FIGURES

Figure 1: Frequency of pre-existing anti-drug antibodies in sera of healthy subjects

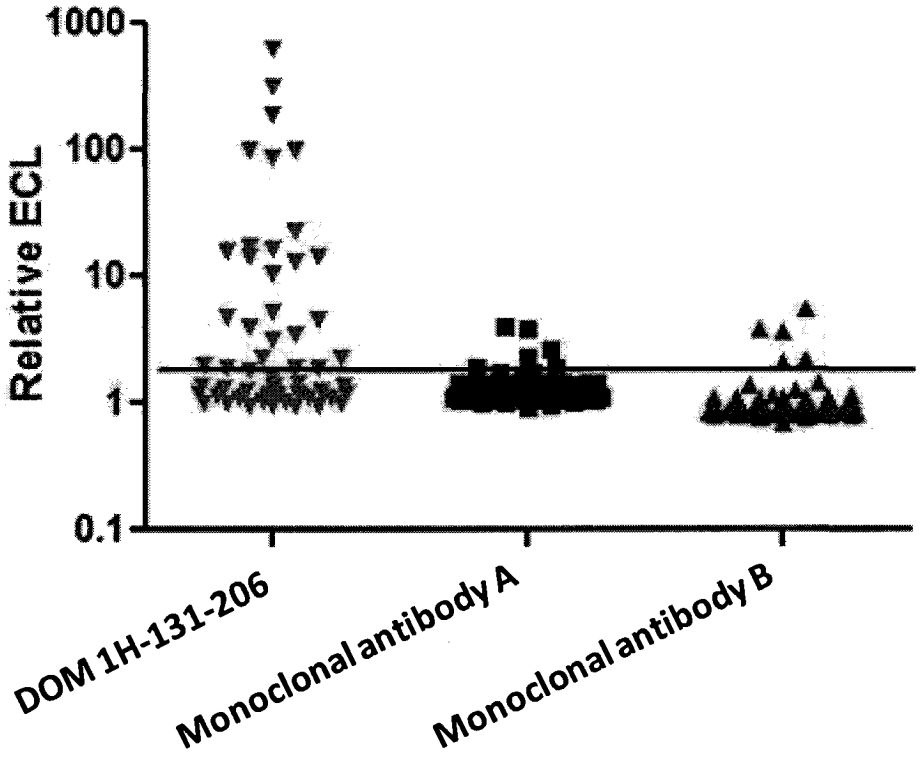


Figure 2: amino acid sequences of:

(a) Unmodified dAb DOM 1H-131-206 (anti-TNFR1)

EVQLLESGGGLVQPGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVK GRFTISRDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSS **(SEQ ID NO 1)**

(b) Unmodified dAb DOM 1H-131-511 (anti-TNFR1)

EVQLLESGGGLVQPGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPP**V**GQDPFYADSVK GRFTISRDNSKNTLYLQMNSLRAEDTAVY**Y**CALLPKRGPWFDYWGQGTLVTVSS **(SEQ ID NO 2)**

(c) Unmodified dAb DOM 1H-131-202 (anti-TNFR1)

EVQLLESGGGLVQPGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVK GRFTISRDNSKNTLYLQMNSLRAEDTAVY**Y**CALLPKRGPWFDYWGQGTLVTVSS **(SEQ ID NO 3)**

(d) Clone VHH2(d) is a bispecific format, having an IL6R binding module linked by GGGGSGGGS to a human serum albumin binding module as described in WO2010100135:

EVQLVESGGGLVQPGGSLRLSCAASGSVFKINVMAWYRQAPGKGRELVAGIISGGSTSYADSVKGR FTISRDNAKNTLYLQMNSLRPEDTAVYYCAFITTESDYDLGRRYWGQGTLVTVSSGGGGSGGGSE VQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLEWVSSISGSGSDTLYADSVKG RFTISRDNAKTTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGTLVTVSS

(SEQ ID NO 4)

(e) Clone VHH2(e) is a bispecific format, having TNF binding module linked to a serum albumin binding module in turn linked to a TNF binding module, using GGGGSGGGS as linker as described in WO2010077422:

EVQLVESGGGLVQPGGSLRLSCAASGFTFSDYWMYWVRQAPGKGLEWVSEINTNGLITKYPDSVK GRFTISRDNAKNTLYLQMNSLRPEDTAVYYCARSPSGFNRGQGTLVTVSSGGGGSGGGSEVQLVE SGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLEWVSSISGSGSDTLYADSVKGRFTISR DNAKTTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGTLVTVSSGGGGSGGGSEVQLVESGGGLVQ PGGSLRLSCAASGFTFSDYWMYWVRQAPGKGLEWVSEINTNGLITKYPDSVKGRFTISRDNAKNT LYLQMNSLRPEDTAVYYCARSPSGFNRGQGTLVTVSS

(SEQ ID NO 5)

Figure 2 continued:

(f) Clone VHH2(f) is a bivalent mono-specific format comprising two identical modules linked by an Ala-Ala-Ala linker, each module is a dAb which can bind the A1 domain of the Von-Willebrand factor, as shown in WO2009115614:

EVQLVESGGGLVQPGGSLRLSCAASGRTFSYNPMGWFRQAPGKGRELVAAISRTGGSTYYPDSVE
GRFTISRDNAKRMVYLQMNSLRAEDTAVYYCAAAGVRAEDGRVRTLPSEYTFWGQGTQVTVSSAA
AEVQLVESGGGLVQPGGSLRLSCAASGRTFSYNPMGWFRQAPGKGRELVAAISRTGGSTYYPDSV
EGRFTISRDNAKRMVYLQMNSLRAEDTAVYYCAAAGVRAEDGRVRTLPSEYTFWGQGTQVTVSS
(SEQ ID NO 6)

