

[Figure 1]

SEQ ID NO: 1 Amino acid sequence of human CD3ε

MQSGTHWRVLGLCLLSVGVWGQDGNEEMGGITQTPYKVSISGTTVILTCPQ
YPGSEILWQHNDKNIGGDEDDKNIGSDEDHLSLKEFSELEQSGYYVCYPRG
SKPEDANFYLYLRARVCENCMEMDVMSVATIVIVDICITGGLLLLVEYYWSK
NRKAKAKPVTRGAGAGGRQRGQNKERPPVPNPDYEPIRKGQRDLYSGLNQ
RRI

(NCBI Reference Sequence: NP_000724.1)

[Figure 2]

SEQ ID NO: 2 Amino acid sequence of human CD3δ

MEHSTFLSGLVLATLLSQVSPFKIPIEELEDRVFVNCNTSITWVEGTVGTL
LSDITRLDLGKRILDPRGIYRCNGTDIYKDKESTVQVHYRMCQSCVELDPA
TVAGIIIVTDVIATLLLALGVFCFAGHETGRLSGAADTQALLRNDQVYQPLR
DRDDAQYSHLGGNWARNK

(NCBI Reference Sequence: NP_000723.1)

[Figure 3]

SEQ ID NO: 4 Nucleotide sequence encoding a human
CD3 ϵ single-chain antigen

ATGAGAGGATCGCATCACCATCACCATCACGGATCCCAGAGCATTAAAGGT
AATCACCTGGTGAAAGTGTATGACTATCAAGAAGATGGTAGCGTTCTGCTG
ACCTGTGATGCAGAAGCAAAAAACATTACCTGGTTCAAAGACGGCAAAATG
ATTGGTTTTCTGACCGAAGATAAAAAAAATGGAATCTGGGCAGCAATGCA
AAAGATCCGCGTGGTATGTATCAGTGTAAGGTAGCCAGAATAAAAGCAAA
CCGCTGCAGGTTTATTATCGTATGGGTAGCGCAGATGATGCAAAAAAAGAT
GCAGCCAAAAAAGACGACGCGAAAAAAGATGATGCTAAAAAAGACGGTTCC
GATGGCAATGAAGAAATGGGTGGTATTACCCAGACCCCGTATAAAGTTAGC
ATTAGCGGCACCACCGTTATTCTGACCTGTCCGCAGTATCCGGGTAGCGAA
ATTCTGTGGCAGCATAACGATAAAAACATTGGCGGTGATGAGGACGACAAA
AATATCGGTAGTGATGAAGATCATCTGAGCCTGAAAGAATTCAGCGAACTG
GAACAGAGCGGTTATTATGTTTGTTATCCTCGTGGTAGCAAACCGGAAGAT
GCAAACCTTTTATCTGTATCTGCGTGCACGTGTTGGGAAGCTTAAT

His tag (1-36), Human CD3 ϵ single-chain antigen (37-
660), Linker (280-357)

[Figure 4]

SEQ ID NO: 5 Amino acid sequence of His-scCD3
antigen

MRGSHHHHHHGSQSIKGNHLVKVYDYQEDGSVLLTCDAEAKNITWFKDGKM
IGFLTEDKKKWNLGSNAKDPRGMYQCKGSQNKSKPLQVYYRMGSADDAKDD
AAKKDDAKKDDAKKDGSDGNEEMGGITQTPYKVSISGTTVILTCPQYPGSE
ILWQHNDKNIGGDEDDKNIGSDEDHLSLKEFSELEQSGYYVCYPRGSKPED
ANFYLYLRARVGKLN

His tag (1-12), Human CD3 ϵ single-chain antigen (13-
220), Linker (94-119)

[Figure 5]

SEQ ID NO: 50 Sense primer Nhe-polyC-S for heavy
chain gene amplification

5'-GCTAGCGCTACCGGACTCAGATCCCCCCCCCCCCCDN-3'

[Figure 6]

SEQ ID NO: 51 First antisense primer rIg γ -AS1 for
heavy chain gene amplification

5'-TCACTGAGCTGGTGAGAGTGTAGAGCCC-3'

[Figure 7]

SEQ ID NO: 52 Second antisense primer rIgy-AS2 for heavy chain gene amplification

5'-TCACCGAGCTGCTGAGGGTGTAGAGCCC-3'

[Figure 8]

SEQ ID NO: 53 Sense primer Nhe-polyC-S2 for light chain gene amplification

5'-GCTAGCGCTACCGGACTCAGATCCCCCCCCCCCCCDN-3'

[Figure 9]

SEQ ID NO: 54 First antisense primer rIgL-AS1 for light chain gene amplification

5'-TTCCACATCACTCGGGTAGAAATCAG-3'

[Figure 10]

SEQ ID NO: 55 Second antisense primer rIgL-AS2 for light chain gene amplification

5'-TAACACCAGGGTAGAAATCTGTCACCAT-3'

[Figure 11]

SEQ ID NO: 56 Sense primer rIgy-seq for heavy chain sequencing

5'-CTGGCTCAGGGAAATAGCC-3'

[Figure 12]

SEQ ID NO: 57 Antisense primer 1 rIgL-seq1 for light chain sequencing

5'-TCCCTGGAGCTCCTCAGT-3'

[Figure 13]

SEQ ID NO: 58 Antisense primer 2 rIgL-seq2 for light chain sequencing

5'-GCCTTGTCAGTCTTGAGC-3'

[Figure 14]

SEQ ID NO: 6 Nucleotide sequence encoding the heavy chain variable region of C3-147

GAGGTGCAGTTGGTGGAGTCTGGGGGAGGCCTGGTGCAGCCTGGAAGGGCC
CTGAAACTCTCCTGTGTAGTCTCTGGAGTCACATTCAATTACTACGGGATG
AGCTGGATCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTGTCATCCATT
ACTAATTCTGGTGGTAGAATTTACTATCCAGACTCTGTGAAGGGCCGATTC
ACTATCTCCAGAGAAAATACACAAAAGACCCTATACCTACAAATGAACAGT
CTGAGGTCTGAGGACACGGCCACTTATTACTGTACTCTCGATGGTCGCGAT
GGTTGGGTTGCTTACTGGGGCCAAGGCACTCTGGTCACTGTCTCTTCA

[Figure 15]

SEQ ID NO: 7 Amino acid sequence of the heavy chain variable region of C3-147

EVQLVESGGGLVQPGRALKLSCVVSGVTFNYYGMSWIRQAPGKGLEWVASI
TNSGGRIYYPD SVKGRFTISRENTQKTLYLQMNSLRSED TATYYCTLDGRD
GWVAYWGQGTLVTVSS

[Figure 16]

SEQ ID NO: 8 Nucleotide sequence encoding the light chain variable region of C3-147

CAGTTTGTGCTTACTCAGCCAAACTCTGTGTCTACGAATCTCGGAACCACA
GTCGAACTGTCTTGCAAGCGCAACACTGGGAACATTGGAAGCAATTATGTG
AACTGGTACCAGCAGCATGAGGGAAGATCTCCCACCACTATTATTTATAGG
GATGATAAGAGACCAGATGGAGTTTCTGACAGGTTCTCTGGGTCCATTGAC
AGATCTTCCAAGTCAGCCCTCCTGACAATCAATAATGTGCAGACTGAAGAT
GAAGCTGACTACTTCTGTGTCAGTCTTACAGTAGTGGTTTTATTTTCGGCGGT
GGAACCAAGCTCACTGTCCTA

[Figure 17]

SEQ ID NO: 9 Amino acid sequence of the light chain variable region of C3-147

QFVLTQPNVSTNLGTTVELSCKRNTGNIGSNYVNWYQQHEGRSPTTIIYR
DDKRPDGVSDRFSGSIDRSSKSALLTINNVQTEDEADYFCQSYSSGFIFGG
GTKLTVL

[Figure 18]

SEQ ID NO: 10 G4S linker sense

GTCACTGTCTCTTCAGGTGGAGGCGGTTCAGGCGGAGGTGGCAGCGGCGGT
GGCGGGAGTCAGTTTGTGCTTACT

[Figure 19]

SEQ ID NO: 11 G4S linker antisense

AGTAAGCACAAACTGACTCCCGCCACCGCCGCTGCCACCTCCGCCTGAACC
GCCTCCACCTGAAGAGACAGTGAC

[Figure 20]

SEQ ID NO: 14 Nucleotide sequence encoding C3E-7000
ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGAGGTGCAGTTGGTGGAGTCTGGGGGAGGCCTGGTGCAGCCTGGA
AGGGCCCTGAAACTCTCCTGTGTAGTCTCTGGAGTCACATTCAATTACTAC
GGGATGAGCTGGATCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTTGCA
TCCATTACTAATTCTGGTGGTAGAATTTACTATCCAGACTCTGTGAAGGGC
CGATTCACTATCTCCAGAGAAAATACACAAAAGACCCTATACCTACAAATG
AACAGTCTGAGGTCTGAGGACACGGCCACTTATTACTGTACTCTCGATGGT
CGCGATGGTTGGGTTGCTTACTGGGGCCAAGGCACTCTGGTCACTGTCTCT
TCAGGTGGAGGCGGTTTCAGGCGGAGGTGGCAGCGGCGGTGGCGGGAGTCAG
TTTGTGCTTACTCAGCCAAACTCTGTGTCTACGAATCTCGGAACCACAGTC
GAACTGTCTTGCAAGCGCAACACTGGGAACATTGGAAGCAATTATGTGAAC
TGGTACCAGCAGCATGAGGGAAGATCTCCCACCACTATTATTTATAGGGAT
GATAAGAGACCAGATGGAGTTTCTGACAGGTTCTCTGGGTCCATTGACAGA
TCTTCCAAGTCAGCCCTCCTGACAATCAATAATGTGCAGACTGAAGATGAA
GCTGACTACTTCTGTCAGTCTTACAGTAGTGGTTTTATTTTCGGCGGTGGA
ACCAAGCTCACTGTCCTAGGCGCGTCTGCGGCCGCAGGATCCGGTGGTGAT
TACAAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC
Signal sequence (1-57), C3E-7000(58-867), FLAG-His
tag (784-867)

10/94

[Figure 21]

SEQ ID NO: 15 Amino acid sequence in C3E-7000

EVQLVESGGGLVQPGRALKLSCVVSQVTFNYYGMSWIRQAPGKGLEWVASI
TNSGGRIYYPDQSVKGRFTISRENTQKTLTYLQMNSLRSEDTATYYCTLDGRD
GWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSQFVLTQPNVSTNLGTTVEL
SCKRNTGNIGSNYVNWYQQHEGRSPTTIIYRDDKRPDGVSDRFGSIDRSS
KSALLTINNVQTEDEADYFCQSYSSGFIFGGGTKLTVLGASAAAGSGGDYK
DDDDKGAAAHHHHHH

C3E-7000(1-270), FLAG-His tag (243-270)

[Figure 22]

SEQ ID NO: 16 Amino acid sequence of the heavy
chain variable region of C3E-7034

EVQLVESGGGLVQPGGSLRLSCAASQVTFNYYGMSWIRQAPGKGLEWVASI
TNSGGRIYYPDQSVKGRFTISRENTQKTLTYLQMNSLRAEDTAVYYCTLDGRD
GWVAYWGQGTLVTVSS

[Figure 23]

SEQ ID NO: 17 Amino acid sequence of the light
chain variable region of C3E-7034

NFMLTQPHSVSESPGKTVTISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYR
DDKRPDGVSDRFGSIDRSSKASLTISNLKTEDEADYFCQSYSSGFIFGG
GTKLTVL

11/94

[Figure 24]

SEQ ID NO: 26 Amino acid sequence of CDR-H1 in the
C3E-7000 series
GVTFNYYG

[Figure 25]

SEQ ID NO: 27 Amino acid sequence of CDR-H2 in the
C3E-7000 series
ITNSGGRI

[Figure 26]

SEQ ID NO: 28 Amino acid sequence of CDR-H3 in the
C3E-7000 series
TLDGRDGWVAY

[Figure 27]

SEQ ID NO: 29 Amino acid sequence of CDR-L1 in the
C3E-7000 series
TGNIGSNY

[Figure 28]

SEQ ID NO: 30 Amino acid sequence of CDR-L2 in the
C3E-7000 series

RDD

[Figure 29]

SEQ ID NO: 31 Amino acid sequence of CDR-L3 in the
C3E-7000 series

QSYSSGFI

[Figure 30]

SEQ ID NO: 20 Amino acid sequence of the light
chain variable region of C3E-7035

QAVLTQPSSVSGVPGQRVTISCKRNTGNIGSNYVNWYQQLPGTAPKLLIYR
DDKRPSGVPDRFSGSKSGTSASLAITGFQAEDEADYYCQSYSSGFIFFGGGT
KLTVL

[Figure 31]

