	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-5	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-6	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-7	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-8	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-9	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	961
FRL3-11	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargaygtngcncantaytaytgy	962
FRL3-12	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargaygtngcncantaytaytgy	962
FRL3-13	ggngtnccngaymgnttywsnggnwsnggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	963
FRL3-14	ggngtnccngaymgnttywsnggnwsnggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	963
FRL3-15	ggngtnccngaymgnttywsnggncanggngcnggncangayttycan ytnaarathwsnmgngtngargcngargaygtnggngtntaytaytgy	964
FRL3-16	ggnathccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnmgnytngarccngargayttygcngtntaytaytgy	965
FRL3-17	ggnathccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnmgnytngarccngargayttygcngtntaytaytgy	965

FIGURE 20F

NAME	SEQUENCE	SEQ ID NO:
FRL3-18	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	966
FRL3-19	ggngtnccngaymgnttycanggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	967
FRL3-20	ggngtnccngaymgnttycanggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	967
FRL3-21	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	968
FRL3-22	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-23	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-24	ggngtnccngaymgnttyggnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	970
FRL3-25	ggngtnccngaymgnttyggnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntaytaytgy	970
FRL3-26	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngaygaygtngcngtntaytaytgy	971
FRL3-27	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngaygaygtngcngtntaytaytgy	971
FRL3-28	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnggnytncargcngargaygtngcnytntaytaytgy	972
FRL3-29	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnggnytncargcngargaygtngcnytntaytaytgy	972
FRL3-30	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtnttytaytgy	973
FRL3-31	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtnttytaytgy	973
FRL3-32	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-33	ggngtnccngaymgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncargcngargaygtngcngtntayttytgy	969
FRL3-34	ggngtnccnwsnaarttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	974
FRL3-35	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-36	ggnathccngcnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarwsngargayttygcngtntaytaytgy	976

FIGURE 20G

NAME	SEQUENCE	SEQ ID NO:
FRL3-37	ggnathccngcnmgnttywsnggnwsnggnwsnggncangarttycan ytncanathwsnwsnytncarwsngargayttygcngtntaytaytgy	976
FRL3-38	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-39	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcngcntaytaytgy	977
FRL3-40	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-41	ggngtnccnwsnmgngtnwsnggnwsnggnwsnggncangayttycan ytncanathmgnwsnytncarccngargayttygcncantaytaytgy	978
FRL3-42	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcncantaytaytgy	979
FRL3-43	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-44	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngaraayttygcncantaytaytgy	980
FRL3-45	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanttywsnwsnytncarccngargayttygcncantaytaytgy	981
FRL3-46	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcnwsntaytaytgy	982
FRL3-47	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanytnwsnwsnytncarccngargayttygcnwsntaytaytgy	982
FRL3-48	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-49	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-50	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-51	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcnwsntaytaytgy	983
FRL3-52	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcnwsntaytaytgy	983
FRL3-53	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ytncanathwsnwsnytncarccngargayttygcncantaytaytgy	975
FRL3-54	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-55	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984

FIGURE 20H

NAME	SEQUENCE	SEQ ID NO:
FRL3-56	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-57	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-58	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-59	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-60	ggngtnccnwsnmgnttywsnggnwsnggnwsngarcangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	985
FRL3-61	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-62	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-63	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-64	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL3-65	ggngtnccnwsnmgnttywsnggnwsnggnwsnggncangayttycan ttycanathwsnwsnytncarccngargayathgcncantaytaytgy	984
FRL4-1	ttyggncarggncanmgnytngarathaar	986
FRL4-2	ttyggncarggncanmgnytngarathaar	986
FRL4-3	ttyggncarggncanmgnytngarathaar	986
FRL4-4	ttyggncarggncanmgnytngarathaar	986
FRL4-5	ttyggncarggncanaarytngarathaar	988
FRL4-6	ttyggnggnggncanaargtngarathaar	989
FRL4-7	ttyggnggnggncanaargtngarathaar	989
FRL4-8	ttyggncayggncanmgnytngarathaar	990
FRL4-9	ttyggncayggncanmgnytngarathaar	990
FRL4-11	ttyggnccnggncanaargtngayathaar	991
FRL4-12	ttyggnggnggncanaargtngarathaar	989
FRL4-13	ttyggnccnggncanaargtngayathaar	991
FRL4-14	ttyggnccnggncanaargtngayathaar	991
FRL4-15	ttyggnggnggncanaargtngarathaar	989
FRL4-16	ttyggncarggncanaargtngarathaar	992
FRL4-17	ttyggncarggncanaarytngarathaar	988
FRL4-18	ttyggncarggncanaargtngarathaar	992
FRL4-19	ttyggncarggncanaargtngarathaar	992
FRL4-20	ttyggncarggncanaargtngarathaar	992

FIGURE 20I

NAME	SEQUENCE	SEQ ID NO:
FRL4-21	ttyggncarggncanaargtngarathaar	992
FRL4-22	ttyggncarggncanaargtngarathaar	992
FRL4-23	ttyggncarggncanaargtngarathaar	992
FRL4-24	ttyggncarggncanaargtngarathaar	992
FRL4-25	ttyggncarggncanaargtngarathaar	992
FRL4-26	ttyggnccnggncanaargtngarathaar	993
FRL4-27	ttyggnccnggncanaargtngarathaar	993
FRL4-28	ttyggncarggncanaarytngarathaar	988
FRL4-29	ttyggncarggncanaarytngarathaar	988
FRL4-30	ttyggnggnggncanaargtngcnathaar	994
FRL4-31	ttyggnggnggncanaargtngcnathaar	994
FRL4-32	ttyggnggnggncanaargtngarathaar	989
FRL4-33	ttyggnggnggncanaargtngarathaar	989
FRL4-34	ttyggnccnggncanaargtngayathaar	991
FRL4-35	ttyggnccnggncanaaratggayathaar	995
FRL4-36	ttyggncarggncanaargtngarathaar	992
FRL4-37	ttyggncarggncanaargtngarathaar	992
FRL4-38	ttyggncarggncanaargtngarttyaar	996
FRL4-39	ttyggnccnggncanaargtngayathaar	991
FRL4-40	ttyggnggnggncanaargtngarathaar	989
FRL4-41	ttyggnggnggncanaargtngarathaar	989
FRL4-42	ttyggncarggncanmgnytngarathaar	986
FRL4-43	ttyggncarggncanmgnytngarathath	987
FRL4-44	ttyggncarggncanmgnytngarathaar	986
FRL4-45	ttyggncarggncanmgnytngarathaar	986
FRL4-46	ttyggncarggncanmgnytngarathaar	986
FRL4-47	ttyggncarggncanmgnytngarathaar	986
FRL4-48	ttyggncarggncanmgnytngarathaar	986
FRL4-49	ttyggncarggncanmgnytngarathaar	986
FRL4-50	ttyggncarggncanmgnytngarathaar	986
FRL4-51	ttyggncarggncanmgnytngarathaar	986
FRL4-52	ttyggncarggncanmgnytngarathaar	986
FRL4-53	ttyggncarggncanmgnytngarathaar	986
FRL4-54	ttyggnccnggncanaargtngayathaar	991
FRL4-55	ttyggnccnggncanaargtngayathaar	991
FRL4-56	ttyggnggnggncanaargtngarathaar	989

FIGURE 20J

NAME	SEQUENCE	SEQ ID NO:
FRL4-57	ttyggnggnggncanaargtngarathaar	989
FRL4-58	ttyggnggnggncanaargtngarathaar	989
FRL4-59	ttyggnggnggncanaargtngarathaar	989
FRL4-60	ttyggnggnggncanaargtngarathaar	989
FRL4-61	ttyggnggnggncanaargtngarathmgn	997
FRL4-62	ttyggncarggncanmgnytngarathaar	986
FRL4-63	ttyggncarggncanmgnytngarathaar	986
FRL4-64	ttyggncarggncanmgnytngarathaar	986
FRL4-65	ttyggncarggncanmgnytngarathaar	986

FIGURE 20K

HEAVY CHAIN FR NUCLEOTIDE SEQUENCES

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-1	FRH1-1	cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-2	FRH1-2	cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-3	FRH1-3	cargtncayytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsntgyaargtnwsn	999
FRH1-4	FRH1-4	cargtncarytngtncarwsnggngcngargtnaaraarccnggngcnwsngtnaargtnwsntgyaargcnwsn	998
FRH1-5	FRH1-5	cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsntgyaargtnwsn	1000
FRH1-6	FRH1-6	cargtncarytngtncarwsnggngcngargtnmgnaarccnggngcnwsngtnaargtnwsntgyaargtnwsn	1000
FRH1-7	FRH1-7	cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncantgycangtnwsn	1001
FRH1-8	FRH1-8	cargtncanytnaargarwsnggnccngtnytngtnaarccncangarcanytncanytncantgycangtnwsn	1001
FRH1-9	FRH1-9	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-10	FRH1-10	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-11	FRH1-11	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-12	FRH1-12	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-13	FRH1-13	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-14	FRH1-14	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-15	FRH1-15	carathcanytnaargarwsnggnccncanytngtnaarccncancarcanytncanytncantgycanttywsn	1002
FRH1-16	FRH1-16	gargtncarytngtngarwsnggnggnggnytngtnaarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1003
FRH1-17	FRH1-17	gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1004
FRH1-18	FRH1-18	gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1004

FIGURE 21A

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-19	FRH1-19	gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgycangcnwsn	1005
FRH1-20	FRH1-20	gargtncarytnytngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgycangcnwsn	1005
FRH1-21	FRH1-21	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-22	FRH1-22	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-23	FRH1-23	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-24	FRH1-24	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-25	FRH1-25	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-26	FRH1-26	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-27	FRH1-27	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-28	FRH1-28	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-29	FRH1-29	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-30	FRH1-30	cargtncarytngtngarwsnggnggnggngtngtncarccnggnmgnwsnytnmgnytnwsntgygcngcnwsn	1006
FRH1-31	FRH1-31	gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-32	FRH1-32	gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-33	FRH1-33	gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-34	FRH1-34	gargtncarytngtngarwsnggnggnggnytngtncarccnggnggnwsnytnmgnytnwsntgygcngcnwsn	1007
FRH1-35	FRH1-35	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-36	FRH1-36	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-37	FRH1-37	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008

FIGURE 21B

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH1-38	FRH1-38	Cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-39	FRH1-39	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaaytgycangtnwsn	1009
FRH1-40	FRH1-40	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytnaaytgycangtnwsn	1009
FRH1-41	FRH1-41	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-42	FRH1-42	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-43	FRH1-43	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-44	FRH1-44	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-45	FRH1-45	cargtncarytncargarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgycangtnwsn	1008
FRH1-46	FRH1-46	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-47	FRH1-47	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-48	FRH1-48	gargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-49	FRH1-49	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-50	FRH1-50	cargtncarytncarcartggggngcnggnytnytnaarccnwsngarcanytnwsnytncantgygcngtntay	1010
FRH1-51	FRH1-51	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-52	FRH1-52	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-53	FRH1-53	cargtncarytncargarwsnggnccnggnytngtnaarccnwsngarcanytnwsnytncantgycangtnwsn	1011
FRH1-54	FRH1-54	gargtncarytngtncarwsnggngcngarytnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1012
FRH1-55	FRH1-55	gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1013
FRH1-56	FRH1-56	gargtncarytngtncarwsnggngcngargtnaaraarccnggngarwsnytnaarathwsntgyaarggnwsn	1013
FRH1-57	FRH1-57	cargtncarytncarcarwsnggnccnggnytngtnaarccnwsncarcanytnwsnytncantgygcnathwsn	1014
FRH1-58	FRH1-58	gargtncarytngtngarwsnggnggnggnytngtncarccngg	1007

FIGURE 21C

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-1	FRH2-1	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-2	FRH2-2	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-3	FRH2-3	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-4	FRH2-4	tgggtnmgncargcnccnggncarggnytngartggatgggn	1015
FRH2-5	FRH2-5	tgggtnmgncargcnccnggnaarggnytngartggatgggn	1016
FRH2-6	FRH2-6	tgggtnmgncargcnccnggnaarggnytngartggatgggn	1016
FRH2-7	FRH2-7	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-8	FRH2-20	tggathmgncarccnccnggnaargcnytngartggytngtn	1018
FRH2-9	FRH2-65	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-10	FRH2-56	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-11	FRH2-62	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-12	FRH2-2	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-13	FRH2-59	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-14	FRH2-57	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-15	FRH2-64	tggathmgncarccnccnggnaargcnytngartggytngcn	1017
FRH2-16	FRH2-41	Tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-17	FRH2-45	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-18	FRH2-47	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-19	FRH2-51	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-20	FRH2-52	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-21	FRH2-13	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-22	FRH2-14	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-23	FRH2-1	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-24	FRH2-22	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-25	FRH2-23	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-26	FRH2-12	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-27	FRH2-5	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-28	FRH2-15	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-29	FRH2-7	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-30	FRH2-61	tgggtnmgncargcnccnggnaarggnytngartgggtngcn	1020
FRH2-31	FRH2-39	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-32	FRH2-34	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-33	FRH2-6	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-34	FRH2-35	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH2-35	FRH2-21	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-36	FRH2-8	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-37	FRH2-9	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-38	FRH2-18	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-39	FRH2-24	tggathmgncarcayccnggnaarggnytngartggathggn	1021