(g) Clone VHH2(d) is a bispecific format, having an IL6R binding module linked by GGGGSGGGS to a human serum albumin binding module as described in WO2010100135 with an alanine extension:

EVQLVESGGGLVQPGGSLRLSCAASGSVFKINVMAWYRQAPGKGRELVAGIISGGSTSYADSVKGR
FTISRDNAKNTLYLQMNSLRPEDTAVYYCAFITTESDYDLGRRYWGQGTLVTVSSGGGGSGGGSE
VQLVESGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLEWVSSISGSGSDTLYADSVKG
RFTISRDNAKTTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGTLVTVSSA
(SEQ ID NO 7)

(h) Clone VHH2(e) is a bispecific format, having TNF binding module linked to a serum albumin binding module in turn linked to a TNF binding module, using GGGGSGGGS as linker as described in WO2010077422 with an alanine extension:

EVQLVESGGGLVQPGGSLRLSCAASGFTFSDYWMYWVRQAPGKGLEWVSEINTNGLITKYPDSVK
GRFTISRDNAKNTLYLQMNSLRPEDTAVYYCARSPSGFNRGQGTLVTVSSGGGGSGGGSEVQLVE
SGGGLVQPGNSLRLSCAASGFTFSSFGMSWVRQAPGKGLEWVSSISGSGSDTLYADSVKGRFTISR
DNAKTTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQGTLVTVSSGGGGSGGGSEVQLVESGGGLVQ
PGGSLRLSCAASGFTFSDYWMYWVRQAPGKGLEWVSEINTNGLITKYPDSVKGRFTISRDNAKNT
LYLQMNSLRPEDTAVYYCARSPSGFNRGQGTLVTVSSA
(SEQ ID NO 8)

(i) Clone VHH2(f) is a bivalent mono-specific format comprising two identical modules linked by an Ala-Ala-Ala linker, each module is a dAb which can bind the A1 domain of the Von-Willebrand factor, as shown in WO2009115614 with an alanine extension:

EVQLVESGGGLVQPGGSLRLSCAASGRTFSYNPMGWFRQAPGKGRELVAAISRTGGSTYYPDSVE
GRFTISRDNAKRMVYLQMNSLRAEDTAVYYCAAAGVRAEDGRVRTLPSEYTFWGQGTQVTVSSAA
AEVQLVESGGGLVQPGGSLRLSCAASGRTFSYNPMGWFRQAPGKGRELVAAISRTGGSTYYPDSV
EGRFTISRDNAKRMVYLQMNSLRAEDTAVYYCAAAGVRAEDGRVRTLPSEYTFWGQGTQVTVSSA
(SEQ ID NO 9)

Figure 2 continued:

(j) DOM 1H-574-208

EVQLLESGGGLVQPGGSLRLSCAASGFTFDKYSMGWVRQAPGKGLEWVSQISDTADRTYYAHAV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAIYTGRWVPFEYWGQGTLVTVSS

(SEQ ID NO 10)

(k) DOM 1H-574-208-VL fusion:

EVQLLESGGGLVQPGGSLRLSCAASGFTFDKYSMGWVRQAPGKGLEWVSQISDTADRTYYAHAV
KGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCAIYTGRWVPFEYWGQGTLVTVSSASTDIQMTQS
PSSLSASVGDRVTITCRASRPIGTTLSWYQQKPGKAPKLLILWNSRLQSGVPSRFSGSGSGTDFTLT
ISSLQPEDFATYYCAQAGTHPTTFGQGTKVEIKR

(SEQ ID NO 11)

(l) DT04-H-033 (parental IL-13 dAb):

EVQLLESGGGLVQPGGSLRLSCAASGFTFADYGMAWVRQAPGKGLEWVSTISYNGLYTYYADSVK
GRTISRDNSKNTLYLQMNSLRAEDTAVYYCAKYEYSPESDFDYWGQGTLVTVSS

(SEQ ID NO 12)

(m) DOM10H-53-567

GVQLLESGGGLVQPGGSLRLSCAASGFVFAWYDMGWVRQAPGKGLEWVSSIDWHGEVTYYADS
VKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCATAEDEPGYDYWGQGTLVTVSS

(SEQ ID NO 13)

Figure 3:

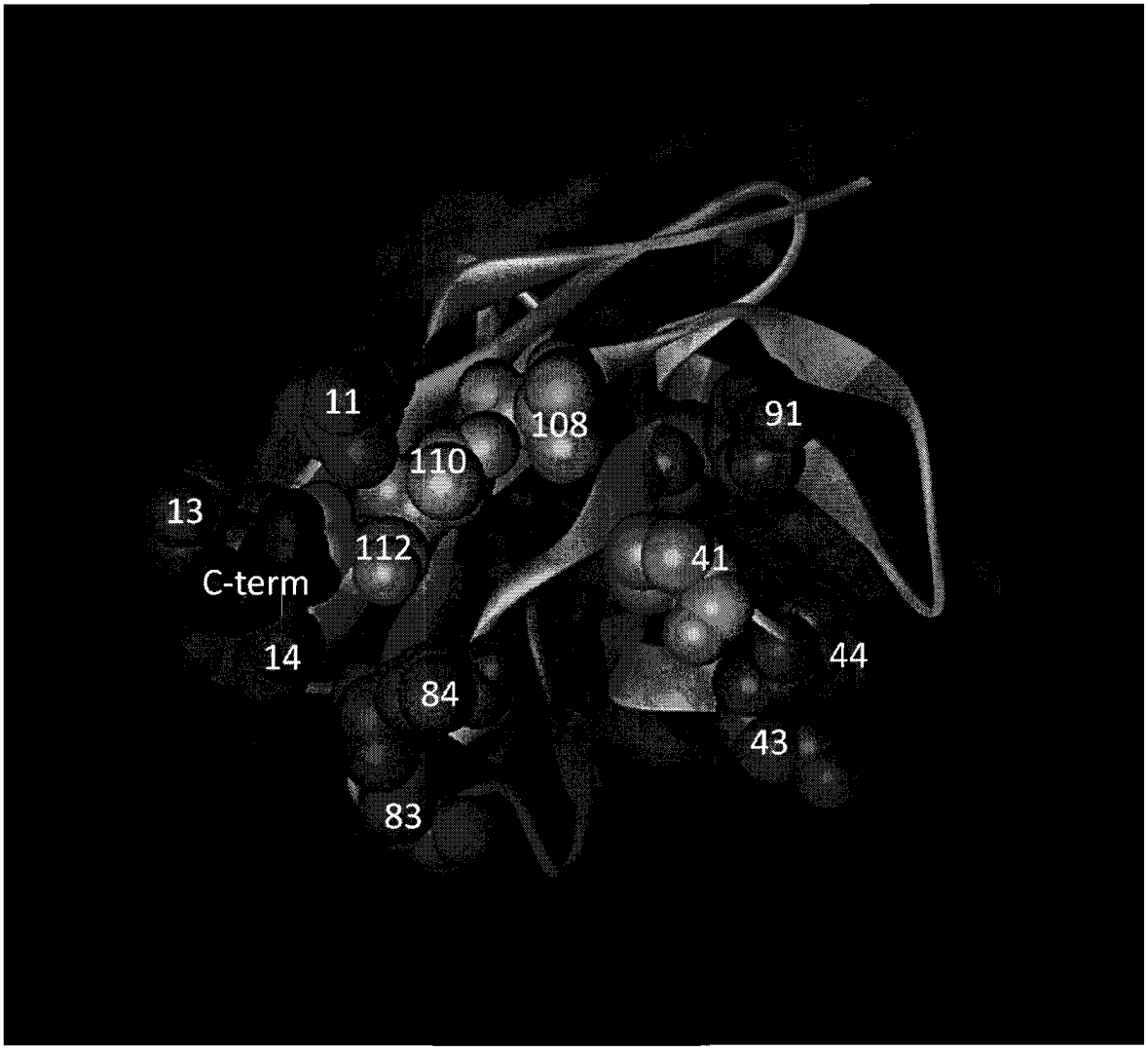


Figure 4: Impact of single alanine extensions on VHH clones

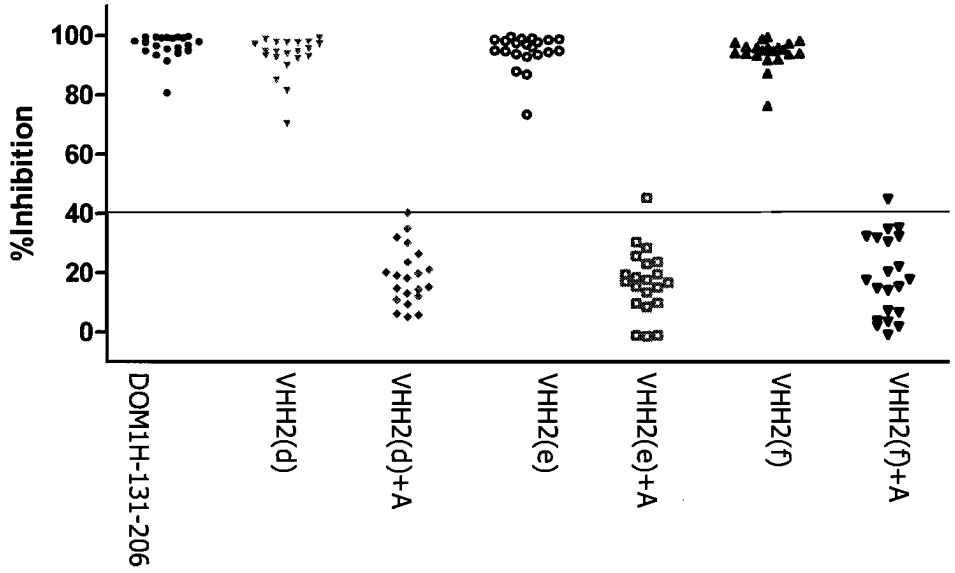


Figure 5: Incidence of binding to ADAs: Dom131-206 below refers to the Dom1h-131-206 dAb

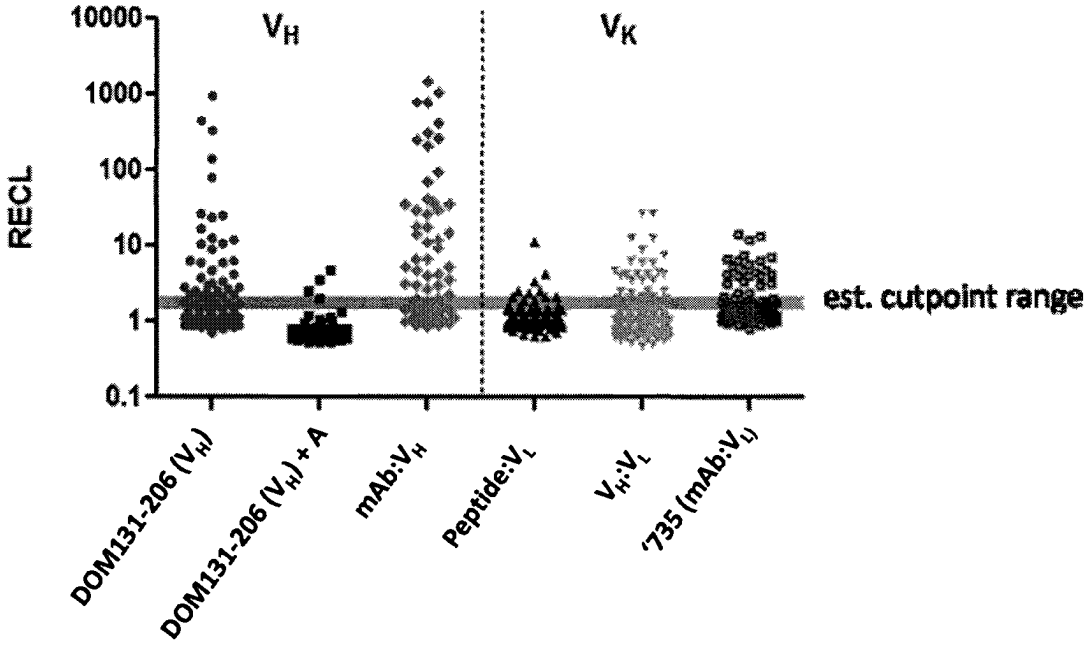


Figure 6a and 6b: The light and heavy chain variable sequences of anti-VH mAb M2.3G10.1G06 (CDR regions are underlined):