SEQ ID NO: 22 (C3E_7035 AA) Amino acid sequence of
C3E-7035

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITNSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLLVTVSSGGGGSGGGGSGGGGSMAQAVLTQPSSVSGVPGQR
VTISCKRNTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKS
GTSASLAITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7035(1-269), FLAG-His tag (244-269)

[Figure 32]

SEQ ID NO: 23 Amino acid sequence of the light
chain variable region of C3E-7036

NFMLTQPSSVSGVPGQRVTISCTGNTGNIGSNYVNWYQQLPGTAPKLLIYR
DDKRPSGVPDRFSGSKSGTSASLAITGFQAEDEADYYCQSYSSGFIFGGGT
KLTVL

[Figure 33]

SEQ ID NO: 25 Amino acid sequence of C3E-7036

GEVQLVESGGGLVQPGGSLRLSCAASGVTFTNYYGMSWIRQAPGKGLEWVAS
ITNSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLLVTVSSGGGGSGGGGSGGGGSNFMLTQPSSVSGVPGQRVT
ISCTGNTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGT
SASLAITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDD
DKGAAAHHHHHH

C3E-7036(1-267), FLAG-His tag (242-267)

[Figure 34]

SEQ ID NO: 18 Nucleotide sequence encoding C3E-7034

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAATTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GACGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7034(58-864), FLAG-His
tag (787-864)

[Figure 35]

SEQ ID NO: 21 Nucleotide sequence encoding C3E-7035

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAATTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
ATGGCCCAGGCTGTGCTCACTCAGCCGTCCTCTGTTTCTGGCGTACCTGGC
CAACGGGTGACCATTAGCTGTAAAAGGAATACCGGGAATATCGGGTCTAAC
TACGTGAACTGGTATCAGCAGCTTCCAGGGACAGCTCCCAAGTTGCTGATC
TATCGCGACGACAAAAGACCCTCAGGGGTCCCTGACCGATTTAGTGGCAGC
AAAAGCGGTACTTCCGCTTCCCTGGCGATAACCGGCTTTCAGGCCGAAGAT
GAGGCAGACTACTATTGCCAGTCATATTCCAGCGGCTTCATCTTCGGAGGC
GGA ACTAAGCTGACAGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7035(58-864), FLAG-His
tag (787-864)

[Figure 36]

SEQ ID NO: 24 Nucleotide sequence encoding C3E-7036

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAATTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAACTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTCACTCAGCCGTCCTCTGTTTCTGGCGTACCTGGCCAACGG
GTGACCATTAGCTGTACGGGTAATAACCGGGAATATCGGGTCTAACTACGTG
AACTGGTATCAGCAGCTTCCAGGGACAGCTCCCAAGTTGCTGATCTATCGC
GACGACAAAAGACCCTCAGGGGTCCCTGACCGATTTAGTGGCAGCAAAAGC
GGTACTTCCGCTTCCCTGGCGATAACCGGCTTTCAGGCCGAAGATGAGGCA
GACTACTATTGCCAGTCATATTCCAGCGGCTTCATCTTCGGAGGCGGAACT
AAGCTGACAGTGTTGGGTGCGGCCGCAGGTGCAGGTGGTGATTACAAAGAT
GATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7036(58-858), FLAG-His
tag (781-858)

[Figure 37]

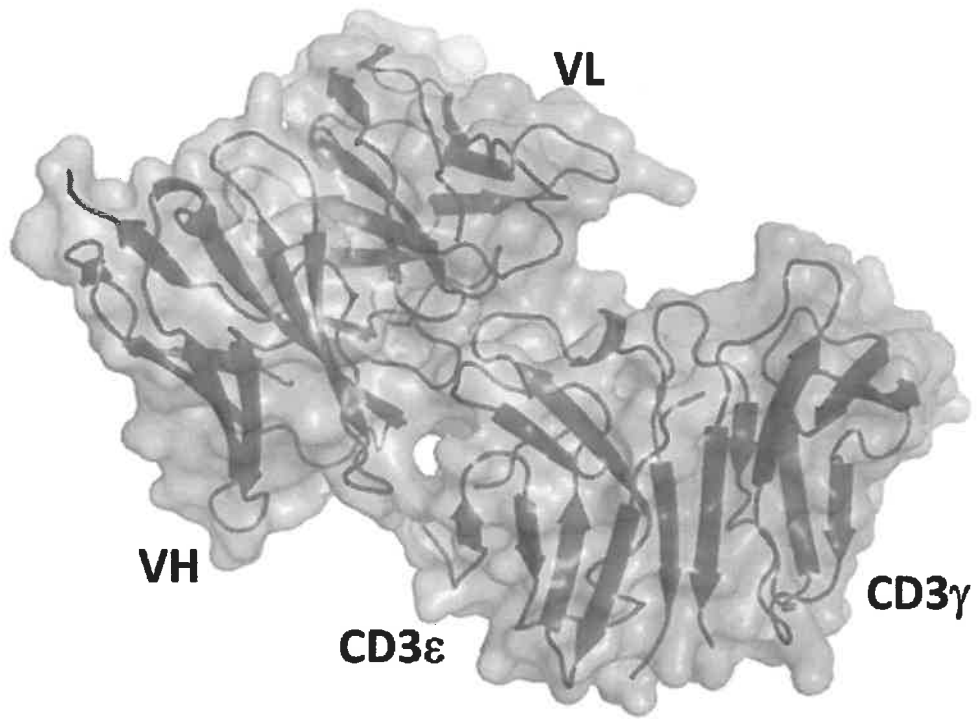
SEQ ID NO: 3 Amino acid sequence of human CD3γ
MEQGKGLAVLILAIILLQGTLAQSIKGNHLVKVYDYQEDGSVLLTCDAEAK
NITWFKDGKMIGFLTEDKKKWNLGSNAKDPRGMYQCKGSQNKSKPLQVYYR
MCQNCIELNAATISGFLFAEIVSIFVLAVGVYFIAGQDGVRQSRASDKQTL
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(uniprotID_P09693)

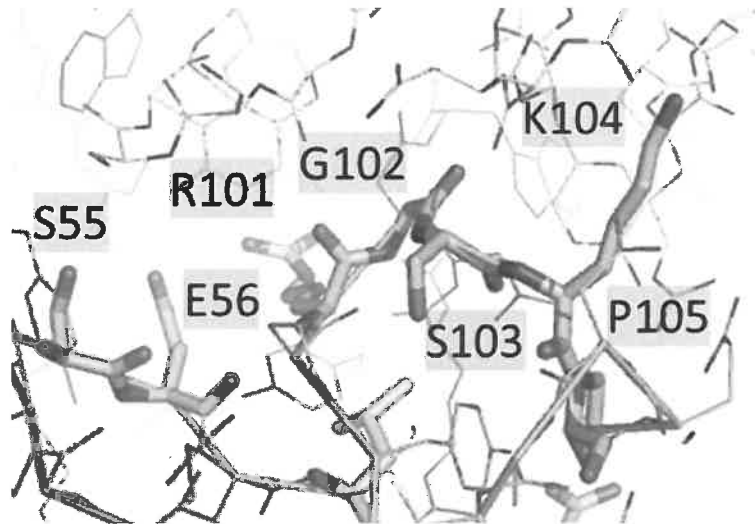
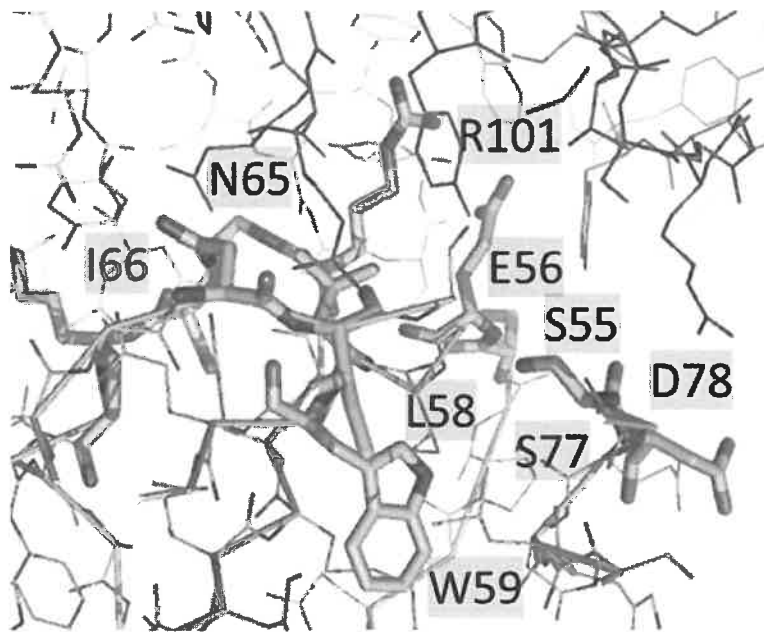
[Figure 38]

SEQ ID NO: 19 Amino acid sequence of C3E-7034
GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITNSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRDDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH
C3E-7034(2-269), FLAG-His tag (244-269)

[Figure 39]



[Figure 40]

A**B**

[Figure 41]

huCD3ε

MQSGTHWRVLGLCLLSVGVWGQDGNEEMGGITQTPYKVSISGTTVILTCPQ
YPGSEILWQHNDKNIGGDEDDKNIGSDEDHLSLKEFSELEQSGYYVCYPRG
SKPEDANFYLYLRARVCENCMEMDVMSVATIVIVDICITGGLLLLVEYYWSK
NRKAKAKPVTRGAGAGGRQRGQNKERPPVPNPDYEPIRKGQRDLYSGLNQ
RRI

[Figure 42]

SEQ ID NO: 36 Amino acid sequence of the heavy
chain variable region of OKT3

QVQLQQSGAELARPGASVKMSCKASGYTFTRYTMHWVKQRPQGQLEWIGYI
NPSRGYTNYNQKFKDKATLTDDKSSSTAYMQLSSLTSEDSAVYYCARYYDD
HYCLDYWGQGTTTLTVSS

[Figure 43]

SEQ ID NO: 38 Amino acid sequence of the heavy
chain variable region of C3E-3007

QVQLVQSGAESKKPGASVKVSCASGYTFTRYTMHWVRQAPQGQLEWMGYI
NPSRGYTNYNQKFKDRVTITADKSTSTAYMELSSLRSEDTAVYYCARYYDD
HYCLDYWGQGTLLVTVSS

[Figure 44]

SEQ ID NO: 37 Amino acid sequence of the light

chain variable region of OKT3

QIVLTQSPAIMASAPGEKVTMTCSASSSVSYMNWYQQKSGTSPKRWIYDTS

KLASGVPAHFRGSGSGTSYSLTISGMEAEDAATYYCQQWSSNPFTFGSGTK

LEIK

[Figure 45]

SEQ ID NO: 39 Amino acid sequence of light chain

variable region of C3E-3007

QIQMTQSPSSLAVSLGERATITCSASSSVSYMNWYQQKPGKAPKRWIYDTS

KLASGVDPDRFSGSGSGTDFTLTISSLQAEDVATYYCQQWSSNPFTFGQGTK

VEIK

[Figure 46]

SEQ ID NO: 34 Nucleotide sequence encoding C3E-3007
ATGAAGCACCTGTGGTTCTTTCTGCTGCTGGTGGCCGCTCCCAGATGGGTG
CTGTCTCAGGTGCAGCTGGTGCAGTCTGGCGCCGAGAGCAAAAAGCCTGGC
GCCTCCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCCGGTAC
ACCATGCACTGGGTGCGCCAGGCACCTGGACAGGGCCTGGAATGGATGGGC
TACATCAACCCCAGCCGGGGCTACACCAACTACAACCAGAAATTCAAGGAC
CGCGTGACCATCACCGCCGACAAGAGCACCCAGCACCGCCTACATGGAACTG
AGCAGCCTGCGGAGCGAGGACACCGCCGTGTACTACTGTGCCCCGGTACTAC
GACGACCACTACTGCCTGGACTACTGGGGCCAGGGCACACTCGTGACCGTG
TCTAGTGGTGGAGGCGGTTTCAGGCGGAGGTGGCAGCGGCGGTGGCGGGAGT
CAGATCCAGATGACCCAGAGCCCTAGCAGCCTGGCCGTGTCTCTGGGAGAG
AGAGCCACCATCACCTGTAGCGCCAGCAGCAGCGTGTCCTACATGAACTGG
TATCAGCAGAAGCCCGGCAAGGCCCCCAAGCGGTGGATCTACGATACCAGC
AAGCTGGCCTCCGGCGTGCCCGATAGATTTTCTGGCAGCGGCTCCGGCACC
GACTTCACCCTGACAATCAGCTCCCTGCAGGCCGAGGACGTGGCCACCTAC
TACTGTCAGCAGTGGTCCAGCAACCCCTTCACCTTCGGCCAGGGCACCAAG
GTGGAAATCAAGCGGGGCGCGTCTGCGGCCGCAGGTAGCGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC
Signal sequence (1-57), C3E-3007 (58-864), FLAG-His
tag (778-864)