FIGURE 20D

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH2-40	FRH2-25	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-41	FRH2-26	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-42	FRH2-27	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-43	FRH2-38	tggathmgncarcayccnggnaarggnytngartggathggn	1021
FRH2-44	FRH2-54	tgggtnmgncarcayccnggnaarggnytngartggathggn	1022
FRH2-45	FRH2-55	tgggtnmgncarcayccnggnaarggnytngartggathggn	1022
FRH2-46	FRH2-43	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-47	FRH2-44	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-48	FRH2-49	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-49	FRH2-50	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-50	FRH2-53	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-51	FRH2-33	tggathmgncarccngcnggnaarggnytngartggathggn	1024
FRH2-52	FRH2-3	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-53	FRH2-4	tggathmgncarccnccnggnaarggnytngartggathggn	1023
FRH2-54	FRH2-16	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-55	FRH2-17	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-56	FRH2-11	tgggtnmgncaratgccnggnaarggnytngartggatgggn	1025
FRH2-57	FRH2-37	tggathmgncarwsnccnwsnmgnggnytngartggytnggn	1026
FRH2-58	FRH2-39.1	tgggtnmgncargcnccnggnaarggnytngartgggtnwsn	1019
FRH3-1	FRH3-10.1	mgngtncanatgcancangaycanwsncanwsncangcntayat ggarytnmgnwsnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1027
FRH3-2	FRH3-10	mgngtncanatgcancangaycanwsncanwsncangcntayat ggarytnmgnwsnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1027
FRH3-3	FRH3-42	mgngtncanatgcanmgngaycanwsnathwsncangcntayat ggarytnwsnmgnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1028
FRH3-4	FRH3-40	mgngtncanatgcanmgngaycanwsnathwsncangcntayat ggarytnwsnmgnytnmgnwsngaygaycangcngtntaytayt gygcnmgn	1028
FRH3-5	FRH3-30	mgngtncanatgytngargaycanwsncangaycangcntayat ggarytnwsnwsnytnmgnwsngargaycangcngtntaytayt gygcncan	1029

FIGURE 21E

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-6	FRH3-31	mgngtncanatgytngargaycanwsncangaycangcntayatggarytnwsnwsnytnmgnwsngargaycangcngtntaytaytgygcncan	1029
FRH3-7	FRH3-29	mgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcnmgn	1030
FRH3-8	FRH3-20	mgnytncanathwsnaargaycanwsnaarwsncargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcnmgn	1030
FRH3-9	FRH3-65	mgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcncay	1031
FRH3-10	FRH3-56	mgnytncanathcanaargaycanwsnaarcancargtngtnytncangtncangayatggayccngtngaycangcncantaytaytgygcncay	1032
FRH3-11	FRH3-62	mgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcncay	1031
FRH3-12	FRH3-2	mgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcanaayytngayccngtngaycangcncantaytaytgygcncay	1033
FRH3-13	FRH3-59	mgnytncanathcanaargcncanwsnaaraaycargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcncay	1034
FRH3-14	FRH3-57	mgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcncay	1031
FRH3-15	FRH3-64	mgnytncanathcanaargaycanwsnaaraaycargtngtnytncanatgcanaayatggayccngtngaycangcncantaytaytgygcncay	1031
FRH3-16	FRH3-41	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayytncaratgaaywsnytnmgngcngargaycangcngtntaytaytgygcnmgn	1035
FRH3-17	FRH3-45	mgnttycanathwsnmgngayaaywsnaaraaycanytntayytncaratgaaywsnytnmgngcngargaycangcngtntaytaytgygcnaar	1036

FIGURE 21F

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-18	FRH3-47	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnaar	1036
FRH3-19	FRH3-51	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngartaytayt gygcnaar	1037
FRH3-20	FRH3-52	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngartaytayt gygcnaar	1037
FRH3-21	FRH3-13	mgnttycanathwsnmgngayaaywsnatgaaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1038
FRH3-22	FRH3-14	mgnttycanathwsnmgngayaaywsnatgaaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1038
FRH3-23	FRH3-1	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-24	FRH3-22	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-25	FRH3-23	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-26	FRH3-12	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygtnytn	1040
FRH3-27	FRH3-5	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039
FRH3-28	FRH3-15	mgnttycangtnwsnmgngayaaywsnaaraaycanytnttyyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1041
FRH3-29	FRH3-7	mgnttycanathwsnmgngayaaywsnaaraaycanytntayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1039

FIGURE 21G

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-30	FRH3-61	mgnttycanathwsnmgngayaaywsnaaraaycanytngayyt ncaratgaaywsnytnmgngcngargaycangcngtntaytayt gygcnmgn	1041
FRH3-31	FRH3-39	mgnttycanathwsnmgngayaaygcnaaraaywsnytnttyyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnytn	1042
FRH3-32	FRH3-34	mgnttycanathwsnmgngayaaygcnaaraaywsngtntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1043
FRH3-33	FRH3-6	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1044
FRH3-34	FRH3-35	mgnttycanathwsnmgngayaaygcnaaraaywsnytntayyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnmgn	1044
FRH3-35	FRH3-21	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naayytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1045
FRH3-36	FRH3-8	mgngtnaayatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1046
FRH3-37	FRH3-9	mgngtnaayatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1046
FRH3-38	FRH3-18	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-39	FRH3-24	mgnathcanathwsngcngaycanwsnaaraaycarttywsnyt naarytnaaywsngtncangcngcngaycangcngtntaytayt gygcnmgn	1048
FRH3-40	FRH3-25	mgnathcanathwsngcngaycanwsnaaraaycarttywsnyt naarytnaaywsngtncangcngcngaycangcngtntaytayt gygcnmgn	1048
FRH3-41	FRH3-26	mgnathcanaarwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1049

FIGURE 21H

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-42	FRH3-27	mgnathcanaarwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1049
FRH3-43	FRH3-38	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnwsn	1050
FRH3-44	FRH3-54	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnttywsngtncangcngcngaycangcngtntayttyt gygcnmgn	1051
FRH3-45	FRH3-55	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnttywsngtncangcngcngaycangcngtntayttyt gygcnmgn	1051
FRH3-46	FRH3-43	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-47	FRH3-44	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-48	FRH3-49	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-49	FRH3-50	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-50	FRH3-53	mgngtncanathwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1047
FRH3-51	FRH3-33	mgngtncanatgwsngtngaycanwsnaaraaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1052
FRH3-52	FRH3-3	mgngtncanathwsnathgtncanwsnmgnaaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1053
FRH3-53	FRH3-4	mgngtncanathwsnathgtncanwsnmgnaaycarttywsnyt naarytnwsnwsngtncangcngcngaycangcngtntaytayt gygcnmgn	1053

FIGURE 21I

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH3-54	FRH3-16	cargtncanathwsngcngayaarwsnathwsncangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1054
FRH3-55	FRH3-17	cargtncanathwsngcngayaarwsnathaaycangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1055
FRH3-56	FRH3-11	cargtncanathwsngcngayaarwsnathwsncangcntayyt ncartggwsnwsnytnaargcnwsngaycangcnatgtaytayt gygcnmgn	1054
FRH3-57	FRH3-37	mgnathcanathaayccngaycanwsnaaraaycarttywsnyt ncarytnaaywsngtncanccngargaycangcngtntaytayt gygcnmgn	1056
FRH3-58	FRH3-39.1	mgnttycanathwsnmgngayaaygcnaaraaywsnytnttyyt ncaratgaaywsnytnmgngaygargaycangcngtntaytayt gygcnytn	1042
FRH4-1	FRH4-10.1	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-2	FRH4-10	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-3	FRH4-42	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-4	FRH4-40	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-5	FRH4-30	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-6	FRH4-31	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-7	FRH4-29	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-8	FRH4-20	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-9	FRH4-65	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-10	FRH4-56	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-11	FRH4-62	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-12	FRH4-2	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-13	FRH4-59	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-14	FRH4-57	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-15	FRH4-64	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-16	FRH4-41	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-17	FRH4-45	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-18	FRH4-47	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-19	FRH4-51	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-20	FRH4-52	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-21	FRH4-13	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-22	FRH4-14	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-23	FRH4-1	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-24	FRH4-22	tggggncarggncanytngtncangtnwsnwsn	1057

FIGURE 21J

NAME	NAME	SEQUENCE	SEQ ID NO:
FRH4-25	FRH4-23	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-26	FRH4-12	tggggncarggnwsnytngtncangtnwsnccn	1060
FRH4-27	FRH4-5	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-28	FRH4-15	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-29	FRH4-7	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-30	FRH4-61	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-31	FRH4-39	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-32	FRH4-34	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-33	FRH4-6	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-34	FRH4-35	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-35	FRH4-21	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-36	FRH4-8	tggggncarggncanaargtncangtnwsnwsn	1061
FRH4-37	FRH4-9	tggggncarggncanaargtncangtnwsnwsn	1061
FRH4-38	FRH4-18	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-39	FRH4-24	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-40	FRH4-25	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-41	FRH4-26	tggggnmgnggncanytngtncangtnwsnwsn	1062
FRH4-42	FRH4-27	tggggnmgnggncanytngtncangtnwsnwsn	1062
FRH4-43	FRH4-38	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-44	FRH4-54	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-45	FRH4-55	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-46	FRH4-43	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-47	FRH4-44	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-48	FRH4-49	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-49	FRH4-50	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-50	FRH4-53	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-51	FRH4-33	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-52	FRH4-3	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-53	FRH4-4	tggggncarggncanatggtncangtnwsnwsn	1059
FRH4-54	FRH4-16	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-55	FRH4-17	tggggncarggncanytngtncangtnwsnwsn	1057
FRH4-56	FRH4-11	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-57	FRH4-37	tggggncarggncancangtncangtnwsnwsn	1058
FRH4-58	FRH4-39.1	tggggncarggncanytngtncangtnwsnwsn	1057

FIGURE 21K

Inhibition of HBEGF-induced EGFR tyrosine phosphorylation

Fig 22a

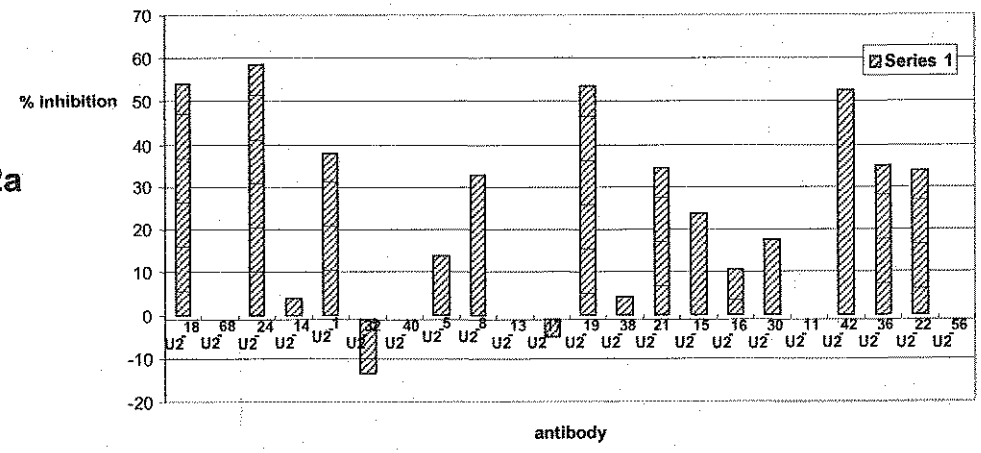
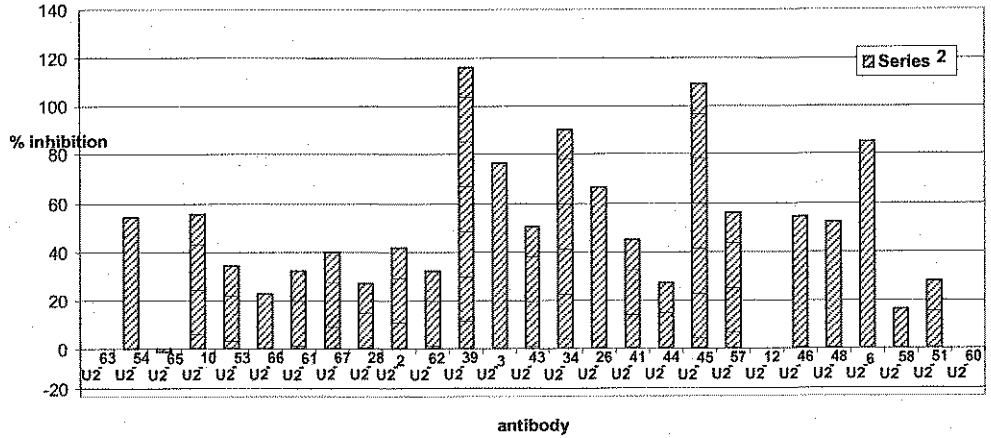