(a) Light Chain

DIVMTQSQKFMSPTVGDRVSITCKASQNVGTAVAWYQQKPGQSPKLLIYSASNRYTGVPDRFTGSGSGTDF TLTINNMQSEDLADYFCQQYGSYPLTFGGGTKLEIK

(SEQ ID NO 14)

(b) Heavy Chain

EVQLQQSGPVLVKPGASVKMSCKASGYTLTESYMHWVKQSHGKSLEWIGVISPYNGGTSYNQKFKDKATLT VDKSSSTAYMELNSLTSEDSAVYYCTRRGIYYDPSWFAYWGQGTLVTVSA

(SEQ ID NO 15)

Figure 7: Competition between pre-existing anti-VH ADA and mAb M2.3G10.1G06

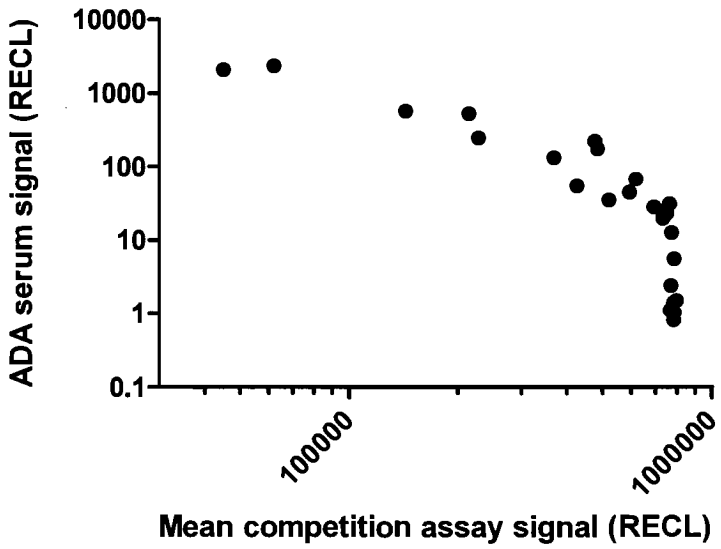


Figure 8: shows the amino acid sequences of modified anti-TNFR1 dAbs:

(a) DOM1h-131-206 dAb with an extension of a single alanine:

EVQLLESGGGLVQPGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVKGRFTIS
RDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSSA
(SEQ ID NO 16)

(b) DOM1h-131-206 dAb with an extension of a single alanine and a P14A framework mutation

EVQLLESGGGLVQAGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVKGRFTIS
RDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSSA
(SEQ ID NO 17)

(c) DOM1h-131-206 dAb with a P14A framework mutation

EVQLLESGGGLVQAGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVKGRFTIS
RDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSS
(SEQ ID NO 18)

(d) DOM1h-131-206 dAb with an ASTKG C terminus extension

EVQLLESGGGLVQPGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVKGRFTIS
RDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSSASTKG
(SEQ ID NO 19)

(e) DOM1h-131-206 dAb with an ASTKG C terminus extension and a P14A framework mutation

EVQLLESGGGLVQAGGSLRLSCAASGFTFAHETMVWVRQAPGKGLEWVSHIPPDGQDPFYADSVKGRFTIS
RDNSKNTLYLQMNSLRAEDTAVYHCALLPKRGPWFDYWGQGTLVTVSSASTKG
(SEQ ID NO 20)

Figure 9: shows the nucleic acid sequences of TNFR1 dAbs

(a) DOM1h-131-206 dAb

GAAGTACAACTGCTGGAGAGCGGTGGCGGCCTGGTTCAACCGGGTGGTTCCCTGCGCCTGTCCTGTGCG
GCATCTGGTTTCACCTTCGCACACGAAACGATGGTGTGGGTTCGCCAAGCTCCGGGCAAAGGCCTGGAA
TGGGTAAGCCACATTCCTCCAGATGGCCAGGACCCATTCTATGCGGATTCCGTTAAGGGTCGCTTTACCA
TTTCTCGTGATAACTCCAAAAACACCCTGTACCTGCAGATGAACTCCCTGCGCGCCGAGGATACTGCGGT
GTACCATTGTGCGCTGCTGCCTAAACGTGGCCCGTGGTTCGATTACTGGGGTCAGGGTACTCTGGTCAC
CGTAAGCAGC

(SEQ ID NO 21)

(b) Dom1h-131-206 with an extension of a single alanine

GAAGTACAACTGCTGGAGAGCGGTGGCGGCCTGGTTCAACCGGGTGGTTCCCTGCGCCTGTCCTGTGCG
GCATCTGGTTTCACCTTCGCACACGAAACGATGGTGTGGGTTCGCCAAGCTCCGGGCAAAGGCCTGGAA
TGGGTAAGCCACATTCCTCCAGATGGCCAGGACCCATTCTATGCGGATTCCGTTAAGGGTCGCTTTACCA
TTTCTCGTGATAACTCCAAAAACACCCTGTACCTGCAGATGAACTCCCTGCGCGCCGAGGATACTGCGGT
GTACCATTGTGCGCTGCTGCCTAAACGTGGCCCGTGGTTCGATTACTGGGGTCAGGGTACTCTGGTCAC
CGTAAGCAGCGCG