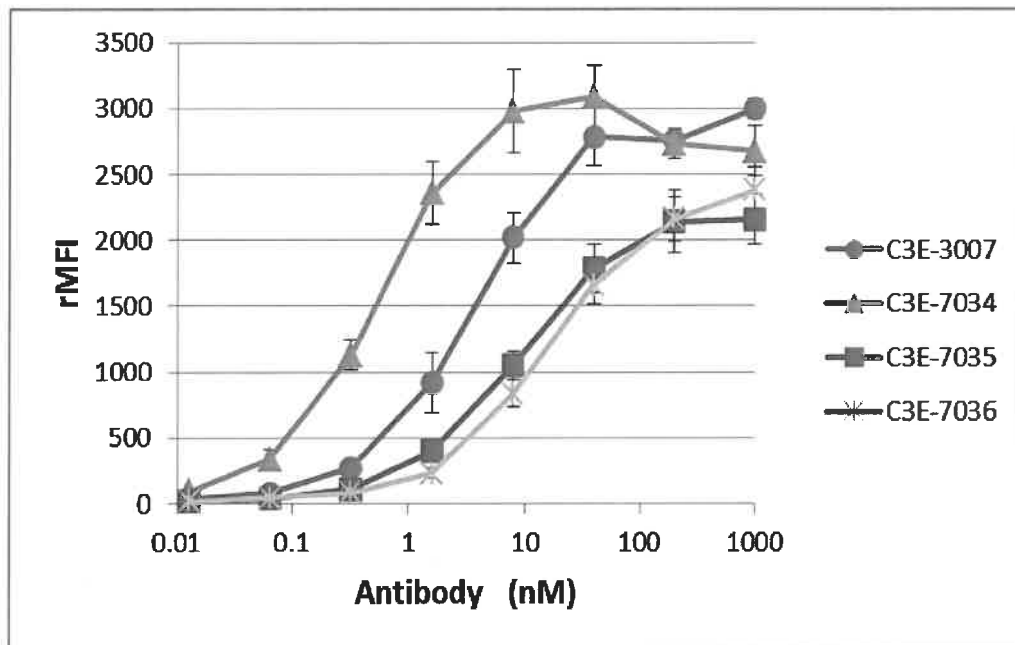
[Figure 47]

SEQ ID NO: 35 Amino acid sequence of C3E-3007

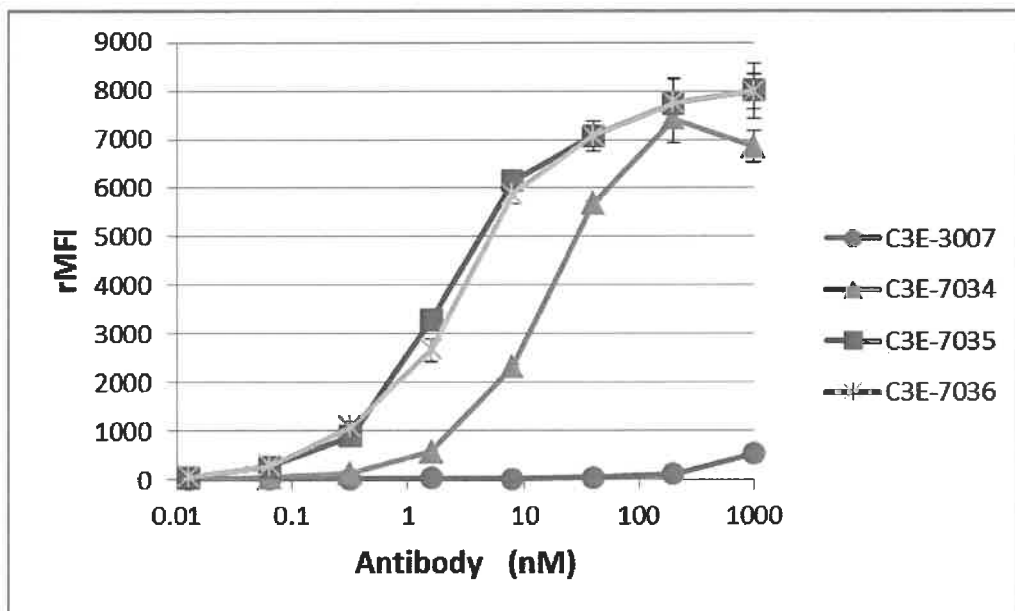
QVQLVQSGAESKKPGASVKVSCKASGYTFTRYTMHWVRQAPGQGLEWMGYI
NPSRGYTNYNQKFKDRVITITADKSTSTAYMELSSLRSEDVAVYYCARYYDD
HYCLDYWGQGTLVTVSSGGGGSGGGSGGGGSQIQMTQSPSSLAVSLGERA
TITCSASSSVSYMNWYQQKPGKAPKRWIYDTSKLASGVPDRFSGSGSGTDF
TLTISSLQAEDVATYYCQQWSSNPFTFGQGTKVEIKRGASAAAGSGGDYKD
DDDKGAAAHHHHHH

C3E-3007 (1-269), FLAG-His tag (242-269)

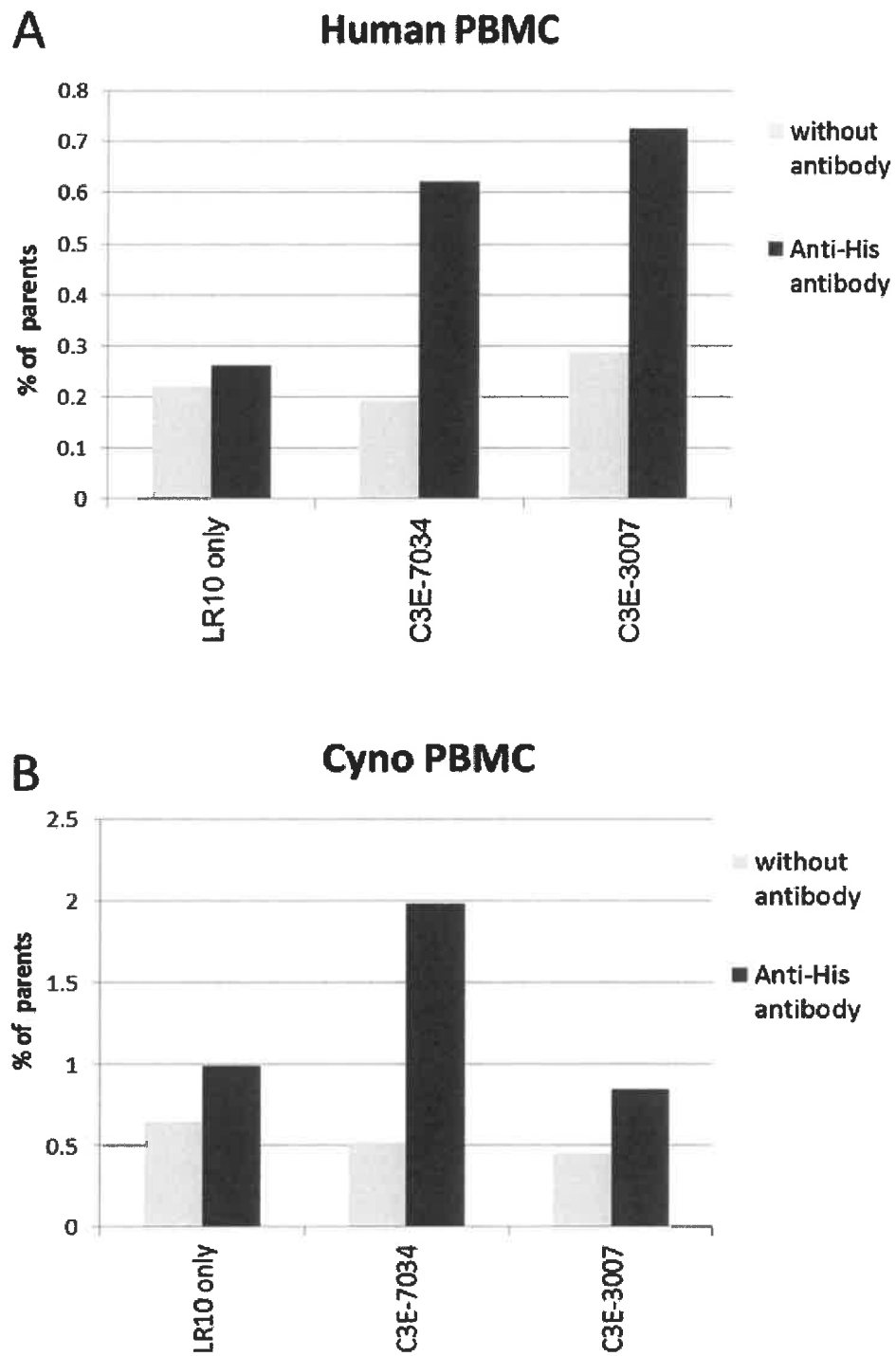
[Figure 48]



[Figure 49]



[Figure 50]



[Figure 51]

SEQ ID NO: 41 Amino acid sequence of HT1-11 scFv
QVQLVQSGAEVKKPGASVKVSCKASGYTFITAGMQWVRQAPGQGLEWMGWI
NTHSGVPKYAEDFKGRVTISADTSTSTAYLQLSSLKSEDTAVYYCARSFGF
SSYWYFDVWGQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVGD
RVTITCKASQDVSTAVAWYQQKPGKAPKLLIYSASYRYTGVPSTRFSGSGSG
TDFTLTISSLQPEDFAVYYCQQHYITPLTFGGGTKLEIKRTGAAAHHHHHH
HT1-11 scFv (1-255), His tag (246-255)

[Figure 52]

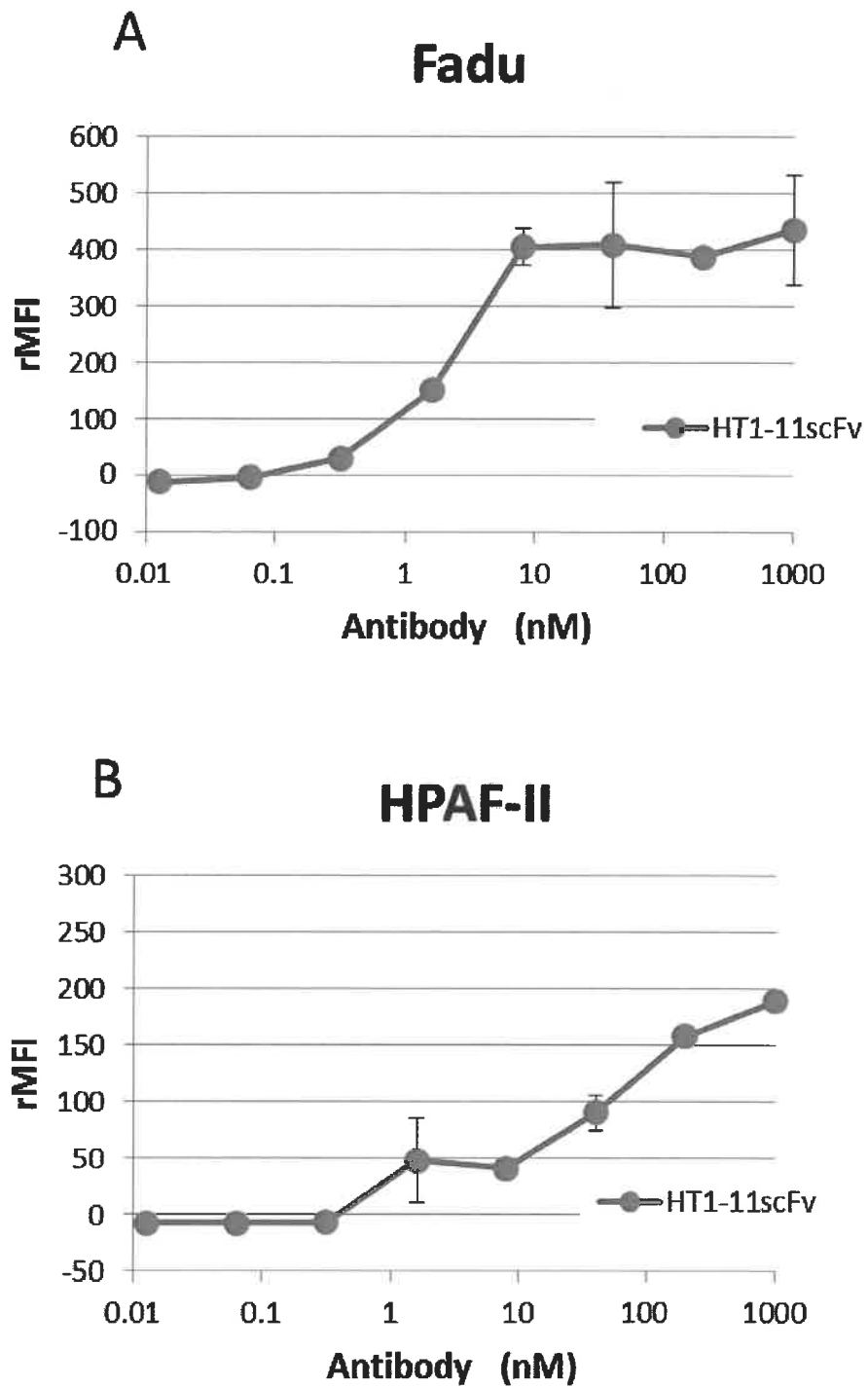
SEQ ID NO: 40 Nucleotide sequence encoding HT1-11