Fig 22b



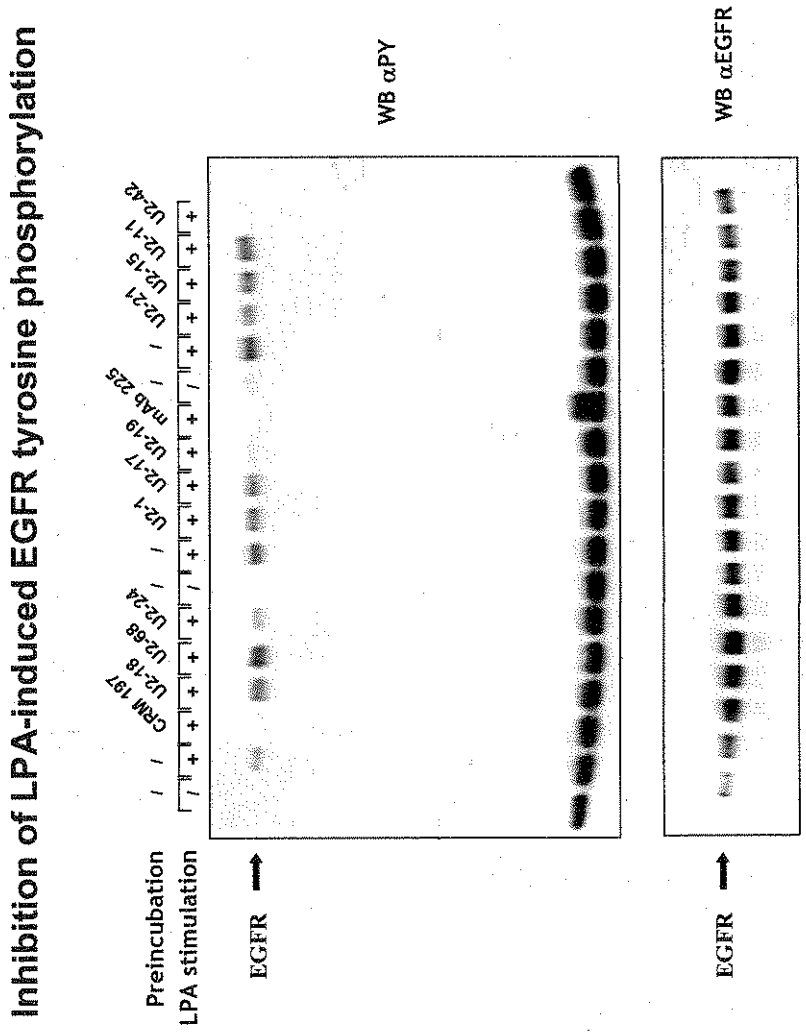
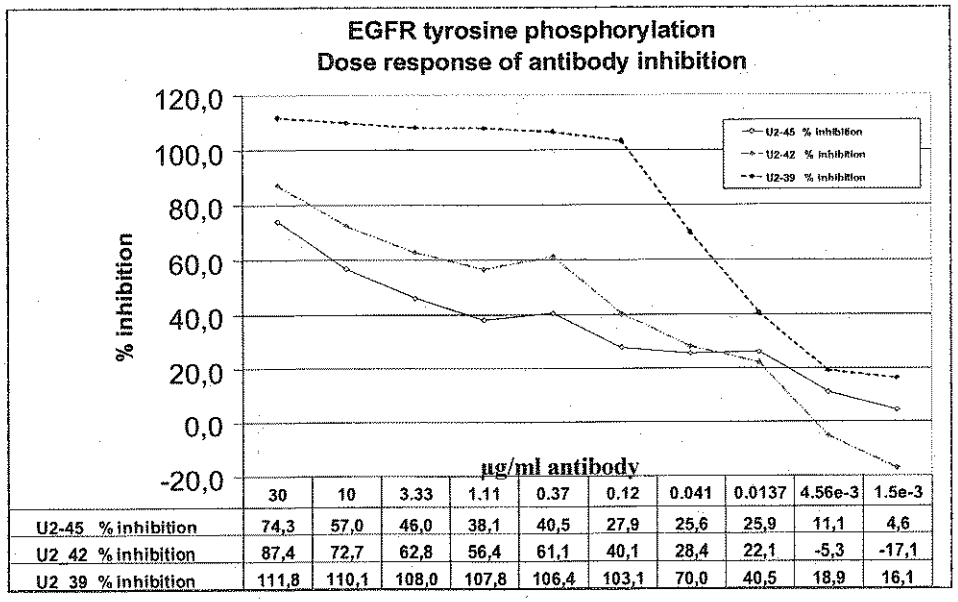

Inhibition of LPA-induced EGFR tyrosine phosphorylation
Preincubation
LPA stimulation
CRM 197
U2-18
U2-68
U2-24
U2-1
U2-17
U2-19
mAb 225
U2-21
U2-15
U2-11
U2-42
EGFR
WB αPY
EGFR
WB αEGFR

Fig 23

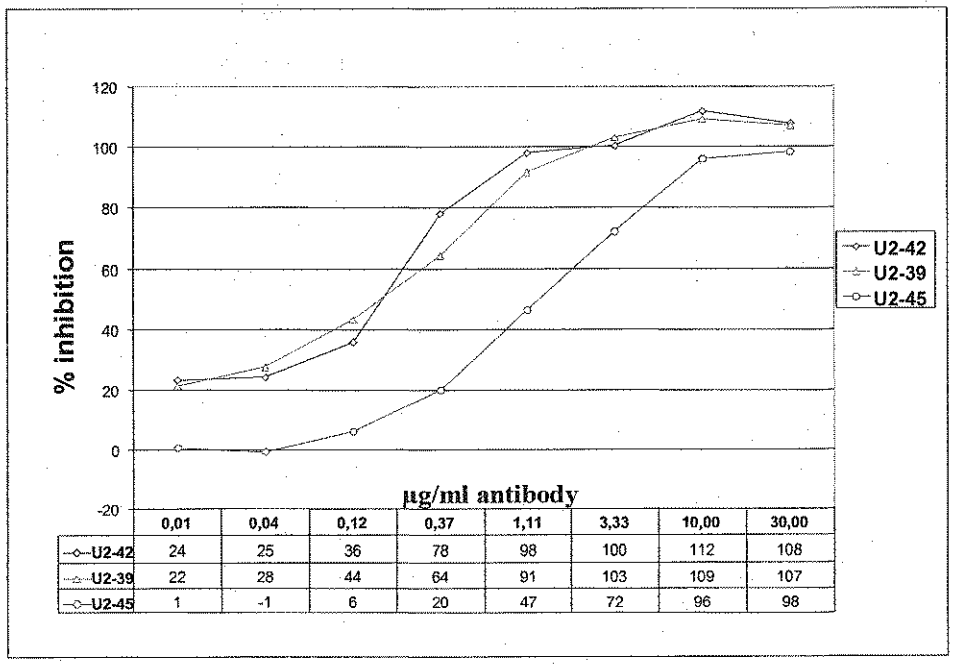
Inhibition of HBEGF-induced EGFR tyrosine phosphorylation - Dose response

Fig 24



	30	10	3.33	1.11	0.37	0.12	0.041	0.0137	4.56e-3	1.5e-3
U2-45 % inhibition	74,3	57,0	46,0	38,1	40,5	27,9	25,6	25,9	11,1	4,6
U2_42 % inhibition	87,4	72,7	62,8	56,4	61,1	40,1	28,4	22,1	-5,3	-17,1
U2_39 % inhibition	111,8	110,1	108,0	107,8	106,4	103,1	70,0	40,5	18,9	16,1

Inhibition of Thrombin-induced EGFR tyrosine phosphorylation in MDA-MB231 cells - Dose response



	0,01	0,04	0,12	0,37	1,11	3,33	10,00	30,00
U2-42	24	25	36	78	98	100	112	108
U2-39	22	28	44	64	91	103	109	107
U2-45	1	-1	6	20	47	72	96	98

Fig 25

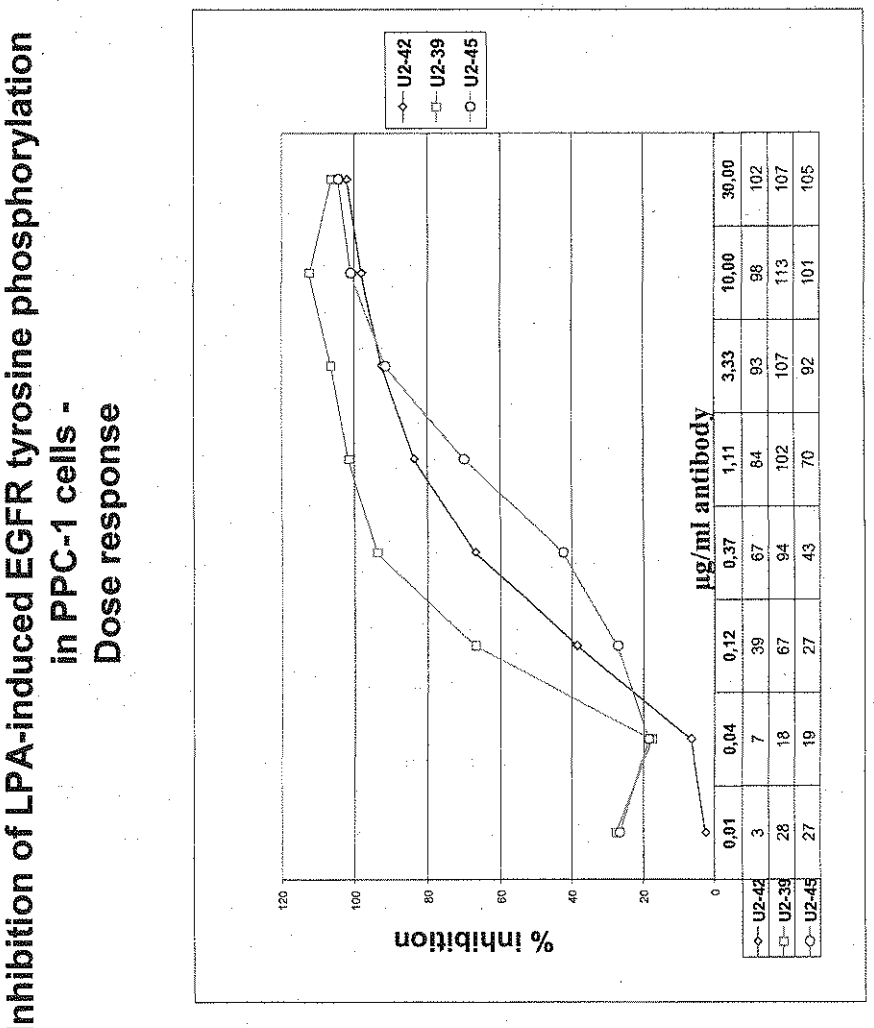

Inhibition of LPA-induced EGFR tyrosine phosphorylation
in PPC-1 cells -
Dose response
% inhibition
µg/ml antibody
U2-42
U2-39
U2-45
120
100
80
60
40
20
0
0,01 0,04 0,12 0,37 1,11 3,33 10,00 30,00
U2-42 3 7 39 67 84 93 98 102
U2-39 28 18 67 94 102 107 113 107
U2-45 27 19 27 43 70 92 101 105

Fig 26

Fig 27

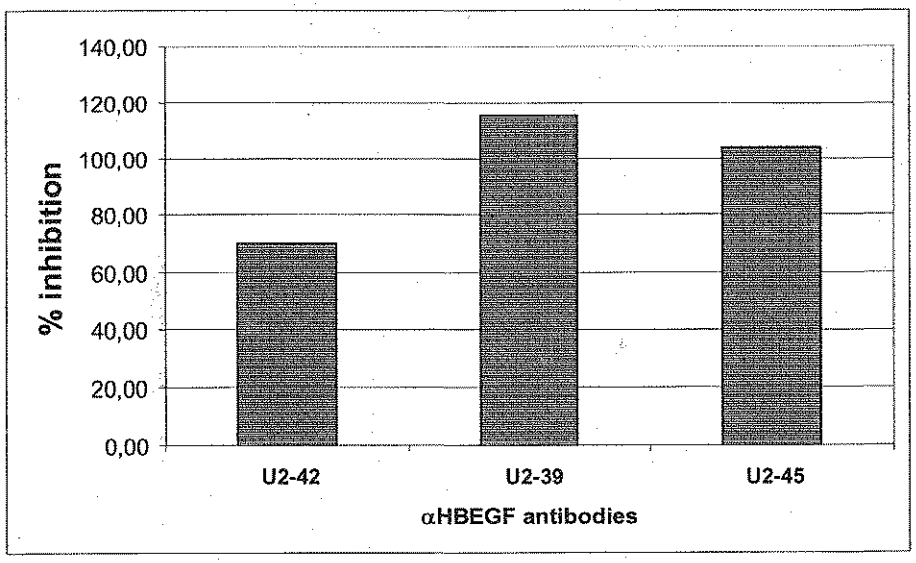
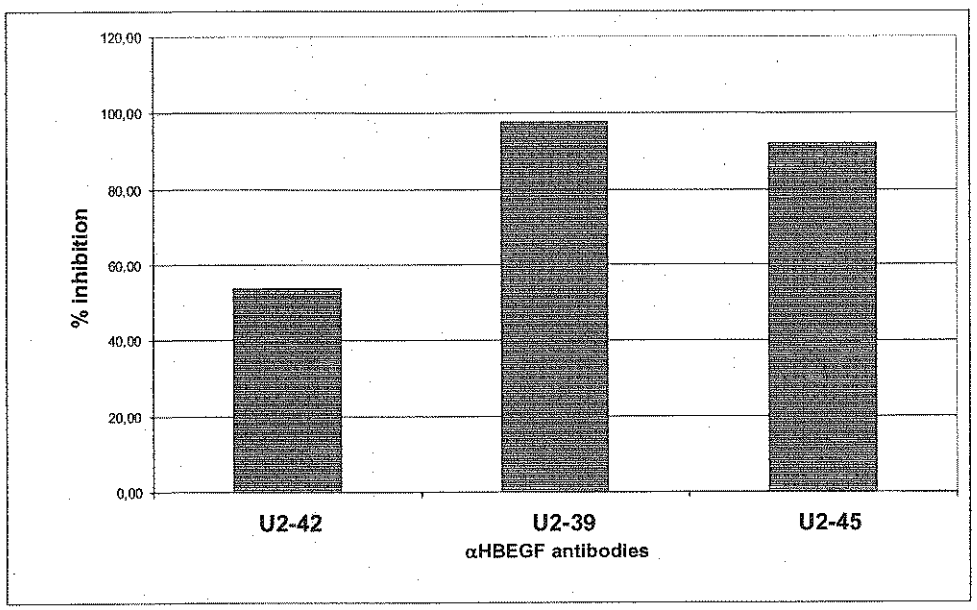