(SEQ ID NO 22)

(c) Dom1h-131-206 with an ASTKG C terminus extension

GAAGTACAACTGCTGGAGAGCGGTGGCGGCCTGGTTCAACCGGGTGGTTCCCTGCGCCTGTCCTGTGCG
GCATCTGGTTTCACCTTCGCACACGAAACGATGGTGTGGGTTCGCCAAGCTCCGGGCAAAGGCCTGGAA
TGGGTAAGCCACATTCCTCCAGATGGCCAGGACCCATTCTATGCGGATTCCGTTAAGGGTCGCTTTACCA
TTTCTCGTGATAACTCCAAAAACACCCTGTACCTGCAGATGAACTCCCTGCGCGCCGAGGATACTGCGGT
GTACCATTGTGCGCTGCTGCCTAAACGTGGCCCGTGGTTCGATTACTGGGGTCAGGGTACTCTGGTCAC
CGTAAGCAGCGCGTCTACCAAAGGT

(SEQ ID NO 23)

Figure 10: shows the nucleic acid sequences of VHH molecules:

(a) anti-IL6 VHH

GAAGTGCAGCTGGTTGAATCTGGCGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCTTGCGCA
GCGTCTGGTAGCGTTTTCAAAATCAACGTGATGGCGTGGTATCGTCAGGCTCCGGGTAAAGGTCGTGAA
CTGGTTGCGGGTATCATTTCTGGCGGTAGCACTTCCTACGCGGACTCCGTTAAAGGTCGTTTCACCATCA
GCCGCGACAACGCGAAAAACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGATACCGCGGTTTA
CTATTGCGCGTTCATCACCACCGAATCTGACTACGACCTGGGTCGTCGTTATTGGGGTCAGGGTACTCTG
GTAACCGTATCCTCTGGTGGTGGTGGTTCTGGTGGTGGTTCCGAAGTACAGCTGGTGGAATCTGGCGGT
GGTCTGGTACAGCCGGGTAACTCTCTGCGTCTGTCTTGTGCGGCTTCTGGTTTCACCTTCTCCAGCTTCG
GTATGTCTTGGGTTCGTCAGGCACCGGGTAAAGGTCTGGAATGGGTGTCTAGCATCTCTGGCAGCGGTT
CTGATACCCTGTACGCTGACTCCGTGAAAGGTCGTTTCACTATCTCCCGCGACAACGCGAAAACCACCCT
GTACCTGCAGATGAACTCTCTGCGTCCGGAAGACACCGCTGTTTACTACTGCACCATCGGTGGTAGCCTG
TCCCGTTCTTCTCAGGGTACCCTGGTTACTGTGAGCTCT

(SEQ ID NO 24)

(b) anti-TNF alpha VHH

GAAGTGCAGCTGGTAGAATCTGGCGGTGGTCTGGTACAGCCGGGTGGTTCTCTGCGTCTGTCTTGCGCA
GCTTCTGGCTTCACCTTCTCCGACTACTGGATGTATTGGGTTCGTCAGGCGCCGGGTAAAGGTCTGGAA
TGGGTGTCTGAAATCAACACCAACGGCCTGATCACCAAATACCCGGACTCCGTGAAAGGTCGTTTCACCA
TCTCCCGCGACAACGCGAAAAACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGATACCGCGGT
TTACTATTGTGCGCGTTCTCCGTCTGGTTTCAACCGTGGTCAGGGTACTCTGGTTACCGTAAGCTCTGGT
GGTGGTGGATCCGGCGGTGGTTCTGAAGTTCAGCTGGTTGAAAGCGGTGGTGGTCTGGTACAGCCGGG
TAACTCTCTGCGTCTGTCTTGTGCGGCTTCTGGCTTCACCTTCTCCTCTTTCGGTATGTCTTGGGTTCGT
CAGGCACCGGGTAAAGGCCTGGAATGGGTTTCCTCTATCTCTGGTAGCGGTTCTGACACCCTGTACGCT
GACTCTGTTAAAGGCCGCTTCACCATCTCCCGTGACAACGCGAAAACCACCCTGTATCTGCAGATGAACT
CCCTGCGTCCGGAAGATACCGCTGTATACTACTGCACCATCGGTGGCTCTCTGTCTCGTTCTTCTCAGGG
TACCCTGGTTACCGTATCTAGCGGTGGTGGTGGATCCGGTGGCGGTAGCGAAGTTCAGCTGGTTGAATC
TGGCGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCTTGTGCAGCGTCTGGCTTCACCTTCAG
CGATTACTGGATGTACTGGGTTCGTCAGGCACCGGGTAAAGGTCTGGAATGGGTGTCTGAAATCAACAC
CAACGGTCTGATCACCAAATACCCGGACAGCGTGAAAGGTCGTTTCACCATCAGCCGTGACAACGCGAAA
AACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGACACTGCGGTTTATTACTGCGCACGTTCTC
CGTCTGGTTTCAACCGTGGTCAGGGTACCCTGGTTACTGTATCCTCT

(SEQ ID NO 25)