scFv

ATGAAGCACCTGTGGTTCTTTCTGCTGCTGGTGGCCGCTCCCAGATGGGTG
CTGTCTCAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCAGGC
GCCAGCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCACCGCC
GGCATGCAGTGGGTGCGCCAGGCTCCTGGACAGGGCCTGGAATGGATGGGC
TGGATCAACACCCACAGCGGCGTGCCCAAATACGCCGAGGACTTCAAGGGC
AGAGTGACCATCAGCGCCGACACCAGCACCTCCACAGCCTACCTGCAGCTG
AGCAGCCTGAAGTCCGAGGACACCGCCGTGTACTACTGCGCCAGAAGCGGC
TTCGGCAGCAGCTACTGGTACTTCGACGTGTGGGGCCAGGGCACCTCGTG
ACAGTGTCTAGCGGAGGCGGAGGATCTGGCGGCGGAGGAAGTGGCGGAGGG
GGATCCGATATCCAGATGACCCAGAGCCCCAGCAGCCTGTCTGCCAGCGTG
GGCGACAGAGTGACAATTACATGCAAGGCCTCCCAGGACGTGTCCACAGCC
GTGGCCTGGTATCAGCAGAAGCCTGGCAAGGCCCCCAAGCTGCTGATCTAC
AGCGCCAGCTACCGGTACACCGGCGTGCCAAGCAGATTTTCCGGCAGCGGC
TCCGGCACCGACTTCACCCTGACAATCAGCTCCCTGCAGCCCGAGGATTTT
GCCGTGTATTATTGCCAGCAGCACTACATCACCCCCCTGACCTTCGGCCAG
GGGACCAAGCTGGAAATCAAGAGAACAGGCGCCGCTGCCCACCACCACCAT
CACCAT

Signal sequence (1-57), HT1-11 scFv (58-822), His tag
(792-822)

[Figure 53]



[Figure 54]

SEQ ID NO: 42 ORF nucleotide sequence encoding T2C-0001

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCA
GGCGCCAGCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCACC
GCCGGCATGCAGTGGGTGCGCCAGGCTCCTGGACAGGGCCTGGAATGGATG
GGCTGGATCAACACCCACAGCGGCGTGCCCAAATACGCCGAGGACTTCAAG
GGCAGAGTGACCATCAGCGCCGACACCAGCACCTCCACAGCCTACCTGCAG
CTGAGCAGCCTGAAGTCCGAGGACACCGCCGTGTACTACTGCGCCAGAAGC
GGCTTCGGCAGCAGCTACTGGTACTTCGACGTGTGGGGCCAGGGCACCCCTC
GTGACAGTGTCTAGCGGAGGCGGAGGATCTGGCGGCGGAGGAAGTGGCGGA
GGGGGATCCGATATCCAGATGACCCAGAGCCCCAGCAGCCTGTCTGCCAGC
GTGGGCGACAGAGTGACAATTACATGCAAGGCCTCCCAGGACGTGTCCACA
GCCGTGGCCTGGTATCAGCAGAAGCCTGGCAAGGCCCCCAAGCTGCTGATC
TACAGCGCCAGCTACCGGTACACCGGCGTGCCAAGCAGATTTTCCGGCAGC
GGCTCCGGCACCGACTTCACCCTGACAATCAGCTCCCTGCAGCCCGAGGAT
TTCGCCGTGTATTATTGCCAGCAGCACTACATCACCCCCCTGACCTTCGGC
CAGGGGACCAAGCTGGAAATCAAGAGAACAGGGGGAGGCGGTTCAGAAGTG
CAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCTGGGGGGAGCCTGAGA
CTGAGTTGTGCCGCTCTGGGGTGACATTTAACTACTATGGCATGTCTTGG
ATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTGGCCAGCATCACTAAT
TCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAGGGCAGGTTCAACAATT
TCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAGATGAATAGCCTGAGA
GCCGAAGATACAGCTGTGTACTATTGCACTCTGGACGGCAGGGATGGGTGG
GTCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTCAGCTCCGGAGGAGGA
GGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCAAACCTTTATGCTGACC
CAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACTGTCACCATCTCTTGT

AAAAGGAACACCGGAAATATTGGCAGTAACTACGTGAATTGGTATCAGCAG
CATGAAGGGTCTAGTCCAACCACAATCATCTACCGGGACGATAAGAGACCC
GACGGGGTGTCCGATCGATTCTCCGGATCTATCGACCGGTCAAGCAAGAGT
GCTTCACTGACCATTAGCAATCTGAAAACAGAGGACGAAGCAGATTACTTT
TGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGCGGGACTAAACTGACC
GTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGATGATGACGAT
AAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), Bispecific antibody (58-
1536), FLAG-His tag (1537-1614)

[Figure 55]

SEQ ID NO: 44 ORF nucleotide sequence encoding T2C-0003

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCA
GGCGCCAGCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCACC
GCCGGCATGCAGTGGGTGCGCCAGGCTCCTGGACAGGGCCTGGAATGGATG
GGCTGGATCAACACCCACAGCGGCGTGCCCAAATACGCCGAGGACTTCAAG
GGCAGAGTGACCATCAGCGCCGACACCAGCACCTCCACAGCCTACCTGCAG
CTGAGCAGCCTGAAGTCCGAGGACACCGCCGTGTACTACTGCGCCAGAAGC
GGCTTCGGCAGCAGCTACTGGTACTTCGACGTGTGGGGCCAGGGCACCCCTC
GTGACAGTGTCTAGCGGAGGCGGAGGATCTGGCGGCGGAGGAAGTGGCGGA
GGGGGATCCGATATCCAGATGACCCAGAGCCCCAGCAGCCTGTCTGCCAGC
GTGGGCGACAGAGTGACAATTACATGCAAGGCCTCCCAGGACGTGTCCACA
GCCGTGGCCTGGTATCAGCAGAAGCCTGGCAAGGCCCCCAAGCTGCTGATC
TACAGCGCCAGCTACCGGTACACCGGCGTGCCAAGCAGATTTTCCGGCAGC
GGCTCCGGCACCGACTTCACCCTGACAATCAGCTCCCTGCAGCCCGAGGAT
TTCGCCGTGTATTATTGCCAGCAGCACTACATCACCCCCCTGACCTTCGGC
CAGGGGACCAAGCTGGAAATCAAGAGAACAGGGGGAGGCGGTTCAGAAGTG
CAGCTGGTGGAAATCCGGCGGAGGCCTGGTCCAGCCTGGCGGCAGCCTGAAA
CTGAGCTGCGCCGCCAGCGGCTTCACCTTCAACAAATACGCCATGAACTGG
GTCCGCCAGGCTCCTGGAAAGGGACTCGAGTGGGTGGCCCGGATCAGAAGC
AAGTACAACAACCTACGCCACCTACTACGCCGACAGCGTGAAGGACCGGTTC
ACCATCAGCCGGGACGACAGCAAGAACACCGCCTACCTGCAGATGAACAAC
CTGAAAACCGAGGACACAGCCGTGTACTACTGCGTGCGGCACGGCAACTTC
GGCAACAGCTACATCAGCTACTGGGCCTATTGGGGACAGGGAACACTCGTG
ACAGTGTCCAGTGGCGGAGGCGGCAGTGGTGGGGGAGGAAGCGGAGGTGGC
GGATCTCAGACCGTGGTCACCCAGGAACCCAGCCTGACAGTCAGCCCTGGA

GGCACCGTGACCTGACCTGTGGAAGCAGCACAGGCGCCGTGACCAGCGGC
TACTACCCCAACTGGGTGCAGCAGAAGCCCGGCCAGGCTCCTAGAGGCCTG
ATCGGCGGCACCAAGTTTCTGGCCCCTGGCACCCCTGCCCGGTTCTCTGGA
TCTCTGCTGGGCGGCAAGGCCGCCCTGACACTGAGCGGAGTGCAGCCCGAG
GACGAGGCCGAGTACTACTGTGCCCTGTGGTACAGCAACAGATGGGTGTTC
GGCGGAGGGACCAAGCTGACCGTGCTGGGCAGCGGCGCGTCTGCGGCCGCA
GGTAGCGGTGGTGATTACAAAGATGATGACGATAAAGGTGCAGCGGCGCAT
CACCATCATCACCAC

Signal sequence (1-57), Bispecific antibody (58-
1647), FLAG-His tag (1561-1647)

[Figure 56]

SEQ ID NO: 46 ORF nucleotide sequence encoding T2C-0005

ATGAAGCACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCA
GGCGCCAGCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCACC
GCCGGCATGCAGTGGGTGCGCCAGGCTCCTGGACAGGGCCTGGAATGGATG
GGCTGGATCAACACCCACAGCGGCGTGCCCAAATACGCCGAGGACTTCAAG
GGCAGAGTGACCATCAGCGCCGACACCAGCACCTCCACAGCCTACCTGCAG
CTGAGCAGCCTGAAGTCCGAGGACACCGCCGTGTACTACTGCGCCAGAAGC
GGCTTCGGCAGCAGCTACTGGTACTTCGACGTGTGGGGCCAGGGCACCCCTC
GTGACAGTGTCTAGCGGAGGCGGAGGATCTGGCGGCGGAGGAAGTGGCGGA
GGGGGATCCGATATCCAGATGACCCAGAGCCCCAGCAGCCTGTCTGCCAGC
GTGGGCGACAGAGTGACAATTACATGCAAGGCCTCCCAGGACGTGTCCACA
GCCGTGGCCTGGTATCAGCAGAAGCCTGGCAAGGCCCCCAAGCTGCTGATC
TACAGCGCCAGCTACCGGTACACCGGCGTGCCAAGCAGATTTTCCGGCAGC
GGCTCCGGCACCGACTTCACCCTGACAATCAGCTCCCTGCAGCCCGAGGAT
TTCGCCGTGTATTATTGCCAGCAGCACTACATCACCCCCCTGACCTTCGGC
CAGGGGACCAAGCTGGAAATCAAGAGAACAGGGGGAGGCGGTTCAGAAGTG
CAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCTGGGGGGAGCCTGAGA
CTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTACTATGGCATGTCTTGG
ATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTGGCCAGCATCTACTAAT
TCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAGGGCAGGTTACAAATT
TCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAGATGAATAGCCTGAGA
GCCGAAGATACAGCTGTGTACTATTGCACTCTGGACGGCAGGGATGGGTGG
GTCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTCAGCTCCGGAGGAGGA
GGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCAATGGCCCAGGCTGTG
CTCACTCAGCCGTCCTCTGTTTCTGGCGTACCTGGCCAACGGGTGACCATT

AGCTGTAAAAGGAATACCGGGAATATCGGGTCTAACTACGTGAACTGGTAT
CAGCAGCTTCCAGGGACAGCTCCCAAGTTGCTGATCTATCGCGACGACAAA
AGACCCTCAGGGGTCCCTGACCGATTTAGTGGCAGCAAAAGCGGTACTTCC
GCTTCCCTGGCGATAACCGGCTTTCAGGCCGAAGATGAGGCAGACTACTAT
TGCCAGTCATATTCCAGCGGCTTCATCTTCGGAGGCGGAACTAAGCTGACA
GTGTTGGGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGATGATGACGAT
AAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), Bispecific antibody (58-
1536), FLAG-His tag (1537-1614)

[Figure 57]