Inhibition of Sphingosine-1-phosphate-induced migration of MDA-MB231 cells
% inhibition
140,00
120,00
100,00
80,00
60,00
40,00
20,00
0,00
U2-42
U2-39
U2-45
αHBEGF antibodies

Fig 28


Inhibition of HBEGF-induced migration of MCF-7 cells
120,00
100,00
80,00
60,00
40,00
20,00
0,00
% inhibition
U2-42
U2-39
U2-45
αHBEGF antibodies

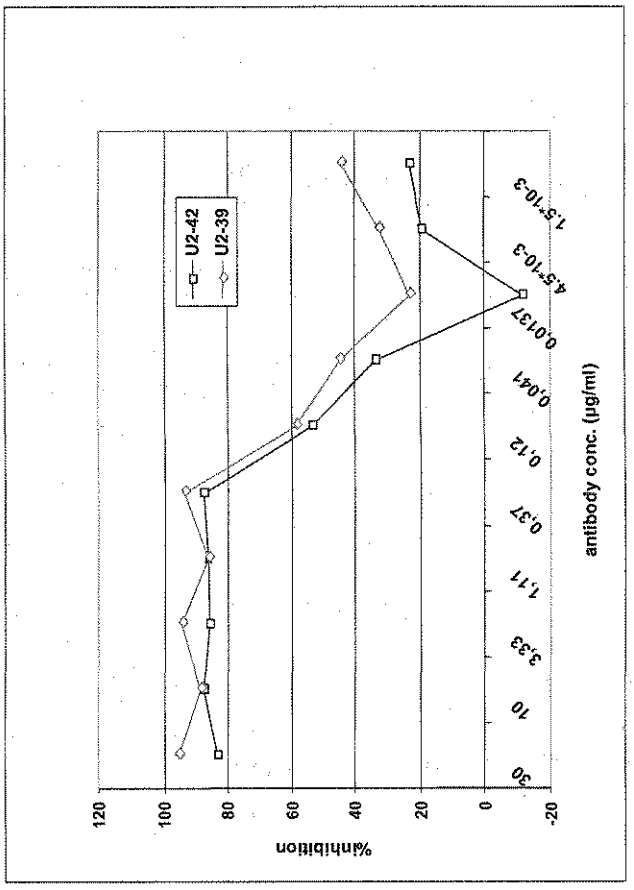
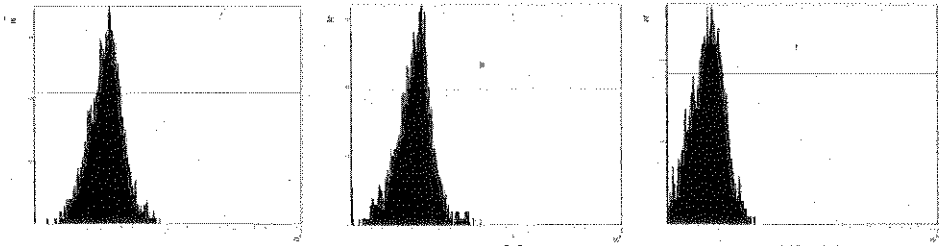

Inhibition of HBEGF-induced HER4 tyrosine phosphorylation -
Dose response
%inhibition
120
100
80
60
40
20
0
-20
U2-42
U2-39
50
10
3,33
1,11
0,37
0,12
0,041
0,0137
4,57*10-3
1,5*10-3
antibody conc. (µg/ml)

Fig 29

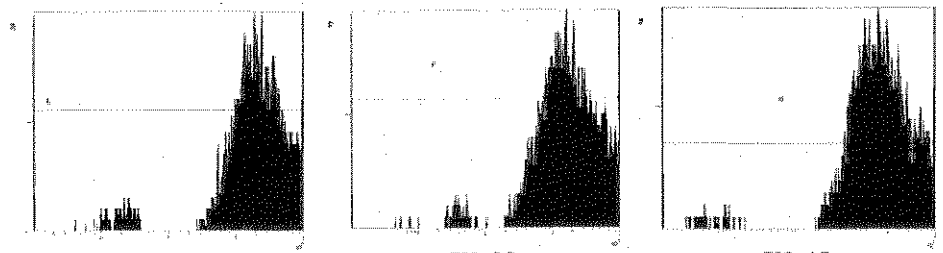
Cyno and mouse cross reactivity of HBEGF antibodies

HEK 293 cells transiently transfected with pcDNA (empty vector)



U2-42 X-mean: 1.5 | U2-39 X-mean: 1.2 | U2-45 X-mean: 0.6

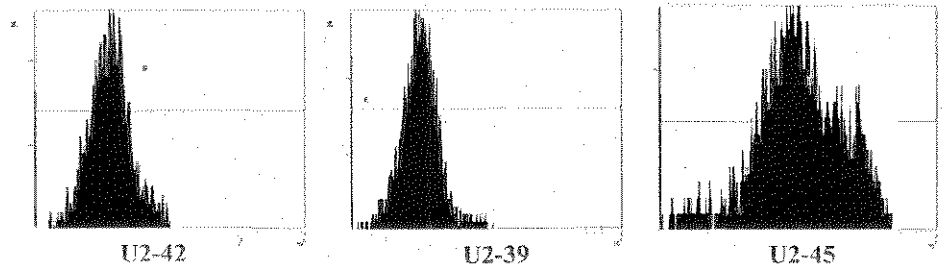
HEK 293 cells transiently transfected with pcDNA-cyno HBEGF



U2-42 X-mean: 292.3 | U2-39 X-mean: 255.7 | U2-45 X-mean: 246.3

Fig 30 A

HEK 293 cells transiently transfected with pcDNA-mouse HBEGF

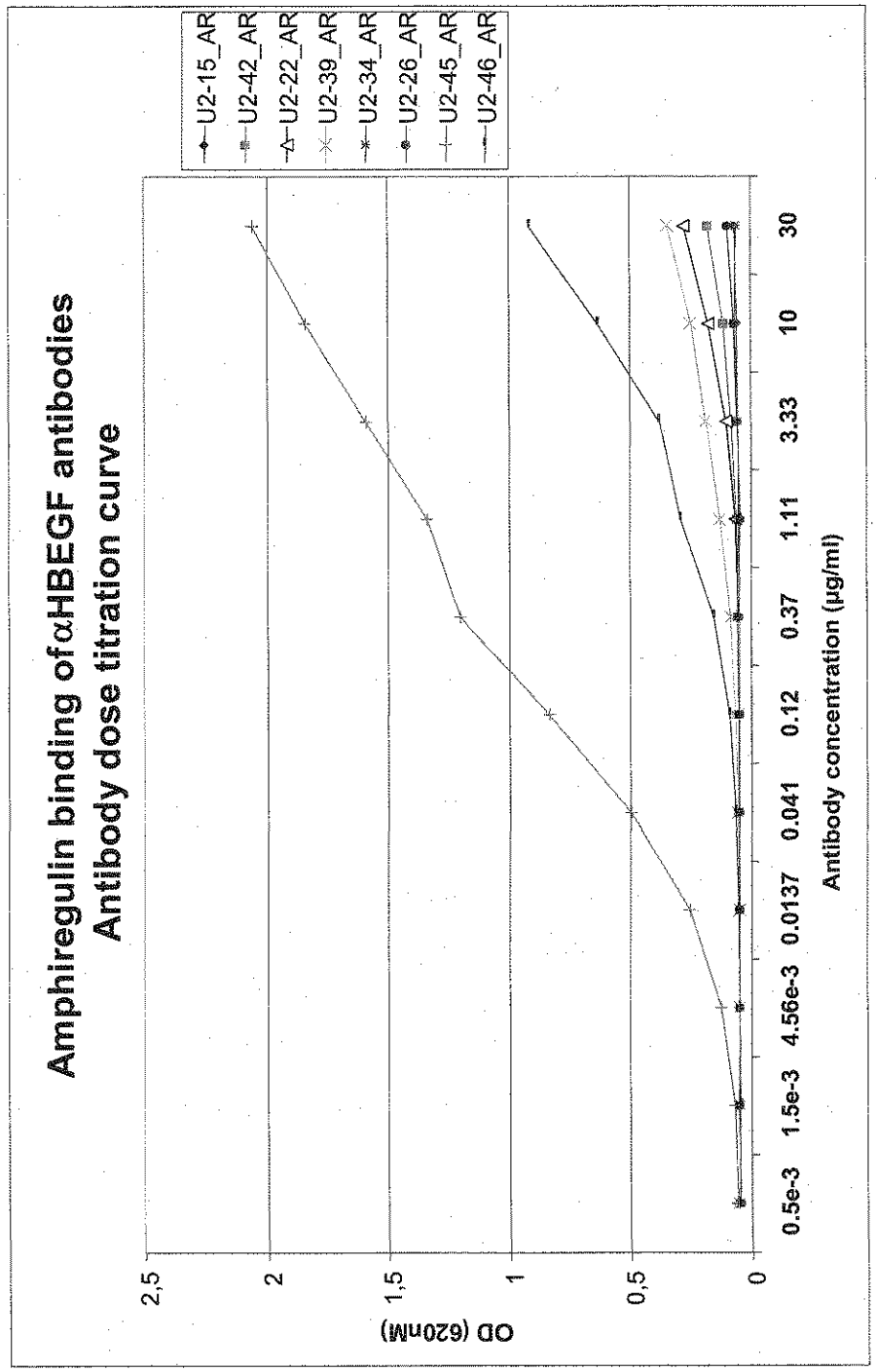


U2-42 X-mean: 1.9 | U2-39 X-mean: 1.5 | U2-45 X-mean: 33.7

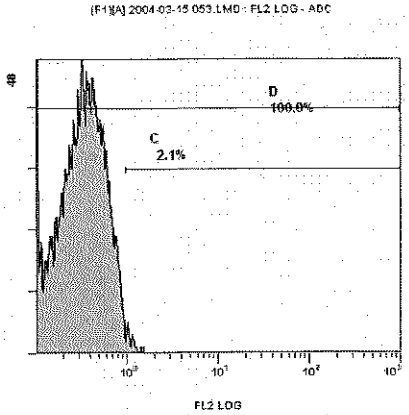
Fig 30 B

Fig 30 C

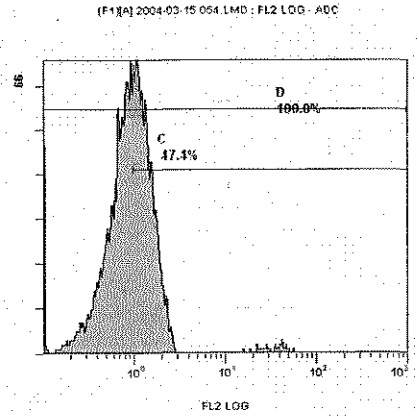
Amphiregulin cross reactivity of HBEGF antibodies