(c) anti-Von Willebrand VHH

GAGGTACAGCTGGTGGAAAGCGGTGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCTTGCGC
AGCTTCTGGCCGTACCTTCAGCTACAACCCGATGGGTTGGTTCCGTCAGGCTCCGGGTAAAGGTCGTGA
ACTGGTTGCGGCGATCTCTCGTACCGGTGGCTCTACCTACTATCCGGACTCCGTGGAAGGTCGTTTCAC
CATCTCCCGCGACAACGCGAAACGTATGGTATACCTGCAGATGAACAGCCTGCGCGCTGAAGACACCGC
GGTTTACTATTGTGCTGCAGCGGGTGTTCGTGCTGAAGACGGTCGTGTTCGTACCCTGCCGTCCGAATA
CACCTTCTGGGGTCAGGGTACCCAGGTTACCGTTTCTTCTGCAGCGGCGGAAGTGCAGCTGGTTGAATC
TGGCGGTGGTCTGGTACAGCCGGGTGGTTCTCTGCGTCTGTCTTGTGCTGCGTCTGGTCGCACCTTCTC
CTACAACCCGATGGGTTGGTTCCGTCAGGCACCGGGTAAAGGTCGTGAACTGGTAGCGGCAATCTCTCG
CACTGGTGGCTCTACCTACTACCCGGACTCTGTTGAAGGCCGCTTCACCATCTCTCGTGACAACGCGAAA
CGTATGGTGTACCTGCAGATGAACTCCCTGCGTGCGGAAGACACCGCAGTTTATTACTGCGCGGCAGCT
GGTGTTCGTGCAGAAGACGGTCGTGTTCGTACCCTGCCGAGCGAATACACCTTCTGGGGTCAGGGTACC
CAGGTAACCGTATCTTCT

(SEQ ID NO 26)

Figure 10 continued:

(d) anti-IL6 VHH with an extension of a single alanine

GAAGTGCAGCTGGTTGAATCTGGCGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCT
TGCGCAGCGTCTGGTAGCGTTTTCAAAATCAACGTGATGGCGTGGTATCGTCAGGCTCCGGGTAAAGGT
CGTGAACTGGTTGCGGGTATCATTTCTGGCGGTAGCACTTCCTACGCGGACTCCGTTAAAGGTCGTTTC
ACCATCAGCCGCGACAACGCGAAAAACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGATACCG
CGGTTTACTATTGCGCGTTCATCACCACCGAATCTGACTACGACCTGGGTCGTCGTTATTGGGGTCAGG
GTACTCTGGTAACCGTATCCTCTGGTGGTGGTGGTTCTGGTGGTGGTTCCGAAGTACAGCTGGTGGAAT
CTGGCGGTGGTCTGGTACAGCCGGGTAACTCTCTGCGTCTGTCTTGTGCGGCTTCTGGTTTCACCTTCT
CCAGCTTCGGTATGTCTTGGGTTCGTCAGGCACCGGGTAAAGGTCTGGAATGGGTGTCTAGCATCTCTG
GCAGCGGTTCTGATACCCTGTACGCTGACTCCGTGAAAGGTCGTTTCACTATCTCCCGCGACAACGCGAA
AACCACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGACACCGCTGTTTACTACTGCACCATCGGT
GGTAGCCTGTCCCGTTCTTCTCAGGGTACCCTGGTTACTGTGAGCTCTGCG

(SEQ ID NO 27)

(e) anti-TNF alpha VHH with an extension of a single alanine

GAAGTGCAGCTGGTAGAATCTGGCGGTGGTCTGGTACAGCCGGGTGGTTCTCTGCGTCTGTCT
TGCGCAGCTTCTGGCTTCACCTTCTCCGACTACTGGATGTATTGGGTTCGTCAGGCGCCGGGTAAAGGT
CTGGAATGGGTGTCTGAAATCAACACCAACGGCCTGATCACCAAATACCCGGACTCCGTGAAAGGTCGTT
TCACCATCTCCCGCGACAACGCGAAAAACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGATAC
CGCGGTTTACTATTGTGCGCGTTCTCCGTCTGGTTTCAACCGTGGTCAGGGTACTCTGGTTACCGTAAG
CTCTGGTGGTGGTGGATCCGGCGGTGGTTCTGAAGTTCAGCTGGTTGAAAGCGGTGGTGGTCTGGTAC
AGCCGGGTAACTCTCTGCGTCTGTCTTGTGCGGCTTCTGGCTTCACCTTCTCCTCTTTCGGTATGTCTTG
GGTTCGTCAGGCACCGGGTAAAGGCCTGGAATGGGTTTCCTCTATCTCTGGTAGCGGTTCTGACACCCT
GTACGCTGACTCTGTTAAAGGCCGCTTCACCATCTCCCGTGACAACGCGAAAACCACCCTGTATCTGCAG
ATGAACTCCCTGCGTCCGGAAGATACCGCTGTATACTACTGCACCATCGGTGGCTCTCTGTCTCGTTCTT
CTCAGGGTACCCTGGTTACCGTATCTAGCGGTGGTGGTGGATCCGGTGGCGGTAGCGAAGTTCAGCTGG
TTGAATCTGGCGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCTTGTGCAGCGTCTGGCTTCA
CCTTCAGCGATTACTGGATGTACTGGGTTCGTCAGGCACCGGGTAAAGGTCTGGAATGGGTGTCTGAAA
TCAACACCAACGGTCTGATCACCAAATACCCGGACAGCGTGAAAGGTCGTTTCACCATCAGCCGTGACAA
CGCGAAAAACACCCTGTACCTGCAGATGAACTCTCTGCGTCCGGAAGACACTGCGGTTTATTACTGCGCA
CGTTCTCCGTCTGGTTTCAACCGTGGTCAGGGTACCCTGGTTACTGTATCCTCTGCG

(SEQ ID NO 28)