SEQ ID NO: 48 ORF nucleotide sequence encoding T2C-0006

ATGAAGCACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGCGCCGAAGTGAAGAAACCA
GGCGCCAGCGTGAAGGTGTCCTGCAAGGCCAGCGGCTACACCTTTACCACC
GCCGGCATGCAGTGGGTGCGCCAGGCTCCTGGACAGGGCCTGGAATGGATG
GGCTGGATCAACACCCACAGCGGCGTGCCCAAATACGCCGAGGACTTCAAG
GGCAGAGTGACCATCAGCGCCGACACCAGCACCTCCACAGCCTACCTGCAG
CTGAGCAGCCTGAAGTCCGAGGACACCGCCGTGTACTACTGCGCCAGAAGC
GGCTTCGGCAGCAGCTACTGGTACTTCGACGTGTGGGGCCAGGGCACCCCTC
GTGACAGTGTCTAGCGGAGGCGGAGGATCTGGCGGCGGAGGAAGTGGCGGA
GGGGGATCCGATATCCAGATGACCCAGAGCCCCAGCAGCCTGTCTGCCAGC
GTGGGCGACAGAGTGACAATTACATGCAAGGCCTCCCAGGACGTGTCCACA
GCCGTGGCCTGGTATCAGCAGAAGCCTGGCAAGGCCCCCAAGCTGCTGATC
TACAGCGCCAGCTACCGGTACACCGGCGTGCCAAGCAGATTTTCCGGCAGC
GGCTCCGGCACCGACTTCACCCTGACAATCAGCTCCCTGCAGCCCGAGGAT
TTCGCCGTGTATTATTGCCAGCAGCACTACATCACCCCCCTGACCTTCGGC
CAGGGGACCAAGCTGGAAATCAAGAGAACAGGGGGAGGCGGTTCAGAAGTG
CAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCTGGGGGGAGCCTGAGA
CTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTACTATGGCATGTCTTGG
ATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTGGCCAGCATCACTAAT
TCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAGGGCAGGTTCAACAATT
TCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAGATGAATAGCCTGAGA
GCCGAAGATACAGCTGTGTACTATTGCACTCTGGACGGCAGGGATGGGTGG
GTCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTCAGCTCCGGAGGAGGA
GGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCAAACCTTTATGCTCACT
CAGCCGTCCTCTGTTTCTGGCGTACCTGGCCAACGGGTGACCATTAGCTGT

ACGGGTAATACCGGGAATATCGGGTCTAACTACGTGAACTGGTATCAGCAG
CTTCCAGGGACAGCTCCCAAGTTGCTGATCTATCGCGACGACAAAAGACCC
TCAGGGGTCCCTGACCGATTTAGTGGCAGCAAAAGCGGTACTTCCGCTTCC
CTGGCGATAACCGGCTTTCAGGCCGAAGATGAGGCAGACTACTATTGCCAG
TCATATTCCAGCGGCTTCATCTTCGGAGGCGGAACTAAGCTGACAGTGTTG
GGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGATGATGACGATAAAGGT
GCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), Bispecific antibody (58-
1530), FLAG-His tag (1531-1608)

[Figure 58]

SEQ ID NO: 43 Amino acid sequence of T2C-0001

GQVQLVQSGAEVKKPGASVKVSCKASGYTFSTAGMQWVRQAPGGLEWMGW
INTHSGVPKYAEDFKGRVTISADTSTSTAYLQLSSLKSEDTAVYYCARSGF
GSSYWYFDVWGQGTTLVTVSSGGGGSGGGSGGGGSDIQMTQSPSSLSASVG
DRVITITCKASQDVSTAVAWYQQKPGKAPKLLIYSASYRYTGVPSRFSGSGS
GTDFTLTISLQPEDFAVYYCQQHYITPLTFGQGTKLEIKRTGGGGSEVQL
VESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITNSG
GRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGWVA
YWGQGTTLVTVSSGGGGSGGGSGGGGSNFMILTQPHSVSESPGKTVTISCKR
NTGNIGSNYVNWYQQHEGSSPTTIIRDDKRPDGVSDRFSGSIDRSSKSAS
LTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKG
AAAHHHHHH

T2C-0001 (2-519), FLAG-His tag (494-519)

[Figure 59]

SEQ ID NO: 45 Amino acid sequence of T2C-0003

GQVQLVQSGAEVKKPGASVKVSCKASGYTFTTAGMQWVRQAPGQGLEWMGW
INTHSGVPKYAEDFKGRVTISADTSTSTAYLQLSSLKSEDTAVYYCARSGF
GSSYWFYFDVWGQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVG
DRVITITCKASQDVSTAVAWYQQKPGKAPKLLIYSASYRYTGVPSRFSGSGS
GTDFTLTITSSLPEDFAVYYCQQHYITPLTFGQGTKLEIKRTGGGGSEVQL
VESGGGLVQPGGSLKLSCAASGFTFNKYAMNWVRQAPGKGLEWVARIRSKY
NNYATYYADSVKDRTISRDDSKNTAYLQMNNLKTEDTAVYYCVRHGNFGN
SYISYWAYWGQGTLVTVSSGGGGSGGGGSGGGGSQTVVTQEPSLTVSPGGT
VTLTCGSSTGAVTSGYYPNWVQQKPGQAPRGLIGGTKFLAPGTPARFSGSL
LGGKAALTLSGVQPEDEAEYYCALWYSNRWVFGGGTKLTVLGSGASAAAGS
GGDYKDDDDKGAAAHHHHHH

T2C-0003(2-530), FLAG-His tag (501-530)

[Figure 60]

SEQ ID NO: 47 Amino acid sequence of T2C-0005

GQVQLVQSGAEVKKPGASVKVSCKASGYTFTTAGMQWVRQAPGQGLEWMGW
INTHSGVPKYAEDFKGRVTISADTSTSTAYLQLSSLKSEDTAVYYCARS GF
GSSYWFYFDVWGQGTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVG
DRVITITCKASQDVSTAVAWYQQKPGKAPKLLIYSASYRYTGVPSRFSGSGS
GTDFTLTISSLQPEDFAVYYCQQHYITPLTFGQGTKLEIKRTGGGGSEVQL
VESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITNSG
GRIYYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGWVA
YWGQGT LVT VSSGGGGSGGGGSGGGG SMAQAVLTQPSSVSGVPGQRVTISC
KRNTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGTSAS
LAITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKG
AAAHHHHHH

T2C-0005(2-519), FLAG-His tag (494-519)

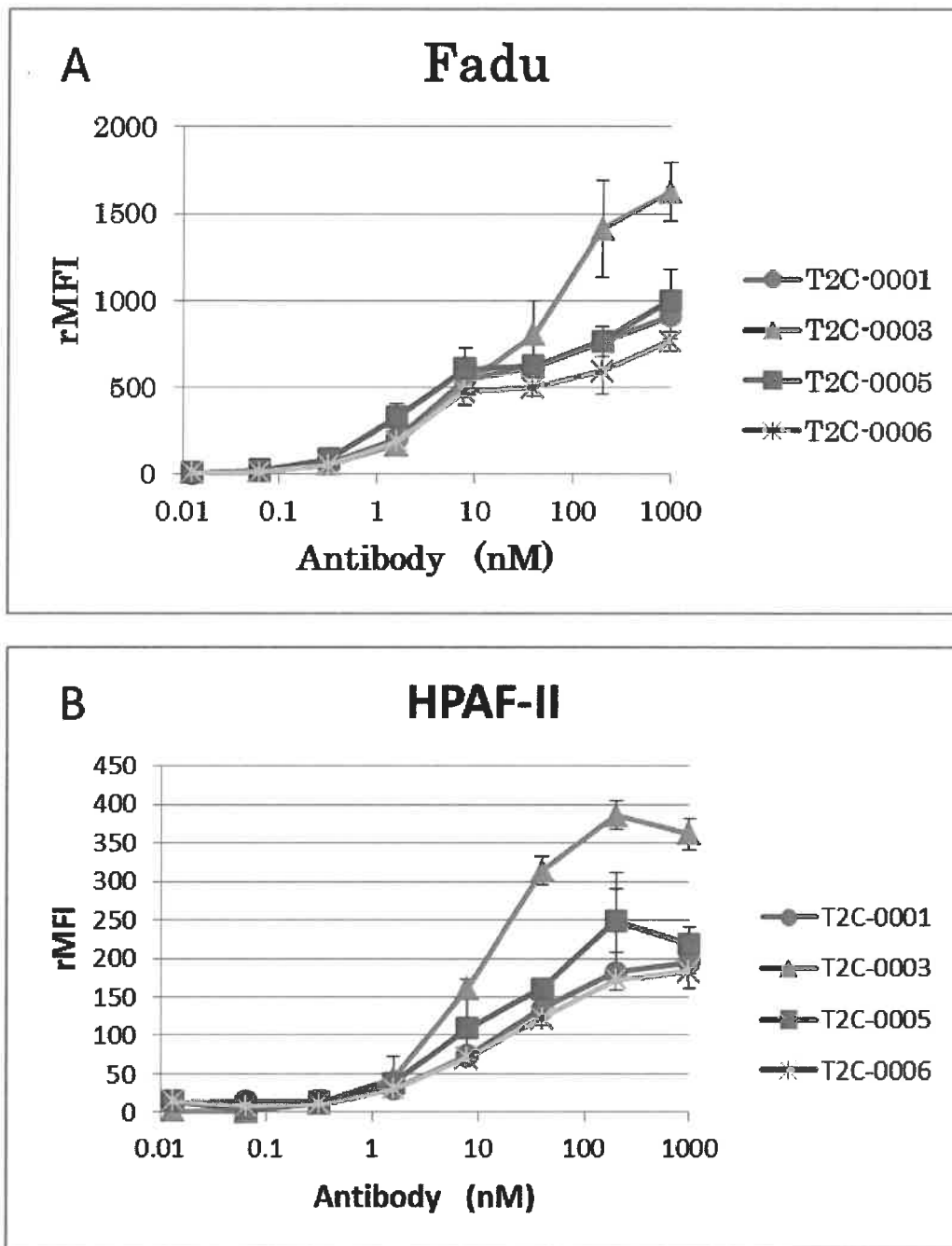
[Figure 61]

SEQ ID NO: 49 Amino acid sequence of T2C-0006

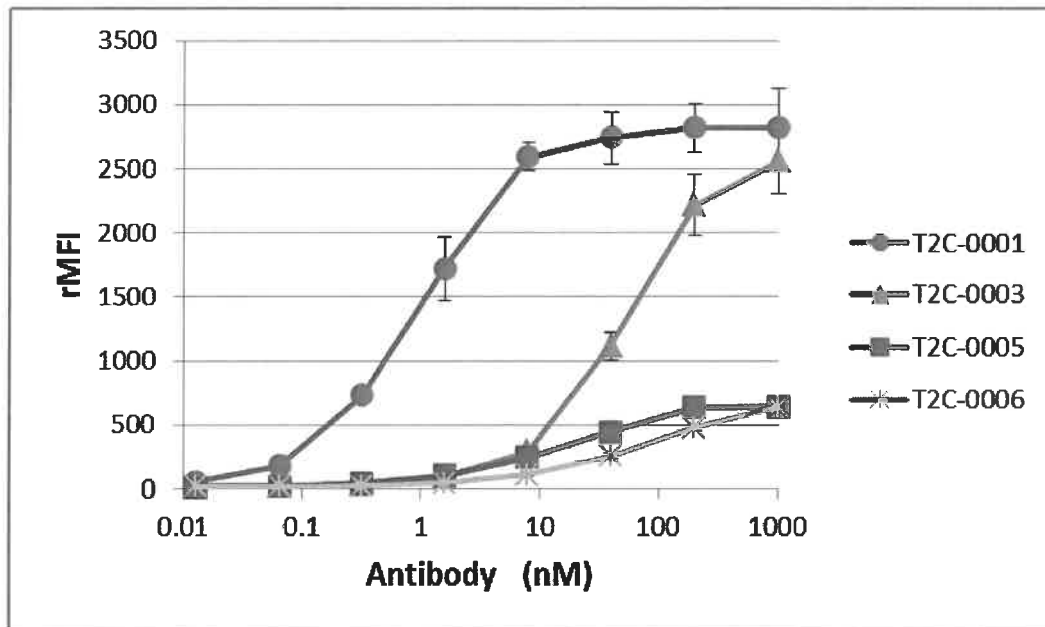
GQVQLVQSGAEVKKPGASVKVSCKASGYTFTTAGMQWVRQAPGQGLEWMGW
INTHSGVPKYAEDFKGRVTISADTSTSTAYLQLSSLKSEDTAVYYCARSGF
GSSYWYFDVWGQGLTVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVG
DRVITITCKASQDVSTAVAWYQQKPGKAPKLLIYSASYRYTGVPSTRFSGSGS
GTDFTLTISLQPEDFAVYYCQQHYITPLTFGQGTKLEIKRTGGGGSEVQL
VESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITNSG
GRIYYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGWVA
YWGQGLTVTVSSGGGGSGGGGSGGGGSGNFMILTQPSVSGVPGQRTISCTG
NTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGTSASLA
ITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKGAA
AHHHHHH