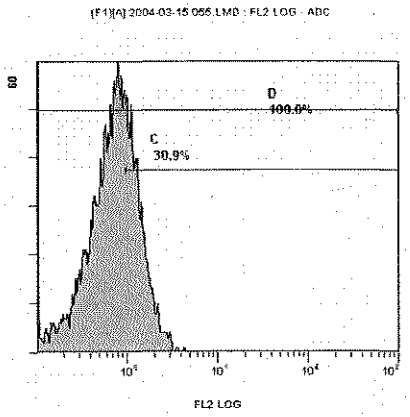
HBEGF expression on HUVECs



HUVEC
0.3

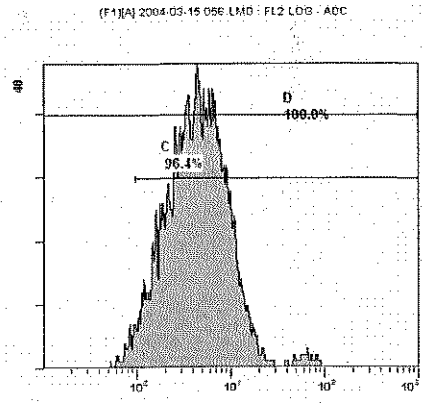


HUVEC
α-goat-PE
2.4

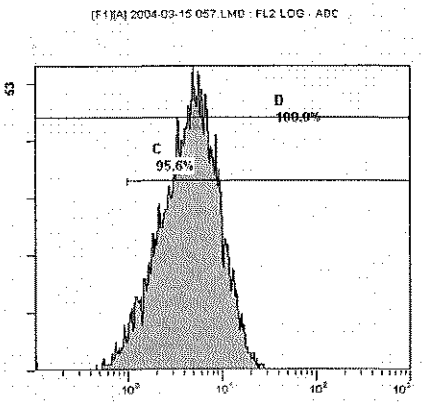


HUVEC
α-mouse-PE
0.8

Fig 31



HUVEC
HBEGF
7.2



HUVEC
EGFR
5.5

Effect of HBEGF and HBEGF antibodies on HUVEC proliferation

Fig 32 A

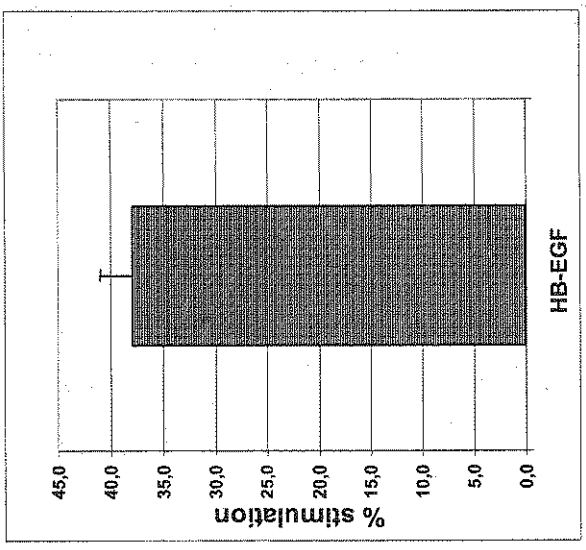
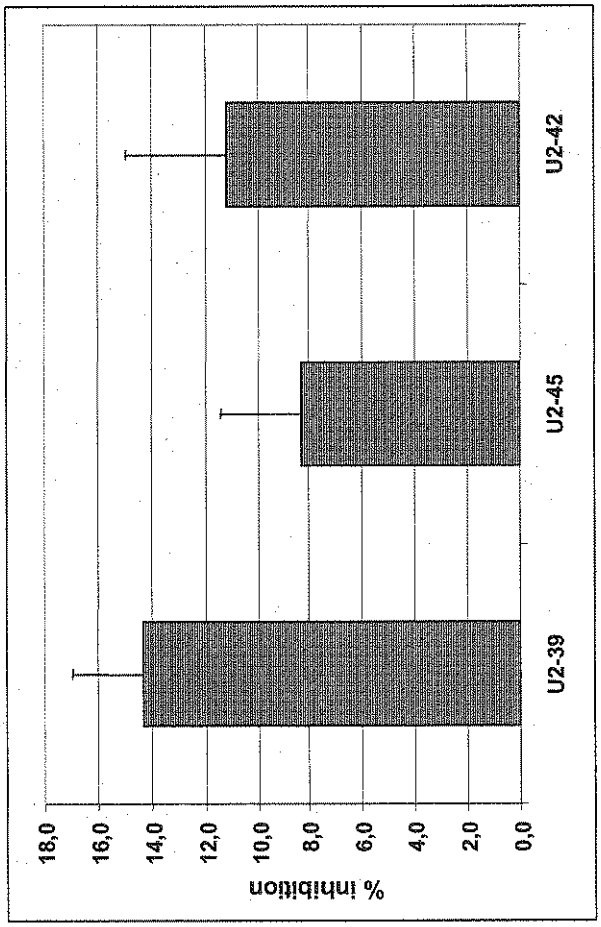
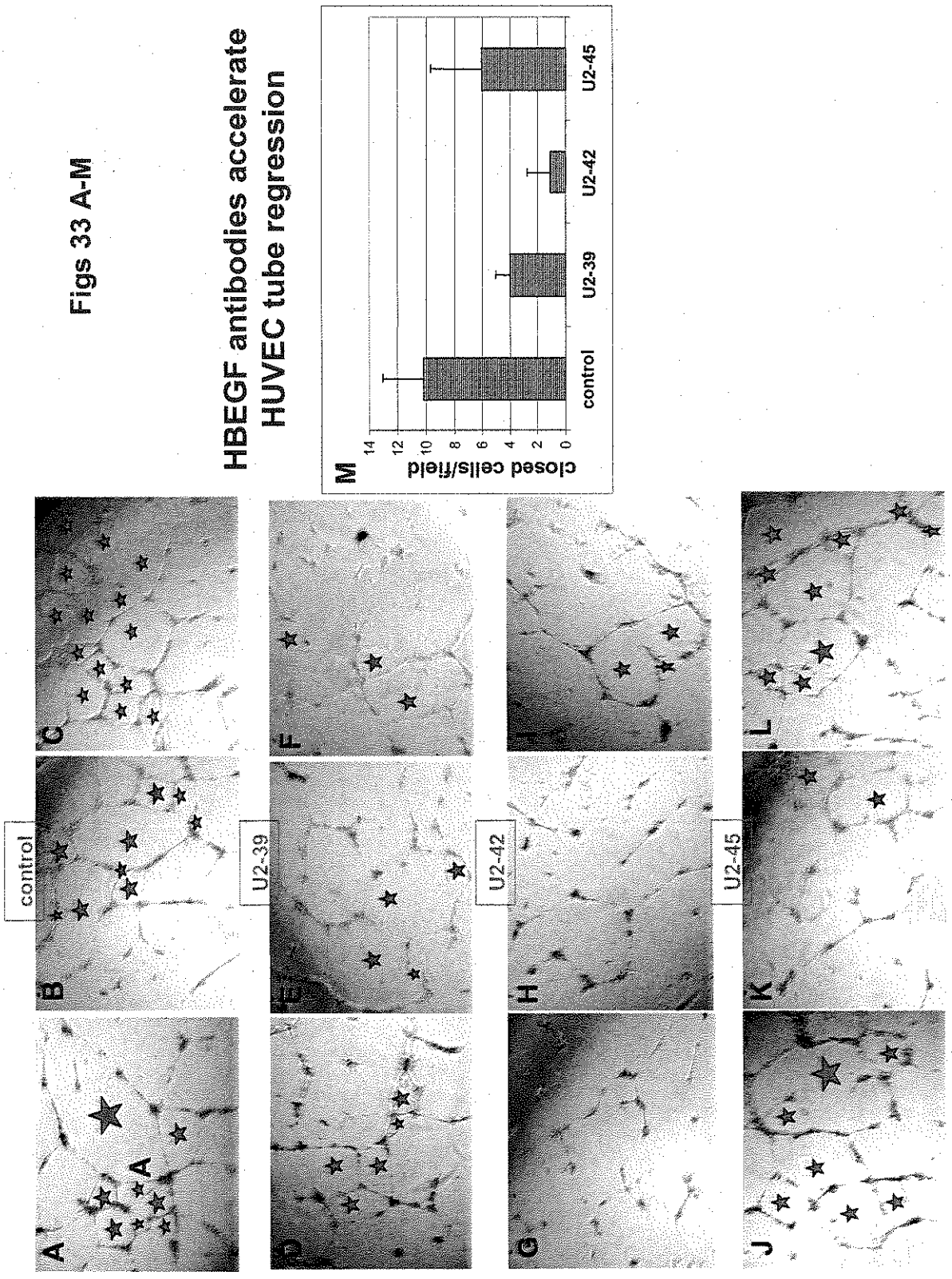


Fig 32 B



Figs 33 A-M

HBEGF antibodies accelerate HUVEC tube regression



Soft agar – Inhibition of HBEGF stimulated colony formation

Fig 34 A

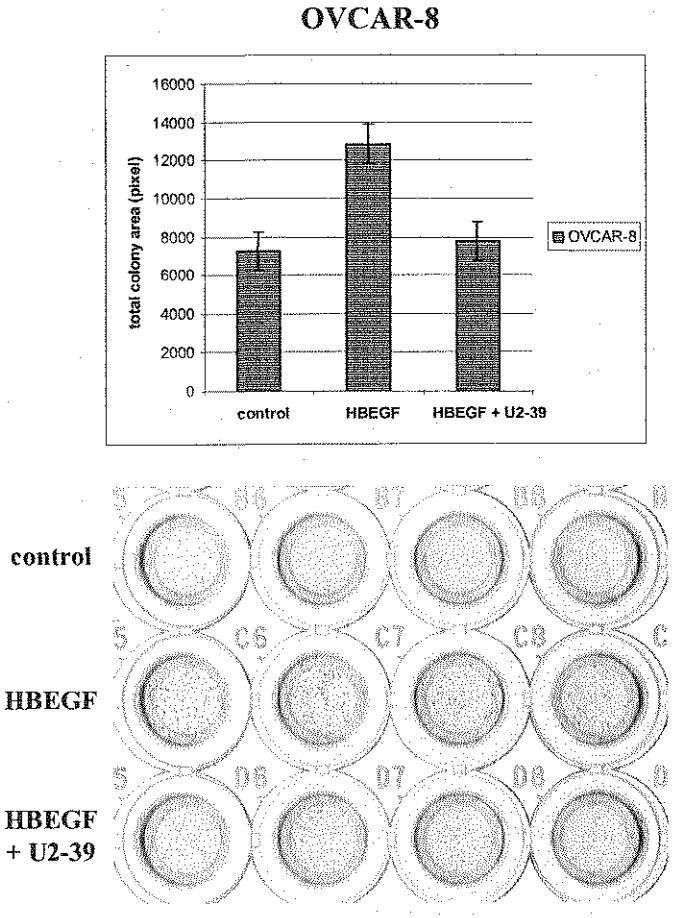
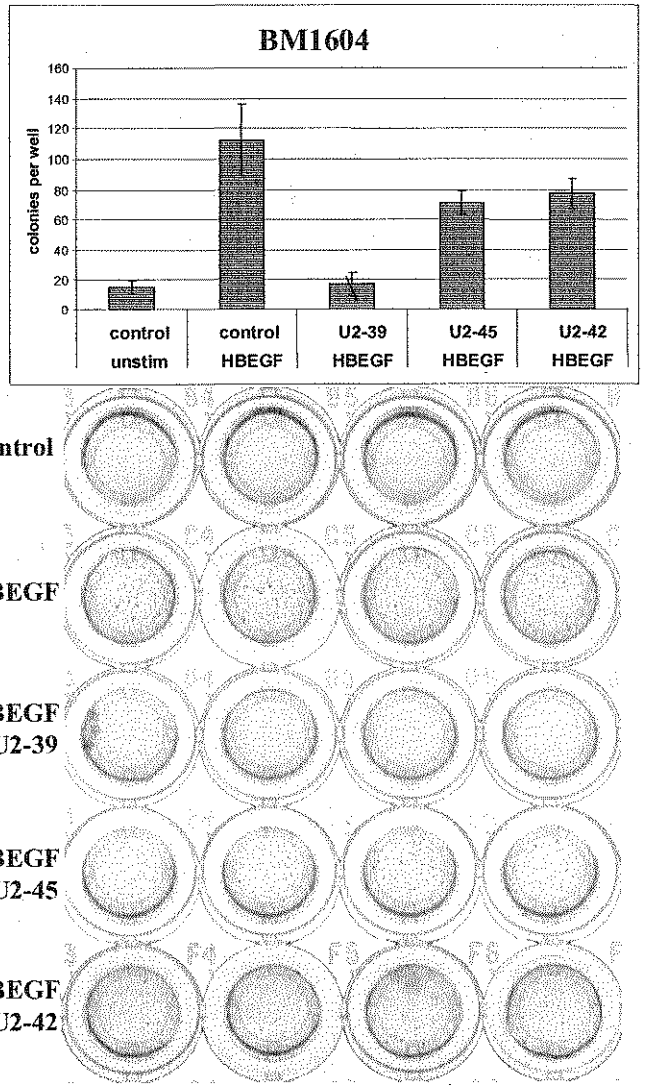
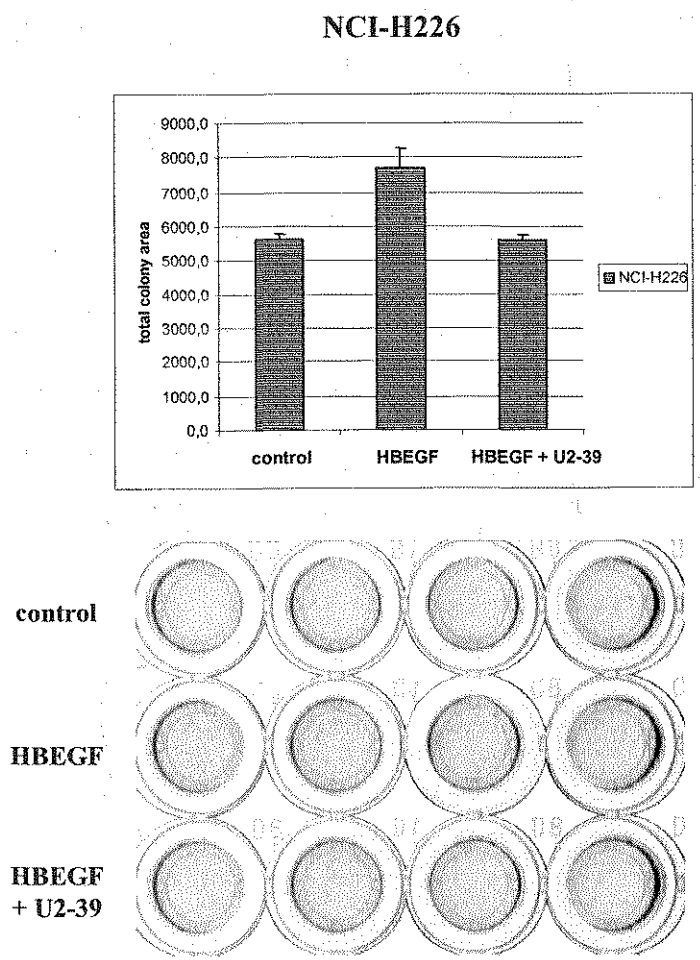