(f) anti-Von Willebrand VHH with an extension of a single alanine

GAGGTACAGCTGGTGGAAAGCGGTGGTGGTCTGGTTCAGCCGGGTGGTTCTCTGCGTCTGTCTTGCGC
AGCTTCTGGCCGTACCTTCAGCTACAACCCGATGGGTTGGTTCCGTCAGGCTCCGGGTAAAGGTCGTGA
ACTGGTTGCGGCGATCTCTCGTACCGGTGGCTCTACCTACTATCCGGACTCCGTGGAAGGTCGTTTCAC
CATCTCCCGCGACAACGCGAAACGTATGGTATACCTGCAGATGAACAGCCTGCGCGCTGAAGACACCGC
GGTTTACTATTGTGCTGCAGCGGGTGTTCGTGCTGAAGACGGTCGTGTTCGTACCCTGCCGTCCGAATA
CACCTTCTGGGGTCAGGGTACCCAGGTTACCGTTTCTTCTGCAGCGGCGGAAGTGCAGCTGGTTGAATC
TGGCGGTGGTCTGGTACAGCCGGGTGGTTCTCTGCGTCTGTCTTGTGCTGCGTCTGGTCGCACCTTCTC
CTACAACCCGATGGGTTGGTTCCGTCAGGCACCGGGTAAAGGTCGTGAACTGGTAGCGGCAATCTCTCG
CACTGGTGGCTCTACCTACTACCCGGACTCTGTTGAAGGCCGCTTCACCATCTCTCGTGACAACGCGAAA
CGTATGGTGTACCTGCAGATGAACTCCCTGCGTGCGGAAGACACCGCAGTTTATTACTGCGCGGCAGCT
GGTGTTCGTGCAGAAGACGGTCGTGTTCGTACCCTGCCGAGCGAATACACCTTCTGGGGTCAGGGTACC
CAGGTAACCGTATCTTCTGCG

(SEQ ID NO 29)

Figure 11: amino acid sequences of mAb:VL dAbs

(a) mAb-VL '735 molecule (IL-13mAb: IL-4Vkappa dAb):

(i) '735 molecule Heavy chain sequence

QVQLVQSGAEVKKPGSSVKVSCKASGFYIKDTYMHWVRQAPGQGLEWMGTIDPANGNTKYVPKFQGRVTI
TADESTSTAYMELSSLRSEDTAVYYCARSIYDDYHVDDYYAMDYWGQGTLVTVSSASTKGPSVFPLAPSSKS
TSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKP
SNTKVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWY
VDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN
VFSCSVMHEALHNHYTQKSLSLSPGKGSTVAAPSGSTVAAPSGSDIQMTQSPSSLSASVGDRVTITCRASRP
ISDWLHWYQQKPGKAPKLLIAWASSLQGGVPSRFSGSGSGTDFTLTISSLQPEDFATYY
CQQEGWGPPTFGQGTKVEIKR

(SEQ ID NO 30)

(ii) '735 molecule Light chain sequence

DIVMTQSPLSLPVTPGEPASISCRSSQNIVHINGNTYLEWYLQKPGQSPRLLIYKISDRFSGVPDRFSGSGSGTD
FTLKISRVEADDVGIYYCFQGSHVPWTFGQGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAK
VQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

(SEQ ID NO 31)

(b) mAb-VL 15014

(i) 15014 molecule Heavy chain sequence

QVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVSWIRQPPGKGLEWLAHIYWDDDKRYNPSLKSRLTIS
KDTSRNQVVLTMTNMDPVDTATYYCARRETVFYWYFDVWGRGTLVTVSSASTKGPSVFPLAPSSKSTSGG
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTK
VDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS
RDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC
SVMHEALHNHYTQKSLSLSPGKGSTVAAPSTDIQMTQSPSSLSASVGDRVTITCRASRPISDWLHWYQQKP
GKAPKLLIAWASSLQGGVPSRFSGSGSGTDFTLTISSLQP EDFATYYCQQEGWGPPTFGQGTKVEIKRAAA

(SEQ ID NO 32)

(ii) 15014 molecule Light chain sequence

DIVLTQSPSSLSASVGDRVTITCKASQSVDYDGDSYMNWYQQKPGKAPKLLIYAASNLESGIPSRFSGSGSGTDF
TFTISSLQPEDIATYYCQQSNEDPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ
WKVDNALQSGNSQESVTEQDSKDSTYSLS STLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

(SEQ ID NO 33)

Figure 11 continued:

(c)) mAb-VL 15019

(i) Heavy chain sequence (mAb component is shown in underlined type, linker is shown in italics, VL dAb component follows the linker and is shown in bold)

QVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVSWIRQPPGKGLEWLAHIYWDDDKRYNPSLKSRLTIS
KDTSRNQVVLTMTNMDPVDTATYYCARRETVFYWYFDVWGRGTLVTVSSASTKGPSVFPLAPSSKSTSGG
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTK
VDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS
RDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC
SVMHEALHNHYTQKSLSLSPGK*GSTVAAPST***DIQMTQSPSSLSASVGDRVTITCRASRPISDWLHW**
YQQKPGKAPKLLIAWASSLQGGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQEGWGPPTF
GQGTKVEIKRT

(SEQ ID NO 34)

(ii) mAb-VL 15019 L-chain sequence

DIVLTQSPSSLSASVGDRVTITCKASQSVDYDGDSYMNWYQQKPGKAPKLLIYAASNLESGIPSRFSGSGSG
TDFTFTISSLQPEDIATYYCQQSNEDPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPR
EAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE
C

(SEQ ID NO 35)

(d)) mAb-VL 15020

(i) Heavy chain sequence (mAb component is shown in underlined type, linker is shown in italics, VL dAb component follows the linker and is shown in bold):

QVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVSWIRQPPGKGLEWLAHIYWDDDKRYNPSLKSRLTIS
KDTSRNQVVLTMTNMDPVDTATYYCARRETVFYWYFDVWGRGTLVTVSSASTKGPSVFPLAPSSKSTSGG
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTK
VDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS
RDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC
SVMHEALHNHYTQKSLSLSPGK*GSTVAAPST***DIQMTQSPSSLSASVGDRVTITCRASRPISDWLHW**
YQQKPGKAPKLLIAWASSLQGGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQEGWGPPTF
GQGTKVEIKRTV

(SEQ ID NO 36)

Figure 11 continued:

(d ii) mAb-VL 15020 L-chain sequence

DIVLTQSPSSLSASVGDRVTITCKASQSVDYDGDSYMNWYQQKPGKAPKLLIYAASNLESGIPSRFSGSGSG
TDFTFTISSLQPEDIATYYCQQSNEDPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPR
EAKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGE
C

(SEQ ID NO 37)

(e)) mAb-VL 15021

(i) Heavy chain sequence (mAb component is shown in underlined type, linker is shown in italics, VL dAb component follows the linker and is shown in bold):

QVTLRESGPALVKPTQTLTLTCTFSGFSLSTSGMGVSWIRQPPGKGLEWLAHIYWDDDKRYNPSLKSRLTIS
KDTSRNQVVLTMTNMDPVDTATYYCARRETVFYWYFDVWGRGTLVTVSSASTKGPSVFPLAPSSKSTSGG
TAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTK
VDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPS
RDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSC
SVMHEALHNHYTQKSLSLSPGK*GSTVAAPS***TDIQMTQSPSSLSASVGDRVTITCRASRPISDWLHW**
YQQKPGKAPKLLIAWASSLQGGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQEGWGPPTF
GQGTKVEIK

(SEQ ID NO 38)

(ii) mAb-VL 15021 L-chain sequence

DIVLTQSPSSLSASVGDRVTITCKASQSVDYDGDSYMNWYQQKPGKAPKLLIYAASNLESGIPSRFSGSGSGT
DFTFTISSLQPEDIATYYCQQSNEDPPTFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRE
AKVQWKVDNALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

(SEQ ID NO 39)

Figure 12: amino acid sequences of Vh-Vk dAb-fc-dAb molecules

(a) DMS30045: DOM15-26-597 dAb N-(VEPKSSDK linker) & C-terminal K-044-085 dAb ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRFTISRDNS
KNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSVEPKSSDKTHTCPPCPAPELLGGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS
NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD
GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMT
QSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDF
ATYYCQQYMYYPHTFGQGTKVEIKR

(SEQ ID NO 40)

(b) DMS30046: DMS1576 with C-terminal K-044-085 dAb ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRFTISRDNS
KNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSASTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRT
PEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPA
PIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYS
KLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMTQSPSSLS
ASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQ
YMYYPHTFGQGTKVEIKR

(SEQ ID NO 41)

(c) DMS30047 (contains modified C terminus) : DOM15-26-597 dAb N-(VEPKSSDK linker) & C-terminal K-044-085 dAb minus C-term R ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSVEPKSSDKTHTCPPCPAPELLGGPSVFLF
PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK
EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSP
DIQMTQSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSL
QPEDFATYYCQQYMYYPHTFGQGTKVEIK

(SEQ ID NO 42)

Figure 12 continued:

(d) DMS30048 (contains modified C terminus): DOM15-26-597 dAb N-(VEPKSSDK linker) & C-terminal K-044-085 dAb + A ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSVEPKSSDKTHTCPPCPAPELLGGPSVFLF
PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK
EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSP
DIQMTQSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSL
QPEDFATYYCQQYMYYPHTFGQGTKVEIKRA

(SEQ ID NO 43)

(e) DMS30049 (contains modified C terminus): DOM15-26-597 dAb N-(VEPKSSDK linker) & C-terminal K-044-085 dAb +AAA ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSVEPKSSDKTHTCPPCPAPELLGGPSVFLF
PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK
EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSP
DIQMTQSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSL
QPEDFATYYCQQYMYYPHTFGQGTKVEIKRAAA

(SEQ ID NO 44)

(f) DMS30050 (contains modified C terminus): DOM15-26-597 dAb N-(VEPKSSDK linker) & C-terminal K-044-085 dAb +T ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSVEPKSSDKTHTCPPCPAPELLGGPSVFLF
PPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGK
EYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTP
PVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSP
DIQMTQSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSL
QPEDFATYYCQQYMYYPHTFGQGTKVEIKRT

(SEQ ID NO 45)

Figure 12 continued:

(g) DMS30051 (contains modified C terminus): DMS1576 with C-terminal K-044-085 dAb minus C-term R ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSASTHTCPPCPAPELLGGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS
NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD
GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMT
QSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDF
ATYYCQQYMYYPHTFGQGTKVEIK

(SEQ ID NO 46)

(h) DMS30052 (contains modified C terminus): DMS1576 with C-terminal K-044-085 dAb +A ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSASTHTCPPCPAPELLGGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS
NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD
GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMT
QSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDF
ATYYCQQYMYYPHTFGQGTKVEIKRA

(SEQ ID NO 47)

(i) DMS30053 (contains modified C terminus): DMS1576 with C-terminal K-044-085 dAb +AAA ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF
TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSASTHTCPPCPAPELLGGPSVFLFPPKPKD
TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS
NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD
GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMT
QSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDF
ATYYCQQYMYYPHTFGQGTKVEIKRAAA

(SEQ ID NO 48)

Figure 12 continued:

(j) DMS30054 (contains modified C terminus): DMS1576 with C-terminal K-044-085 dAb +T ((TGLDSP)x4)

EVQLLVSGGGLVQPGGSLRLSCAASGFTFKAYPMMWVRQAPGKGLEWVSEISPSGSNTYYADSVKGRF TISRDNSKNTLYLQMNSLRAEDTAVYYCAKDPRKLDYWGQGTLVTVSSASTHTCPPCPAPELLGGPSVFLFPPKPKD TLMISRTPEVTCVVVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVS NKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSD GSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKTGLDSPTGLDSPTGLDSPTGLDSPDIQMT QSPSSLSASVGDRVTITCRASQWIGPELKWYQQKPGKAPKLLIYHGSILQSGVPSRFSGSGSGTDFTLTISSLQPEDF ATYYCQQYMYYPHTFGQGTKVEIKRT

(SEQ ID NO 49)