T2C-0006(2-517), FLAG-His tag (492-517)

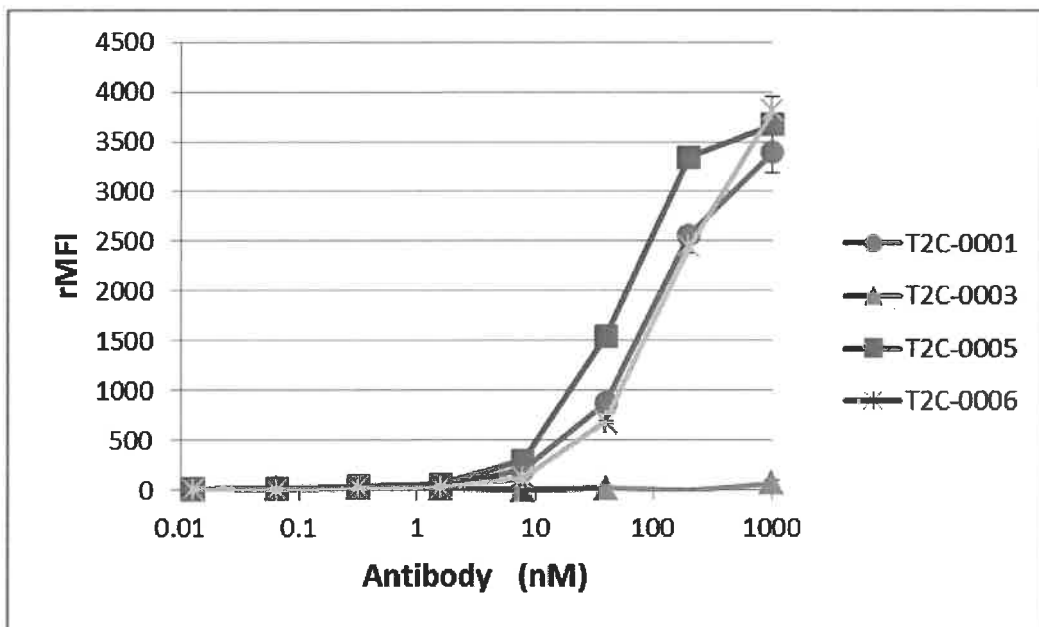
[Figure 62]



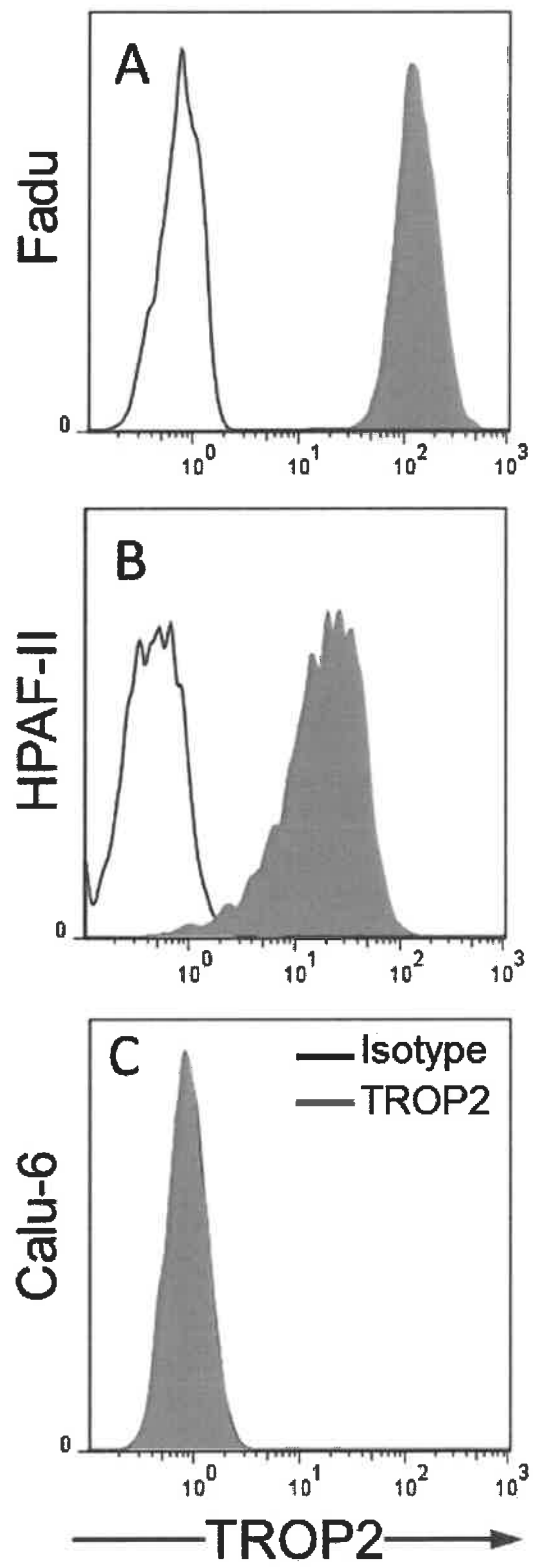
[Figure 63]



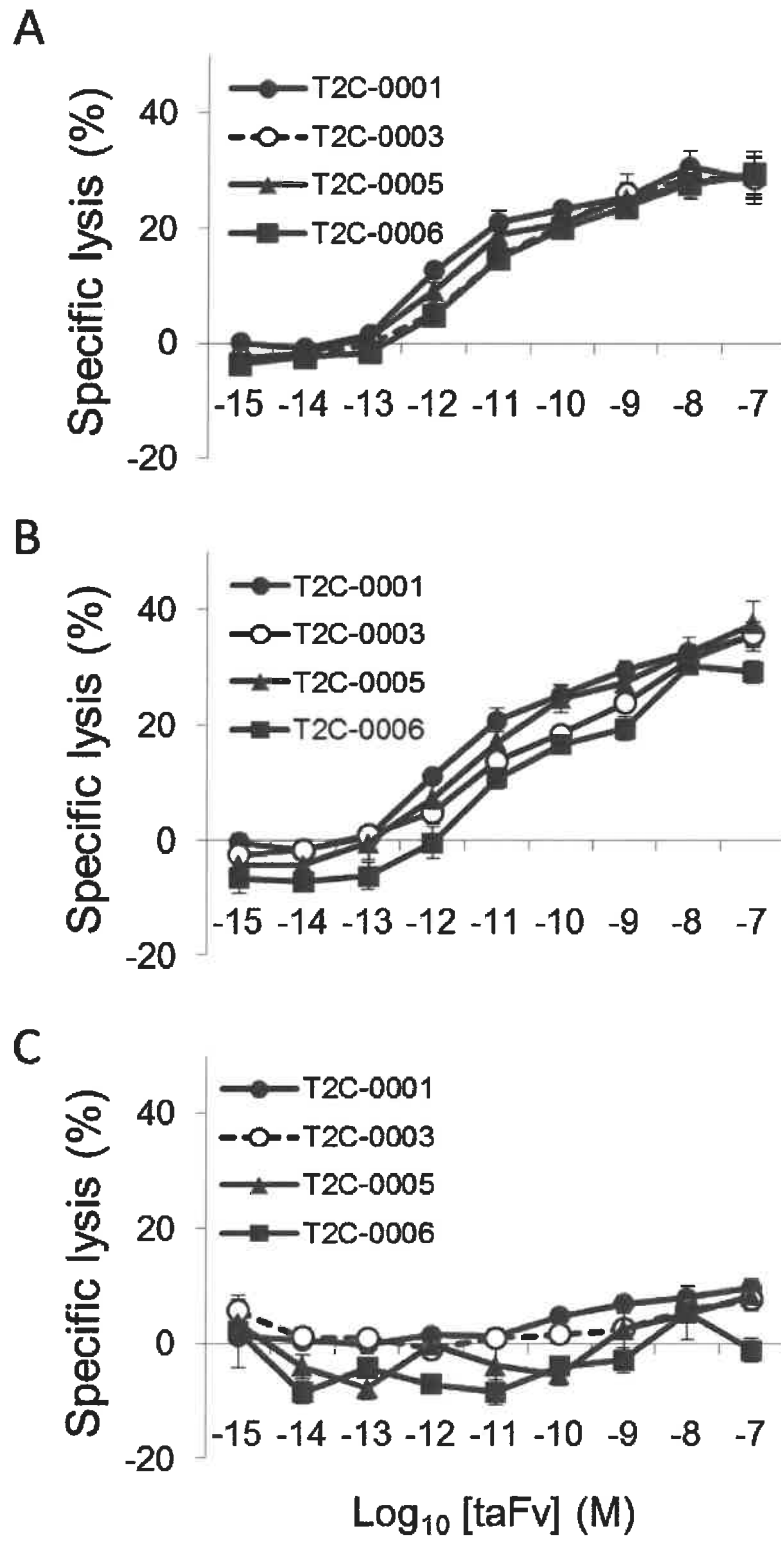
[Figure 64]



[Figure 65]



[Figure 66]



[Figure 67]

SEQ ID NO: 59 Nucleotide sequence encoding C3E-7078

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GACGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7078 (58-864), FLAG-His
tag (787-864)

[Figure 68]

SEQ ID NO: 60 Amino acid sequence of C3E-7078

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRDDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7078(1-269), FLAG-His tag (244-269)

[Figure 69]

SEQ ID NO: 61 Nucleotide sequence encoding C3E-7079

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTTACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GACGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7079 (58-864), FLAG-His
tag (787-864)

[Figure 70]

SEQ ID NO: 62 Amino acid sequence of C3E-7079

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRDDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7079(1-269), FLAG-His tag (244-269)

[Figure 71]

SEQ ID NO: 63 Nucleotide sequence encoding C3E-7085

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTCACTCAGCCGTCCTCTGTTTCTGGCGTACCTGGCCAACGG
GTGACCATTAGCTGTACGGGTAATAACGGGAATATCGGGTCTAACTACGTG
AACTGGTATCAGCAGCTTCCAGGGACAGCTCCCAAGTTGCTGATCTATCGC
GACGACAAAAGACCCTCAGGGGTCCCTGACCGATTTAGTGGCAGCAAAAGC
GGTACTTCCGCTTCCCTGGCGATAACCGGCTTTCAGGCCGAAGATGAGGCA
GACTACTATTGCCAGTCATATTCCAGCGGCTTCATCTTCGGAGGCGGAACT
AAGCTGACAGTGTTGGGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGAT
GATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7085(58-858), FLAG-His
tag (787-858)

[Figure 72]

SEQ ID NO: 64 Amino acid sequence of C3E-7085

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPSSVSGVPGQRT
ISCTGNTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGT
SASLAITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDD
DKGAAAHHHHHH

C3E-7085(1-267), FLAG-His tag (242-267)

[Figure 73]

SEQ ID NO: 65 Nucleotide sequence encoding C3E-7086

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GGCGATAAGAGACCCGACGGGGTGTCGGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7086(58-864), FLAG-His
tag (787-864)

[Figure 74]

SEQ ID NO: 66 Amino acid sequence of C3E-7086

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRGDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7086(1-269), FLAG-His tag (244-269)

[Figure 75]

SEQ ID NO: 67 Nucleotide sequence encoding C3E-7087

```
ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
CAGGATAAGAGACCCGACGGGGTGTCGGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC
```

Signal sequence (1-57), C3E-7087 (58-864), FLAG-His
tag (787-864)

[Figure 76]

SEQ ID NO: 68 Amino acid sequence of C3E-7087

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRQDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7087(1-269), FLAG-His tag (244-269)

[Figure 77]

SEQ ID NO: 69 Nucleotide sequence encoding C3E-7088

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
AACGATAAGAGACCCGACGGGGTGTCGGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7088 (58-864), FLAG-His
tag (787-864)

[Figure 78]

SEQ ID NO: 70 Amino acid sequence of C3E-7088

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRNDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7088(1-269), FLAG-His tag (244-269)

[Figure 79]

SEQ ID NO: 71 Nucleotide sequence encoding C3E-7089

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTACAAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
AGCGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7089(58-864), FLAG-His
tag (787-864)

[Figure 80]

SEQ ID NO: 72 Amino acid sequence of C3E-7089

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRSDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7089(1-269), FLAG-His tag (244-269)

[Figure 81]

SEQ ID NO: 73 Nucleotide sequence encoding C3E-7090

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTAGGTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTTACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GCCGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7090 (58-864), FLAG-His
tag (787-864)

[Figure 82]

SEQ ID NO: 74 Amino acid sequence of C3E-7090

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITRSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRADKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7090(1-269), FLAG-His tag (244-269)