Fig 34 B



Soft agar – Inhibition of HBEGF stimulated colony formation

Fig 34 C



SkOV-3 HBEGF clones - Inhibition of basal colony formation

Fig 34 D

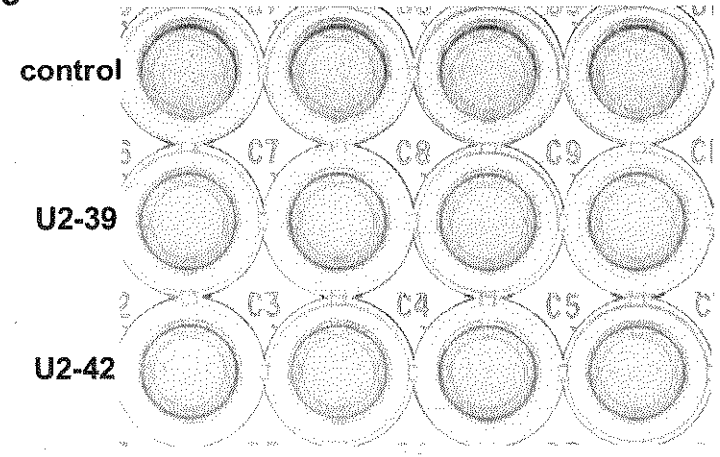
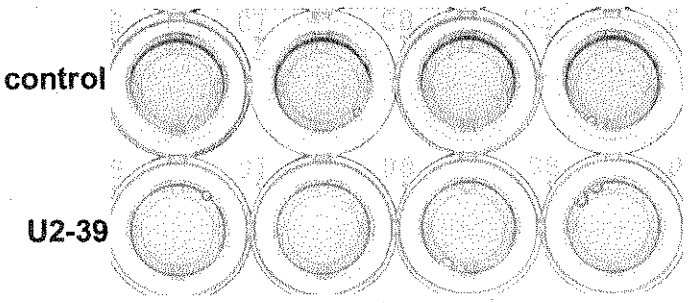
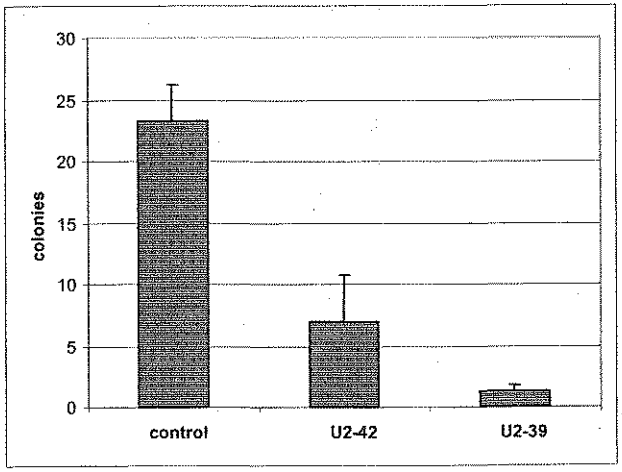


Fig 34 E



SkOV-3 clone 71



SkOV-3 clone 74

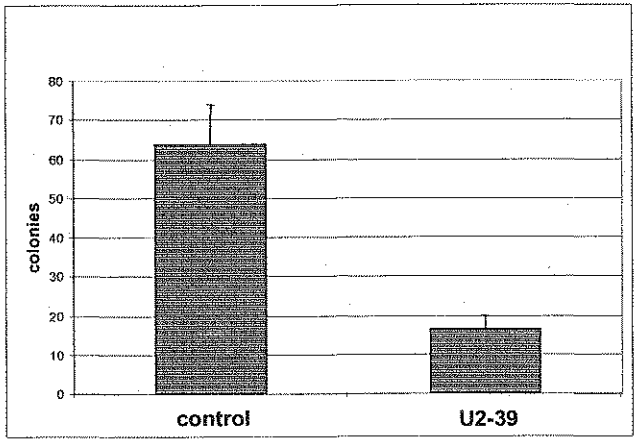
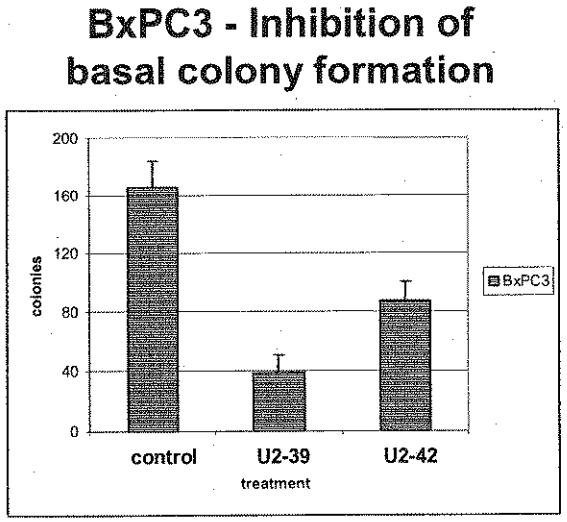
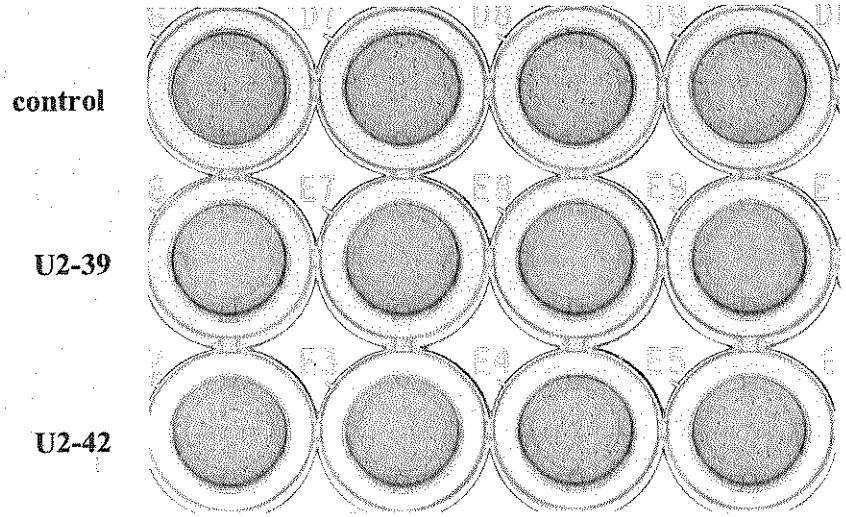


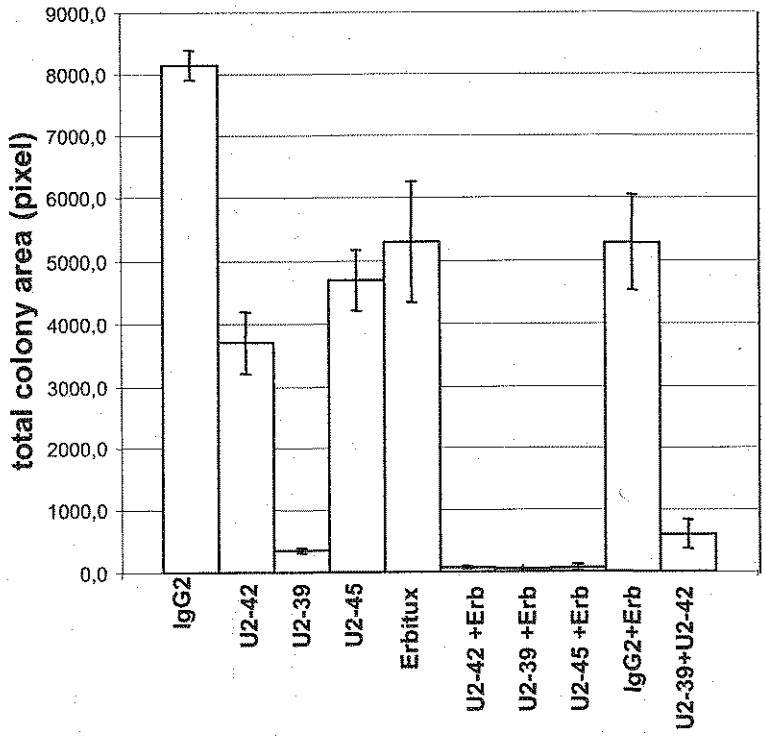
Fig 34 F


BxPC3 - Inhibition of basal colony formation
200
160
120
80
40
0
colonies
control
U2-39
U2-42
treatment
BxPC3


control
U2-39
U2-42

Inhibition of basal colony formation with HBEGF antibodies - synergistic effects in combination with Erbitux

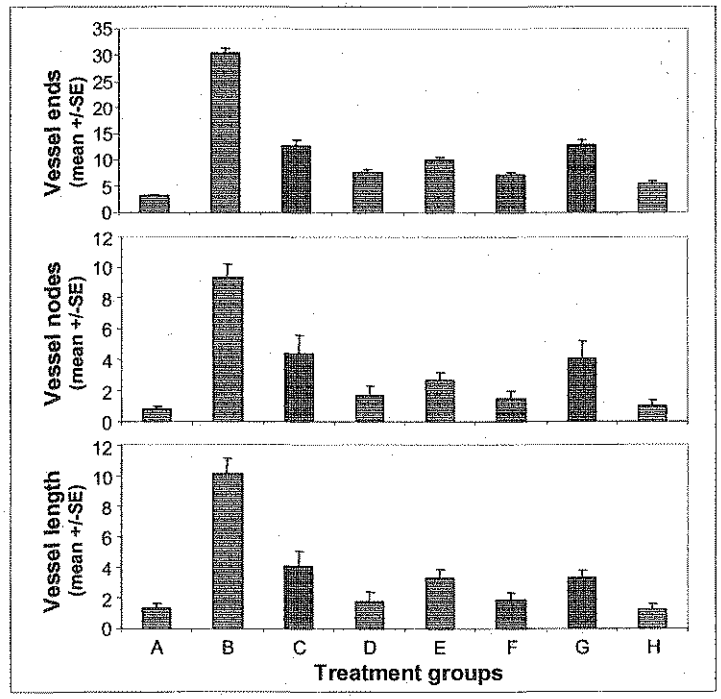
Fig 35



Ab dosing: 20 µg/ml as single agents
10 + 10 µg/ml in combination

In vivo anti-angiogenic properties of anti-HB-EGF antibodies in the mouse matrigel plug assay

Fig 36



Treatment groups

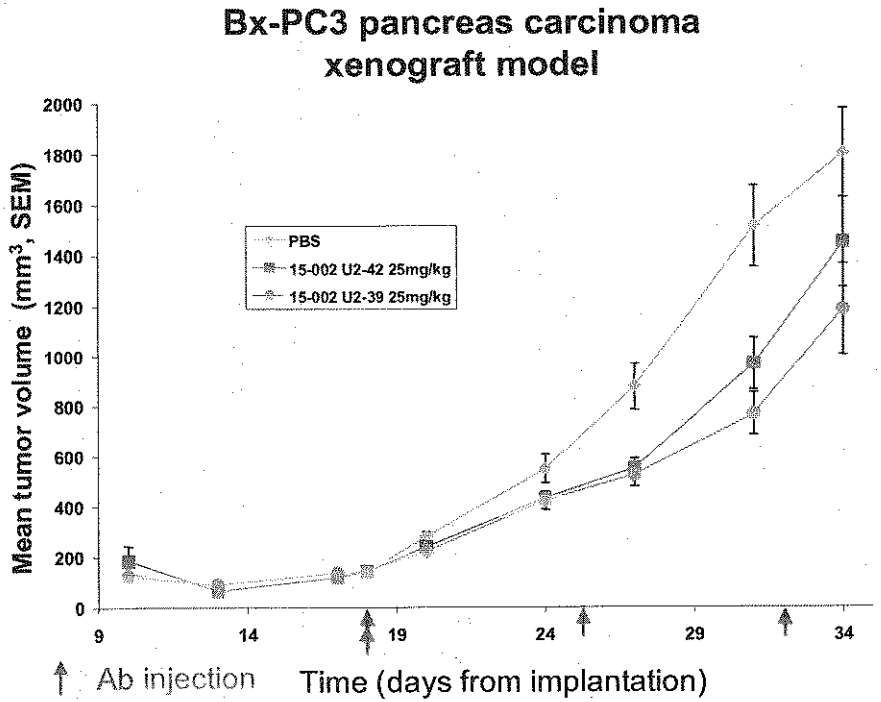
- Control (A)
- HB-EGF (B)

HB-EGF + αHB-EGF mAbs:

- U2-42 (2.5 mg/kg) (C)
- U2-42 (25 mg/kg) (D)
- U2-39 (2.5 mg/kg) (E)
- U2-39 (25 mg/kg) (F)
- U2-45 (2.5 mg/kg) (G)
- U2-45 (25 mg/kg) (H)

Anti-HB-EGF antibodies reduce pancreatic tumor growth *in vivo*

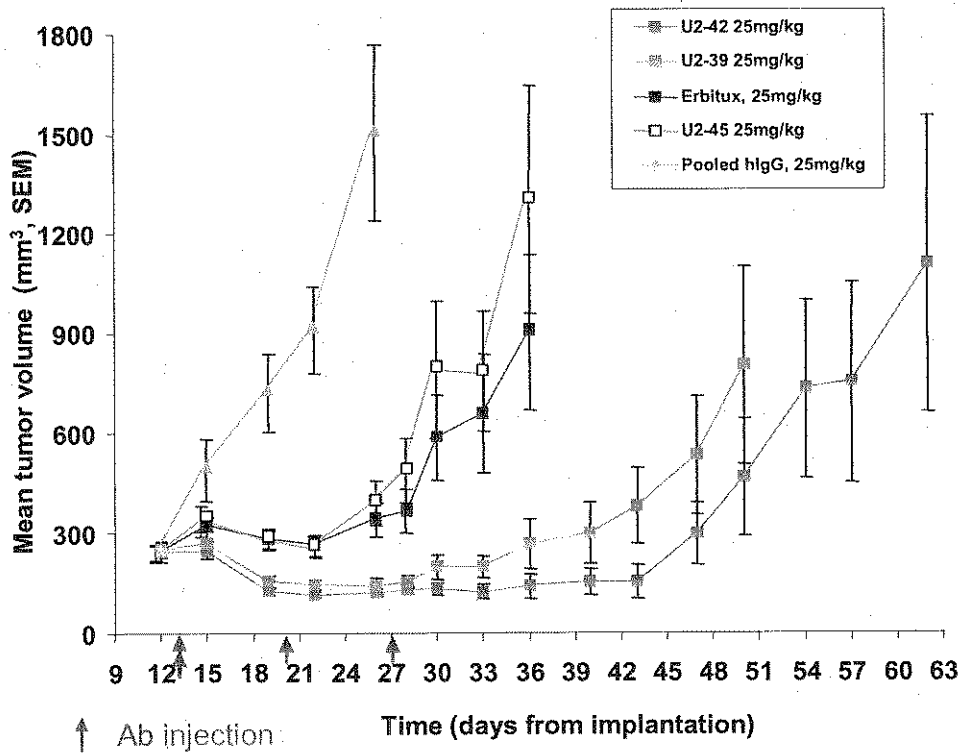
Fig 37



7x10⁷ sc, no matrigel, SCID mice, n=11; Treatment start (d18) @ ~ 140 mm³
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg

Fig 38A

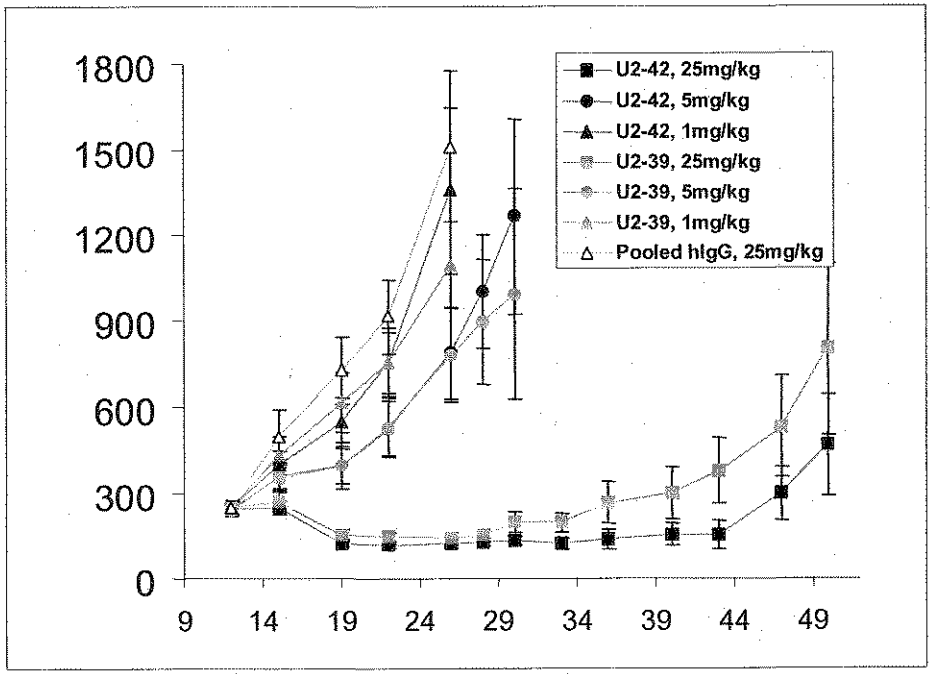
Anti-HB-EGF antibodies reduce ovarian cancer tumor growth *in vivo*



$3x10^6$ sc, matrigel, SCID mice, n=9; Treatment start (d13) @ ~ 250 mm^3
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg,
Combination of αHBEGF with Erbitux were given at 12.5 mg/kg each
Cisplatin administered once a week at 5 mg/kg

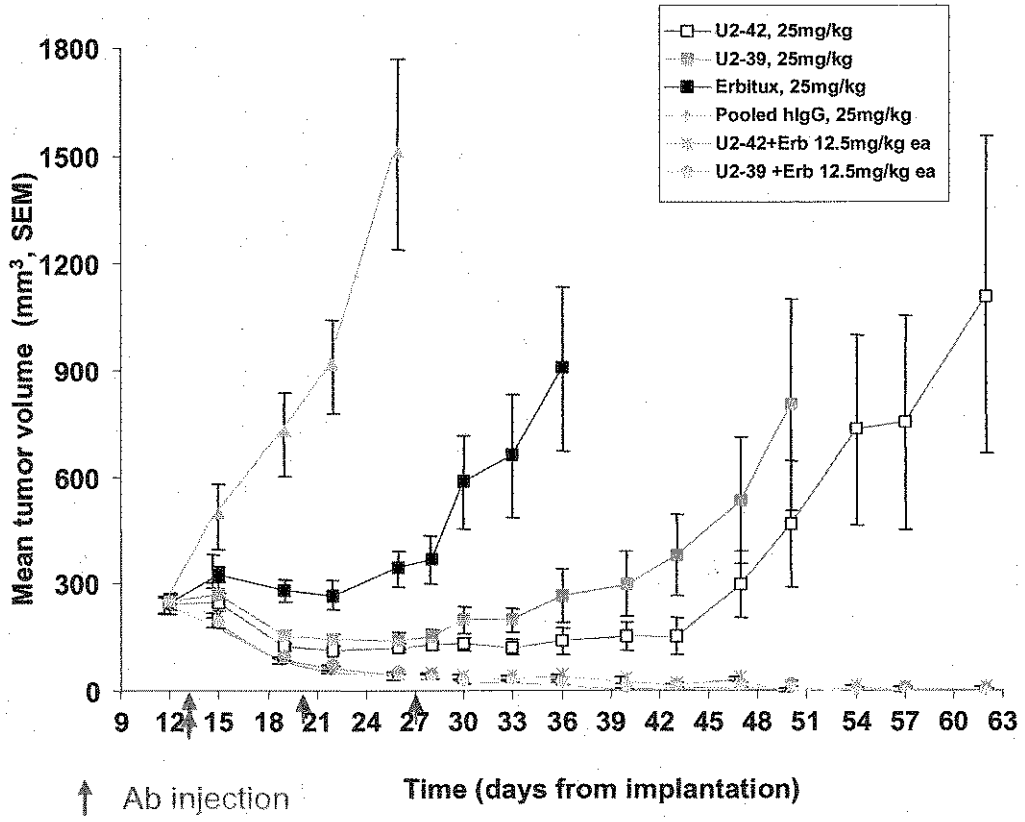
Anti-HB-EGF antibodies reduce ovarian cancer tumor growth *in vivo* – dose titration of antibodies

Fig 38 B



Anti-HB-EGF antibodies synergize in combination with anti-EGFR therapy in the treatment of ovarian cancer tumor growth *in vivo*

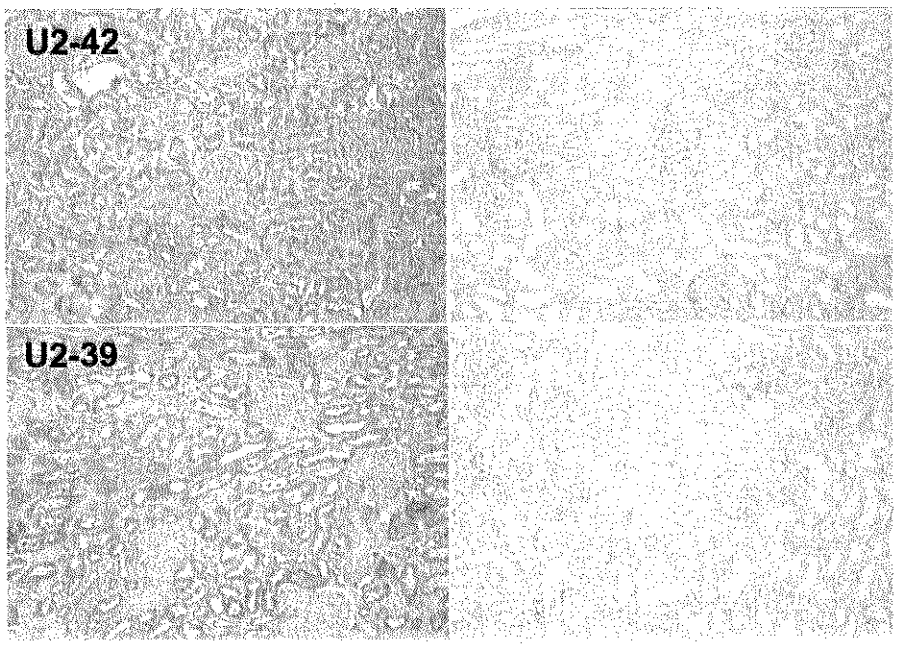
Fig 38C



3x10^6 sc, matrigel, SCID mice, n=9; Treatment start (d13) @ ~ 250 mm^3
Loading dose (ip): 50 mg/kg; Weekly dose (ip): 25 mg/kg,
Combination of αHBEGF with Erbitux were given at 12.5 mg/kg each
Cisplatin administered once a week at 5 mg/kg

Immunohistochemistry of human tissue with human anti HB-EGF antibodies

Fig 39 A



Staining of membranes and cytoplasm of human kidney tubular cells

Human IgG isotype control

HBEGF detecting ELISA based on human antibodies

Fig 39 B

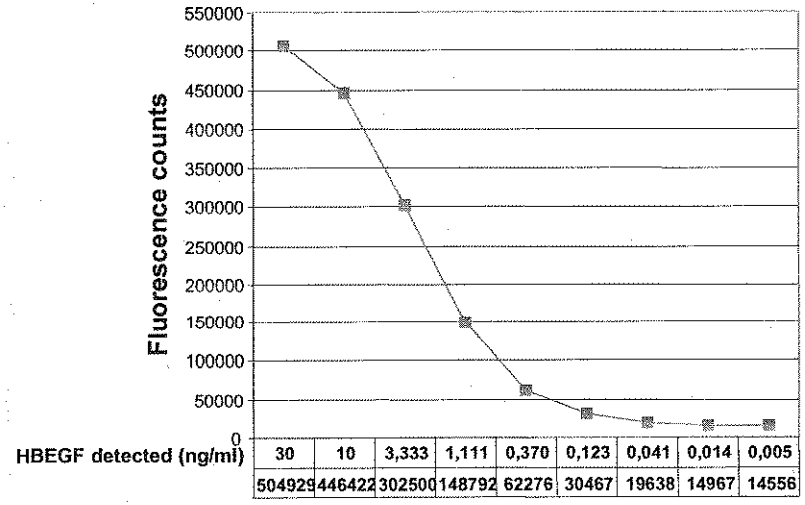


Fig 40A

Scratch assay
- Inhibition of HB-EGF-induced migration

CLS354 epithelial squamous carcinoma cells (mouth)