[Figure 83]

SEQ ID NO: 75 Nucleotide sequence encoding C3E-7091

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GGCGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7091 (58-864), FLAG-His
tag (787-864)

[Figure 84]

SEQ ID NO: 76 Amino acid sequence of C3E-7091

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIIYYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRGDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7091 (1-269), FLAG-His tag (244-269)

[Figure 85]

SEQ ID NO: 77 Nucleotide sequence encoding C3E-7092

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCACAATTTCCCGCGAGAACACACAGAAACTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
CAGGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7092 (58-864), FLAG-His
tag (787-864)

[Figure 86]

SEQ ID NO: 78 Amino acid sequence of C3E-7092

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRQDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7092(1-269), FLAG-His tag (244-269)

[Figure 87]

SEQ ID NO: 79 Nucleotide sequence encoding C3E-7093

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
AACGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7093 (58-864), FLAG-His
tag (787-864)

[Figure 88]

SEQ ID NO: 80 Amino acid sequence of C3E-7093

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRNDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7093(1-269), FLAG-His tag (244-269)

[Figure 89]

SEQ ID NO: 81Nucleotide sequence encoding C3E-7094

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTCAACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
AGCGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7094 (58-864), FLAG-His
tag (787-864)

[Figure 90]

SEQ ID NO: 82 Amino acid sequence of C3E-7094

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIIYYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRSDKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7094(1-269), FLAG-His tag (244-269)

[Figure 91]

SEQ ID NO: 83 Nucleotide sequence encoding C3E-7095

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGGTGGAATCCGGGGGGGGCCTGGTGCAGCCT
GGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTAC
TATGGCATGTCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTG
GCCAGCATCACTTCTTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAG
GGCAGGTTACAAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAG
ATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGAC
GGCAGGGATGGGTGGGTGCGCCTATTGGGGGCAGGGAACCCTGGTGACAGTC
AGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCA
AACTTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACT
GTCACCATCTCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTG
AATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGG
GCCGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGAC
CGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGAC
GAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGC
GGGACTAACTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTAC
AAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), C3E-7095 (58-864), FLAG-His
tag (787-864)

[Figure 92]

SEQ ID NO: 84 Amino acid sequence of C3E-7095

GEVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVAS
ITSSGGRIYYPD SVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGR
DGWVAYWGQGLTVTVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVT
ISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYRADKRPDGVSDRFSGSIDRS
SKSASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKD
DDDKGAAAHHHHHH

C3E-7095(1-269), FLAG-His tag (244-269)

[Figure 93]

SEQ ID NO: 85 HN53R Fw

5'-GTGGCCAGCATCACTAGGTCCGGCGGGCGAATC-3'

[Figure 94]

SEQ ID NO: 86 HN53R Rv

5'-GATTCGCCCCGCCGGACCTAGTGATGCTGGCCAC-3'

[Figure 95]

SEQ ID NO: 87 HN53S Rw

5'-GTGGCCAGCATCACTTCTTCCGGCGGGCGAATC-3'

[Figure 96]

SEQ ID NO: 88 HN53S Rv

5' - GATTCGCCCCGCCGGAAGAAGTGATGCTGGCCAC - 3'

[Figure 97]

SEQ ID NO:89 Nucleotide sequence of AXC-0001

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGCAGGAATCTGGCCCTGGCCTCGTGAAGCCT
AGCCAGACCCTGAGCCTGACCTGTACCGTGTCCGGCTACAGCATCACCAGC
AACTACTGGGGCTGGATCAGAAAGTTCCCCGGCAACAAGATGGAATGGATC
GGCCACATCACCAACAGCGGCAACACCACCTACAACCCCAGCCTGAAGTCC
CGGATCAGCATCAGCCGGGACACCAGCAAGAACCAGTTCTCCCTGAAGCTG
TCCAGCGTGACCCCTGCCGATACCGCCGTGTACTACTGTGCCAAGGGCGCC
TTCGATTACTGGGGCCAGGGAACCCTCGTGACCGTGTCTAGCGGAGGCGGA
GGATCTGGCGGCGGAGGAAGTGGCGGAGGGGGATCTGATATCCAGATGACC
CAGAGCCCCAGCAGCCTGTCTGCCAGCGTGGGCGACAGAGTGACCATCACC
TG TAGAGCCAGCCAGGACATCGGCAACTACCTGAGCTGGTTCCAGCAGAAA
GTGGGCAAGTCCCCCAGACGGATGATCTACGGCGCCATCAAGCTGGCCGTG
GGCGTGCCAAGCAGATTCAGCGGCAGCAGAAGCGGCAGCGACTACACCCTG
ACCATCAGCTCCCTGCAGCCCGAGGACTTCGCCATCTACTACTGCCTGCAG
TACATCCAGTTCCCTCTGACCTTCGGCAGCGGCACCAAGCTGGAAATCAAG
AGAACCGGGGGAGGCGGTTCAGAAGTGCAGCTGGTGGAATCCGGGGGGGGC
CTGGTGCAGCCTGGGGGGAGCCTGAGACTGAGTTGTGCCGCCTCTGGGGTG
ACATTTAACTACTATGGCATGTCTTGATCCGCCAGGCACCTGGAAAGGGC
CTGGAGTGGGTGGCCAGCATCACTAATTCGGCGGGCGAATCTACTATCCC
GACAGCGTCAAGGGCAGGTTTACAATTTCCCGCGAGAACACACAGAAAAT
CTGTACCTGCAGATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTAT
TGCACTCTGGACGGCAGGGATGGGTGGGTGCCTATTGGGGGCAGGGAACC
CTGGTGACAGTCAGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGG
GGAGGCGGGTCAAACCTTATGCTGACCCAGCCCCACAGTGTGTCAGAGAGC
CCTGGCAAGACTGTCACCATCTCTTGTAAGGAACACCGGAAATATTGGC

AGTAACTACGTGAATTGGTATCAGCAGCATGAAGGGTCTAGTCCAACCACA
ATCATCTACCGGGACGATAAGAGACCCGACGGGGTGTCCGATCGATTCTCC
GGATCTATCGACCGGTCAAGCAAGAGTGCTTCACTGACCATTAGCAATCTG
AAAACAGAGGACGAAGCAGATTACTTTTGCCAGTCCTATTCCTCTGGCTTC
ATCTTTGGAGGCGGGACTAAACTGACCGTGCTGGGCGCGGCCGCAGGTGCA
GGTGGTGATTACAAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCAT
CATCACCAC

Signal sequence (1-57), AXL-0001(58-1512), FLAG-His
tag (1513-1590)

[Figure 98]

SEQ ID NO: 25 Amino acid sequence of AXC-0001

GEVQLQESGPGLVKPSQTLSTCTVSGYSITSNYWGWIRKFPGNKMEWIGH
ITNSGNTTYNPSLKSRISSRDTSKNQFSLKLSSVTPADTAVYYCAKGAFD
YWGQGTTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVGDRVTITCR
ASQDIGNYLSWFQQKVGKSPRRMIYGAIKLAVGVPSRFSGSRSGSDYTLTI
SSLQPEDFAIYYCLQYIQFPLTFGSGTKLEIKRTGGGGSEVQLVESGGGLV
QPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITNSGGRIYYPDS
VKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGVVAYWGQGTLV
TVSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVTISCKRNTGNIGSN
YVNWYQQHEGSSPTTIIYRDDKRPDGVSDRFSGSIDRSSKSASLTISNLKT
EDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKGAAAHHHHH
H

AXC-0001(1-511), FLAG-His tag (486-511)

[Figure 99]

SEQ ID NO: 91 Nucleotide sequence of AXC-0002

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGAGAAGTGCAGCTGCAGGAATCTGGCCCTGGCCTCGTGAAGCCT
AGCCAGACCCTGAGCCTGACCTGTACCGTGTCCGGCTACAGCATCACCAGC
AACTACTGGGGCTGGATCAGAAAGTTCCCCGGCAACAAGATGGAATGGATC
GGCCACATCACCAACAGCGGCAACACCACCTACAACCCCAGCCTGAAGTCC
CGGATCAGCATCAGCCGGGACACCAGCAAGAACCAGTTCTCCCTGAAGCTG
TCCAGCGTGACCCCTGCCGATACCGCCGTGTACTACTGTGCCAAGGGCGCC
TTCGATTACTGGGGCCAGGGAACCCTCGTGACCGTGTCTAGCGGAGGCGGA
GGATCTGGCGGCGGAGGAAGTGGCGGAGGGGGATCTGATATCCAGATGACC
CAGAGCCCCAGCAGCCTGTCTGCCAGCGTGGGCGACAGAGTGACCATCACC
TG TAGAGCCAGCCAGGACATCGGCAACTACCTGAGCTGGTTCCAGCAGAAA
GTGGGCAAGTCCCCCAGACGGATGATCTACGGCGCCATCAAGCTGGCCGTG
GGCGTGCCAAGCAGATTCAGCGGCAGCAGAAGCGGCAGCGACTACACCCTG
ACCATCAGCTCCCTGCAGCCCGAGGACTTCGCCATCTACTACTGCCTGCAG
TACATCCAGTTCCCTCTGACCTTCGGCAGCGGCACCAAGCTGGAAATCAAG
AGAACCGGGGGAGGCGGTTCAGAAGTGCAGCTGGTGGAAATCCGGGGGGGGC
CTGGTGAGCCTGGGGGGAGCCTGAGACTGAGTTGTGCCGCTCTGGGGTG
ACATTTAACTACTATGGCATGTCTTGATCCGCCAGGCACCTGGAAAGGGC
CTGGAGTGGGTGGCCAGCATCACTAATTCCGGCGGGCGAATCTACTATCCC
GACAGCGTCAAGGGCAGGTTTACAATTTCCCGCGAGAACACACAGAAAACCT
CTGTACCTGCAGATGAATAGCCTGAGAGCCGAAGATACAGCTGTGTACTAT
TGCACTCTGGACGGCAGGGATGGGTGGGTGCGCTATTGGGGGCAGGGAACC
CTGGTGACAGTCAGCTCCGGAGGAGGAGGATCTGGCGGAGGAGGCAGTGGG
GGAGGCGGGTCAAACCTTTATGCTCACTCAGCCGTCCTCTGTTTCTGGCGTA
CCTGGCCAACGGGTGACCATTAGCTGTACGGGTAATACCGGGAATATCGGG

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TCTAACTACGTGAACTGGTATCAGCAGCTTCCAGGGACAGCTCCCAAGTTG
CTGATCTATCGCGACGACAAAAGACCCTCAGGGGTCCCTGACCGATTTAGT
GGCAGCAAAAGCGGTACTTCCGCTTCCCTGGCGATAACCGGCTTTCAGGCC
GAAGATGAGGCAGACTACTATTGCCAGTCATATTCCAGCGGCTTCATCTTC
GGAGGCGGAACTAAGCTGACAGTGTTGGGCGCGGCCGCAGGTGCAGGTGGT
GATTACAAAGATGATGACGATAAAGGTGCAGCGGCGCATCACCATCATCAC
CAC

Signal sequence (1-57), AXL-0002 (58-1506), FLAG-His
tag (1507-1584)

[Figure 100]

SEQ ID NO: 92 Amino acid sequence of AXC-0002

GEVQLQESGPGLVKPSQTLSLTCTVSGYSITSNYWGWIRKFPGNKM EWIGH
ITNSGNTTYNPSLKSRIISIRDTSKNQFSLKLSSVTPADTAVYYCAKGAFD
YWGQGTTLVTVSSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVGD RVTITCR
ASQDIGNYLSWFQQKVGKSPRRMIYGAIKLAVGVPSRFSGSRSGSDYT LTI
SSLQPEDFAIYYCLQYIQFPLTFGSGTKLEIKRTGGGGSEVQLVESGGGLV
QPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITNSGGRIYYPD S
VKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGVVAYW GQGTTLV
TVSSGGGGSGGGGSGGGGSGGGGSGNFMILTQPSSVSGVPGQRVTI SCTGNTGNIGSN
YVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGTSASLAITGFQ AED
EADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKGAAAH HHHHHH

AXC-0002(1-509), FLAG-His tag (484-509)

[Figure 101]