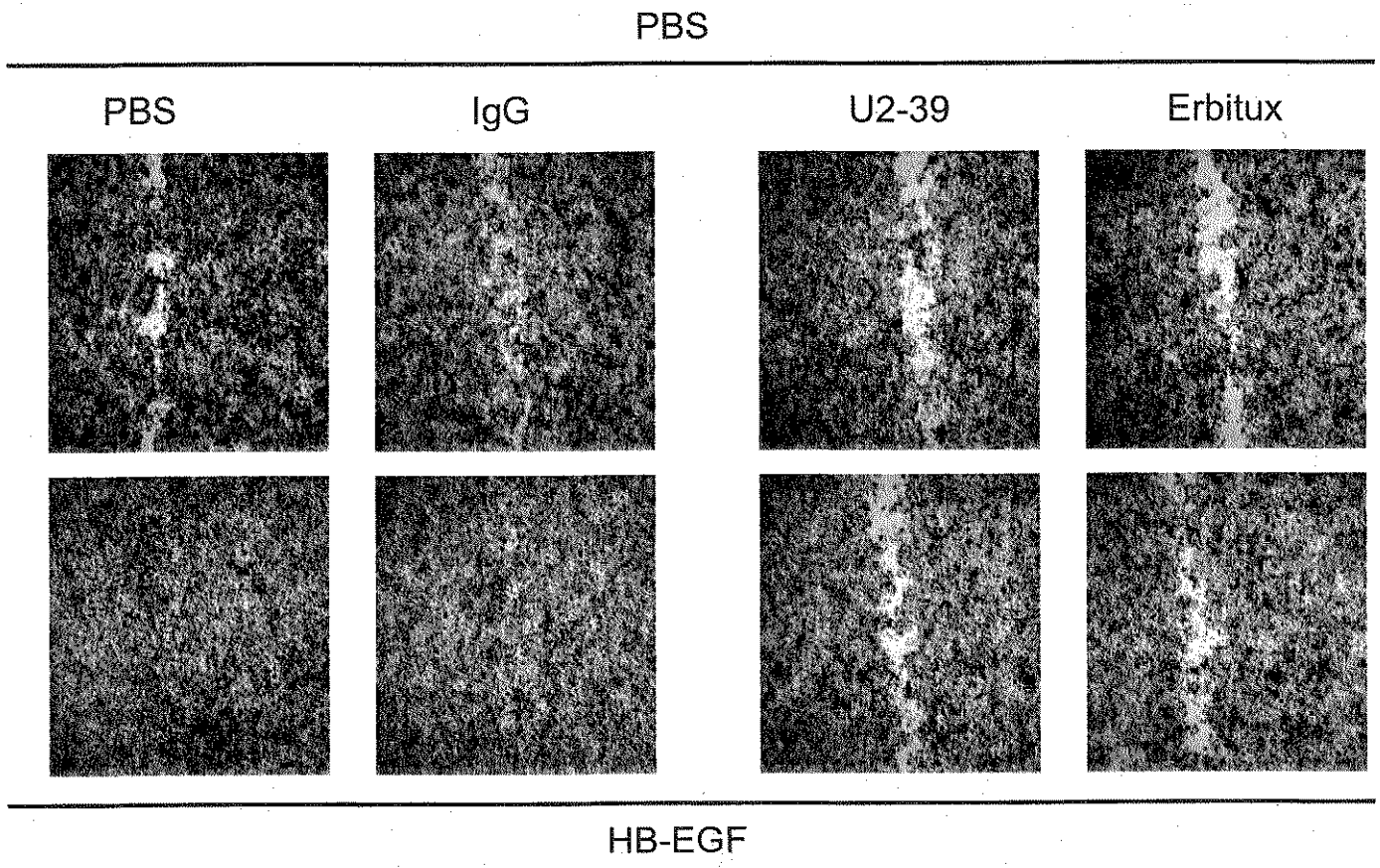
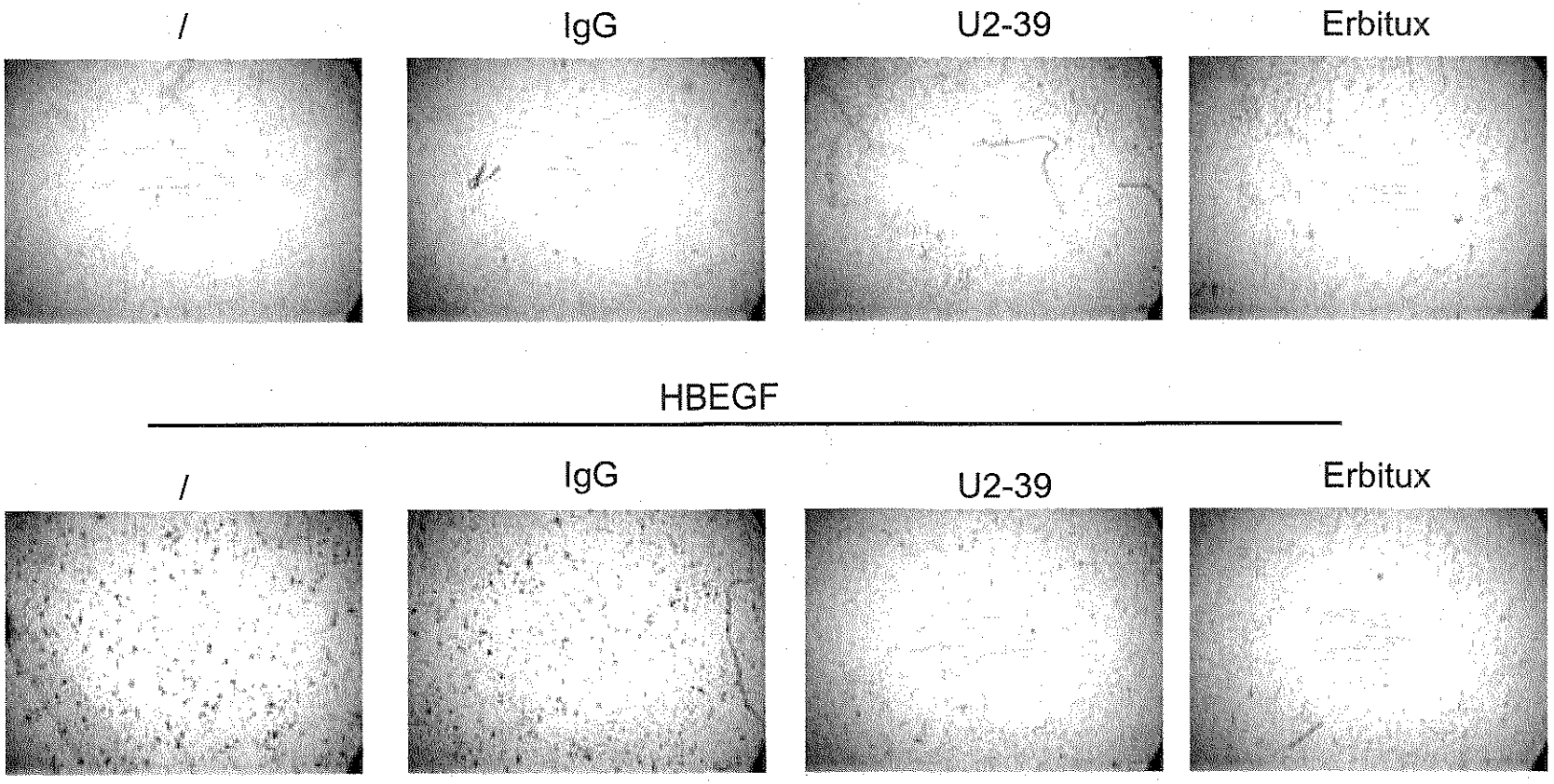


Fig 40B

Transmigration assay
- Inhibition of HB-EGF-induced migration

Detroit 562 epithelial carcinoma cells (pharynx)



Spheroid-based cellular angiogenesis assay – Inhibition of VEGF-stimulated endothelial cell sprouting

Fig 41A

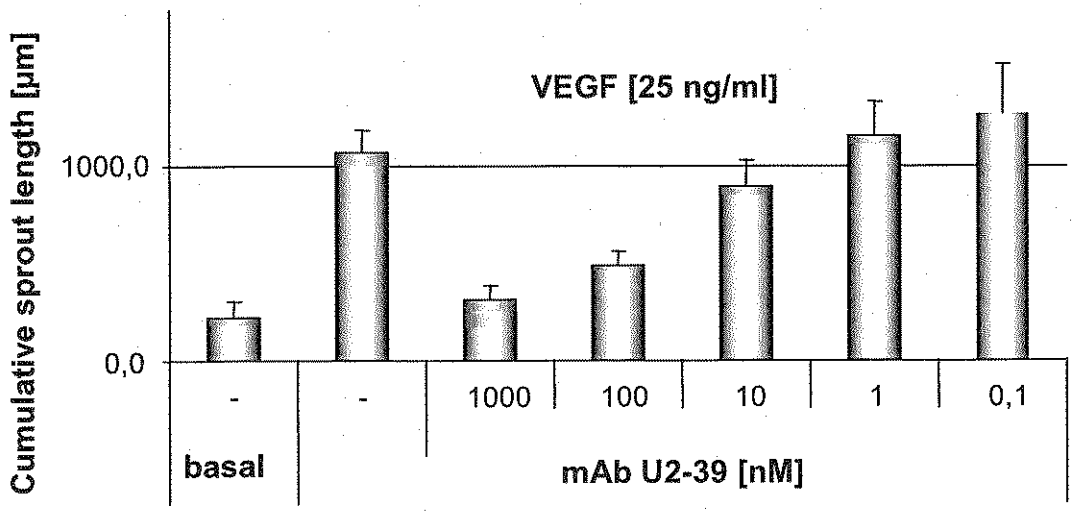


Fig 41B

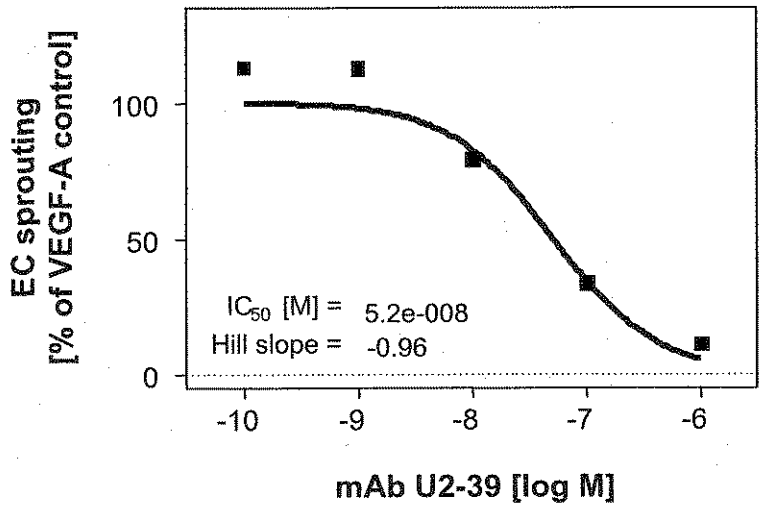


Fig 42

IHC analysis of tumor xenograft samples- Inhibition of CD31 staining of human tumor xenografts *in vivo*

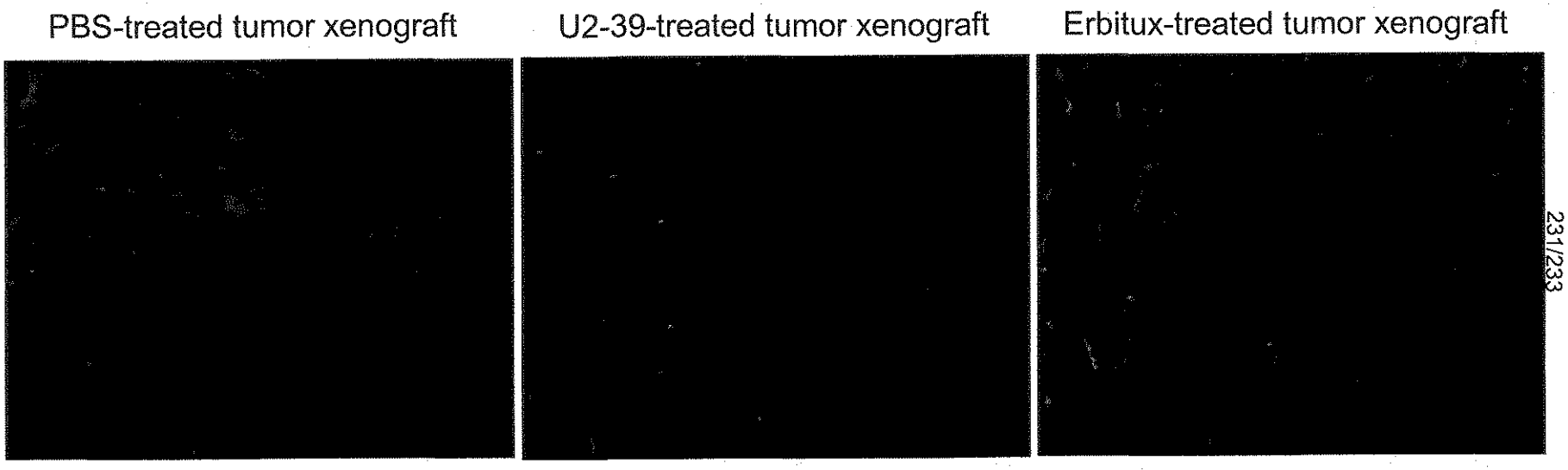


Fig 43A

In vivo ovarian tumor xenograft model- Combination treatment of U2-39 with Cisplatin

Subcutaneous EFO-27-HB-EGF ovarian cancer xenograft model

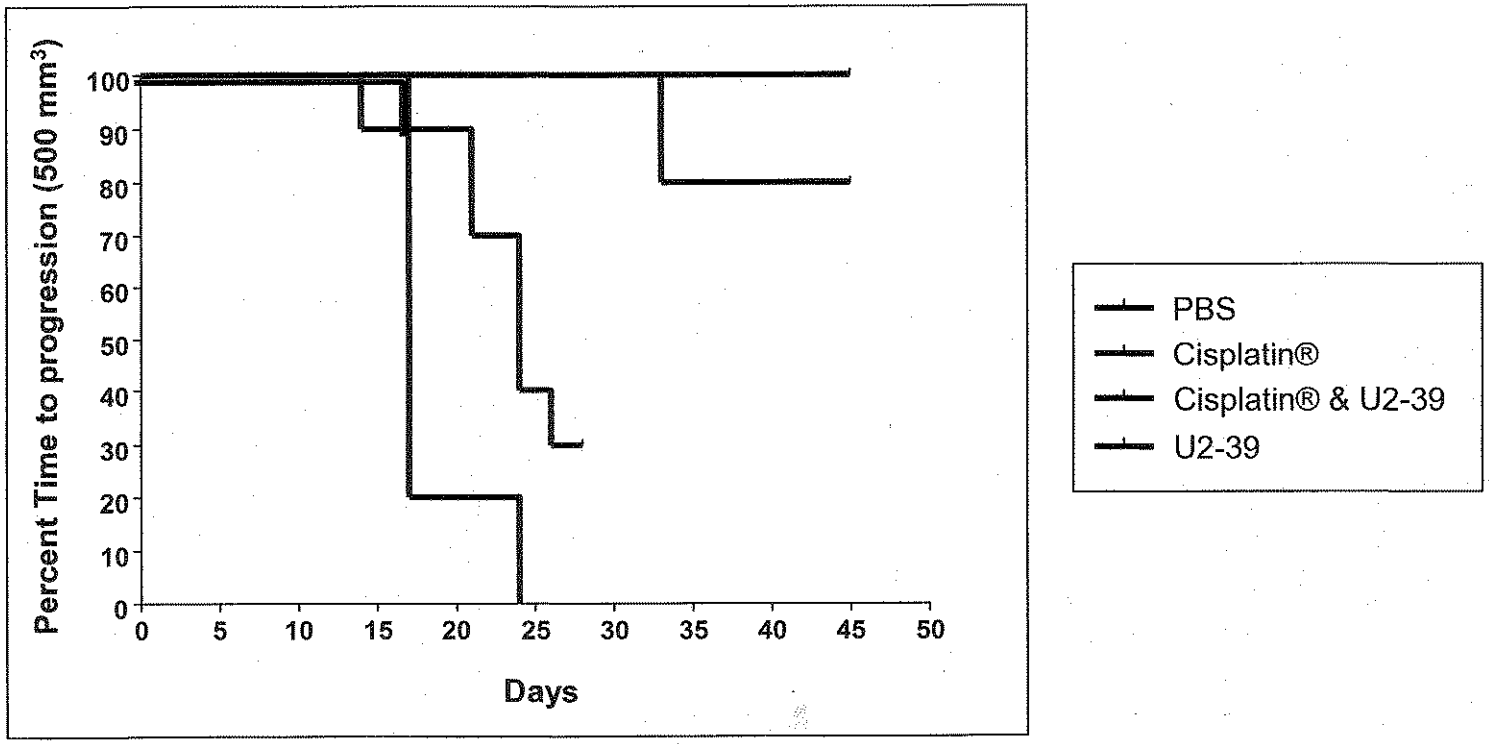


Fig 43B

In vivo ovarian tumor xenograft model- Combination treatment of U2-39 with Avastin

Subcutaneous EFO-27-HB-EGF ovarian cancer xenograft model