SEQ ID NO: 93 Nucleotide sequence of MGC-0001

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGGGGAGGCTTGGTCCAGCCT
GGAGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTACCTTCAGTGAC
TACGACATGGACTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTG
GCAGTTATATCATCTGATGAAAACACTAAATACTACGCAGACTCCGTGAAG
GGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAA
ATGAACAGCCTGAGAGCCGAGGACACGGCTGTGTATTACTGTGCAACCTAT
ACCAGCACCTGGTATGCCGTTGACTCCTGGGGCCAGGGAACCCTGGTCACC
GTCTCCTCAGGTGGAGGCGGTTCAGGCGGAGGTGGCAGCGGCGGTGGCGGG
AGTGATGTTGTGATGACTCAGTCTCCACTCTCCCTGCCCGTCACCCCTGGA
GAGCCGGCCTCCATCTCCTGCAGGTCTAGTCAGAGCCTCCTGCATAGTAAC
GGAAAGAACTATTTGGATTGGTACCTGCAGAAGCCAGGGCAGTCTCCACAG
CTCCTGATCTATTTGGGTTCTAATCGGGCCTCCGGGGTCCCTGACAGGTTC
AGTGGCAGTGGATCAGGCACAGATTTTACACTGAAGATCAGCAGAGTGGAG
GCTGAGGATGTTGGGGTTTATTACTGCATGCAAACCTCTTCAAACCCCTAC
ACTTTTGGCCAGGGGACCAAGGTGGAATCAAACGTGGGGGAGGCGGTTC
GAAGTGCAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCTGGGGGGAGC
CTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTACTATGGCATG
TCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTGGCCAGCATC
ACTAATTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAGGGCAGGTTC
ACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAGATGAATAGC
CTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGACGGCAGGGAT
GGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTCAGCTCCGGA
GGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCAAACCTTTATG
CTGACCCAGCCCCACAGTGTGTCAGAGAGCCCTGGCAAGACTGTCACCATC

TCTTGTAAGGAACACCGGAAATATTGGCAGTAACTACGTGAATTGGTAT
CAGCAGCATGAAGGGTCTAGTCCAACCACAATCATCTACCGGGACGATAAG
AGACCCGACGGGGTGTCCGATCGATTCTCCGGATCTATCGACCGGTCAAGC
AAGAGTGCTTCACTGACCATTAGCAATCTGAAAACAGAGGACGAAGCAGAT
TACTTTTGCCAGTCCTATTCCTCTGGCTTCATCTTTGGAGGCGGGACTAAA
CTGACCGTGCTGGGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGATGAT
GACGATAAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), MGC-0001(58-1542), FLAG-His
tag (1543-1620)

[Figure 102]

SEQ ID NO: 94 Amino acid sequence of MGC-0001

GQVQLVQSGGGLVQPGGSLRLSCAASGFTFSQYDMDWVRQAPGKGLEWVAV
ISSDENTKYYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCATYTS
TWYAVDSWGQGTLVTVSSGGGGSGGGGSGGGGSDVVM TQSP LSLPVT PGE P
ASISCRSSQSL LHSNGKNYLDWYLQKPGQSPQLLIYLG SNRASGVPDRFSG
SGSGTDFTLKISRVEAEDVGVYYCMQTLQTPYTFGQGTKVEIKRGGGGSEV
QLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITN
SGGRIYYPD SVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGW
VAYWGQGT LVT VSSGGGGSGGGGSGGGGSNFMLTQPHSVSESPGKTVTISC
KRNTGNIGSNYVNWYQQHEGSSPTTIIYRDDKRPDGVSDRFSGSIDRSSKS
ASLTISNLKTEDEADYFCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDD
KGAAAHHHHHH

MGC-0001(1-521), FLAG-His tag (496-521)

[Figure 103]

SEQ ID NO: 95 Nucleotide sequence of MGC-0002

ATGAAACACCTGTGGTTCTTCCTCCTGCTGGTGGCAGCTCCCAGATGGGTG
CTGAGCGGACAGGTGCAGCTGGTGCAGTCTGGGGGAGGCTTGGTCCAGCCT
GGAGGGTCCCTGAGACTCTCCTGTGCAGCCTCTGGATTACCTTCAGTGAC
TACGACATGGACTGGGTCCGCCAGGCTCCAGGGAAGGGGCTGGAGTGGGTG
GCAGTTATATCATCTGATGAAAACACTAAATACTACGCAGACTCCGTGAAG
GGCCGATTCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAA
ATGAACAGCCTGAGAGCCGAGGACACGGCTGTGTATTACTGTGCAACCTAT
ACCAGCACCTGGTATGCCGTTGACTCCTGGGGCCAGGGAACCCTGGTCACC
GTCTCCTCAGGTGGAGGCGGTTTCAAGCGGAGGTGGCAGCGGCGGTGGCGGG
AGTGATGTTGTGATGACTCAGTCTCCACTCTCCCTGCCCCGTACCCCTGGA
GAGCCGGCCTCCATCTCCTGCAGGTCTAGTCAGAGCCTCCTGCATAGTAAC
GGAAAGAACTATTTGGATTGGTACCTGCAGAAGCCAGGGCAGTCTCCACAG
CTCCTGATCTATTTGGGTTCTAATCGGGCCTCCGGGGTCCCTGACAGGTTC
AGTGGCAGTGGATCAGGCACAGATTTTACACTGAAGATCAGCAGAGTGGAG
GCTGAGGATGTTGGGGTTTATTACTGCATGCAAACCTTTCAAACCCCCTAC
ACTTTTGGCCAGGGGACCAAGGTGGAAATCAAACGTGGGGGAGGCGGTTC
GAAGTGCAGCTGGTGAATCCGGGGGGGGCCTGGTGCAGCCTGGGGGGAGC
CTGAGACTGAGTTGTGCCGCCTCTGGGGTGACATTTAACTACTATGGCATG
TCTTGGATCCGCCAGGCACCTGGAAAGGGCCTGGAGTGGGTGGCCAGCATC
ACTAATTCCGGCGGGCGAATCTACTATCCCGACAGCGTCAAGGGCAGGTTC
ACAATTTCCCGCGAGAACACACAGAAAACCTCTGTACCTGCAGATGAATAGC
CTGAGAGCCGAAGATACAGCTGTGTACTATTGCACTCTGGACGGCAGGGAT
GGGTGGGTGCGCTATTGGGGGCAGGGAACCCTGGTGACAGTCAGCTCCGGA
GGAGGAGGATCTGGCGGAGGAGGCAGTGGGGGAGGCGGGTCAAACCTTTATG
CTCACTCAGCCGTCCTCTGTTTCTGGCGTACCTGGCCAACGGGTGACCATT

AGCTGTACGGGTAAATACCGGGAATATCGGGTCTAACTACGTGAACTGGTAT
CAGCAGCTTCCAGGGACAGCTCCCAAGTTGCTGATCTATCGCGACGACAAA
AGACCCTCAGGGGTCCCTGACCGATTTAGTGGCAGCAAAAGCGGTACTTCC
GCTTCCCTGGCGATAACCGGCTTTCAGGCCGAAGATGAGGCAGACTACTAT
TGCCAGTCATATTCCAGCGGCTTCATCTTCGGAGGCGGAACTAAGCTGACA
GTGTTGGGCGCGGCCGCAGGTGCAGGTGGTGATTACAAAGATGATGACGAT
AAAGGTGCAGCGGCGCATCACCATCATCACCAC

Signal sequence (1-57), MGC-0002 (58-1536), FLAG-His
tag (1537-1614)

[Figure 104]

SEQ ID NO: 96 Amino acid sequence of MGC-0002

GQVQLVQSGGGLVQPGGSLRLSCAASGFTFSDYDMDWVRQAPGKGLEWVAV
ISSDENTKYYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCATYTS
TWYAVDSWGQGTLVTVSSGGGGSGGGGSGGGGSDVVM TQSPLSLPVTGPGE P
ASISCRSSQSLLHSNGKNYLDWYLQKPGQSPQLLIYLG SNRASGVPDRFSG
SGSGTDFTLKISRVEAEDVGVYYCMQTLQTPYTFGQGTKVEIKRGGGGSEV
QLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASITN
SGGRIIYPDSVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTLDGRDGW
VAYWGQGTLVTVSSGGGGSGGGGSGGGGSNFMLTQPSSVSGVPGQRVTISC
TGNTGNIGSNYVNWYQQLPGTAPKLLIYRDDKRPSGVPDRFSGSKSGTSAS
LAITGFQAEDEADYYCQSYSSGFIFGGGTKLTVLGAAAGAGGDYKDDDDKG
AAAHHHHHH

MGC-0002(1-519), FLAG-His tag (494-519)

[Figure 105]

Primer list

LD52G Fw : CACAATCATCTACCGGGGCGATAAGAGACCCGAC

LD52Q Fw : ACAATCATCTACCGGCAGGATAAGAGACCCGAC

LD52N Fw : ACAATCATCTACCGGAACGATAAGAGACCCGAC

LD52S Fw : CACAATCATCTACCGGAGCGATAAGAGACCCGAC

LD52A Fw : ACAATCATCTACCGGGCCGATAAGAGACCCGAC

LD52G Rv : GTCGGGTCTCTTATCGCCCCGGTAGATGATTGTG

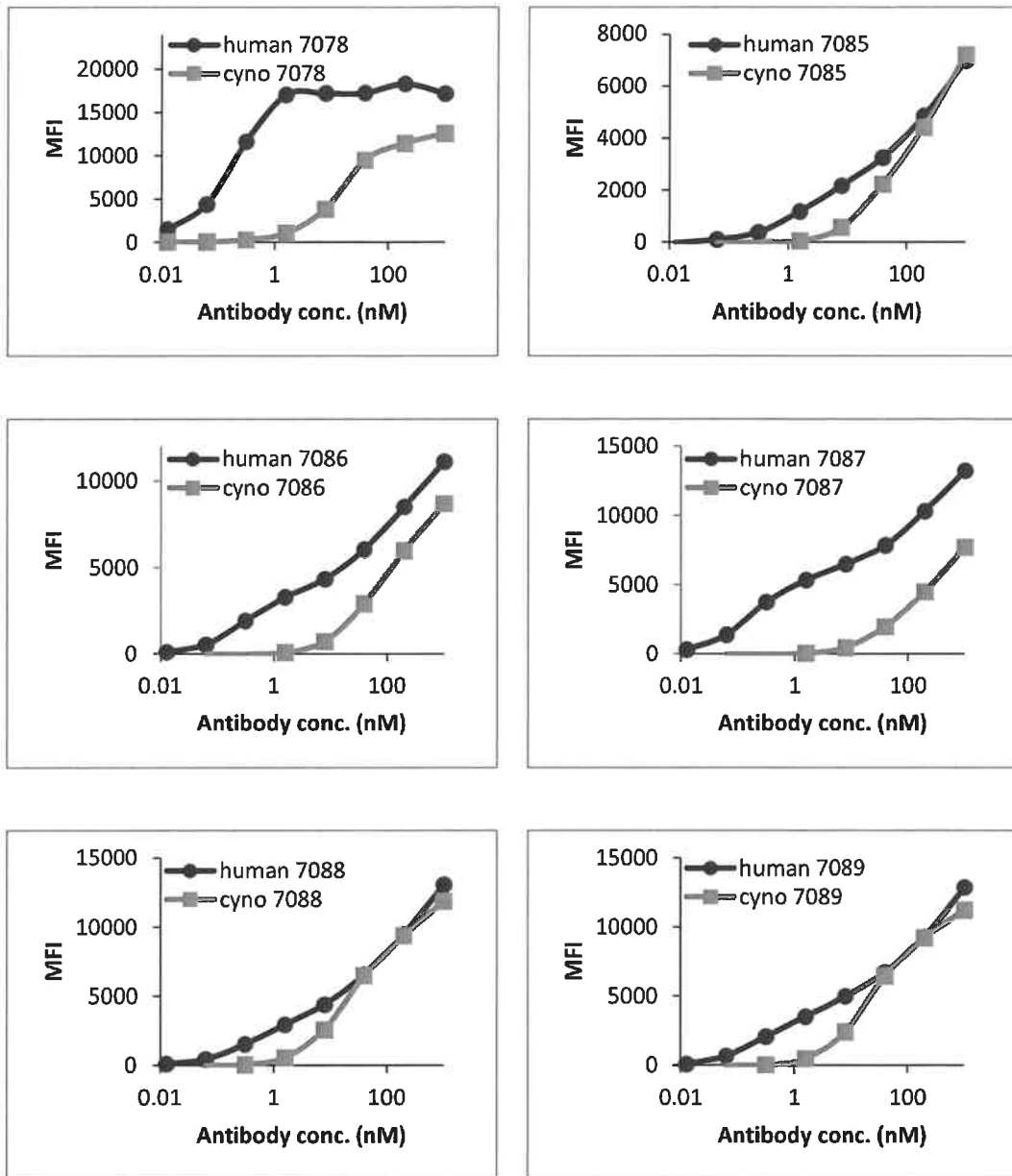
LD52Q Rv : GTCGGGTCTCTTATCCTGCCGGTAGATGATTGT

LD52N Rv : GTCGGGTCTCTTATCGTTCCGGTAGATGATTGT

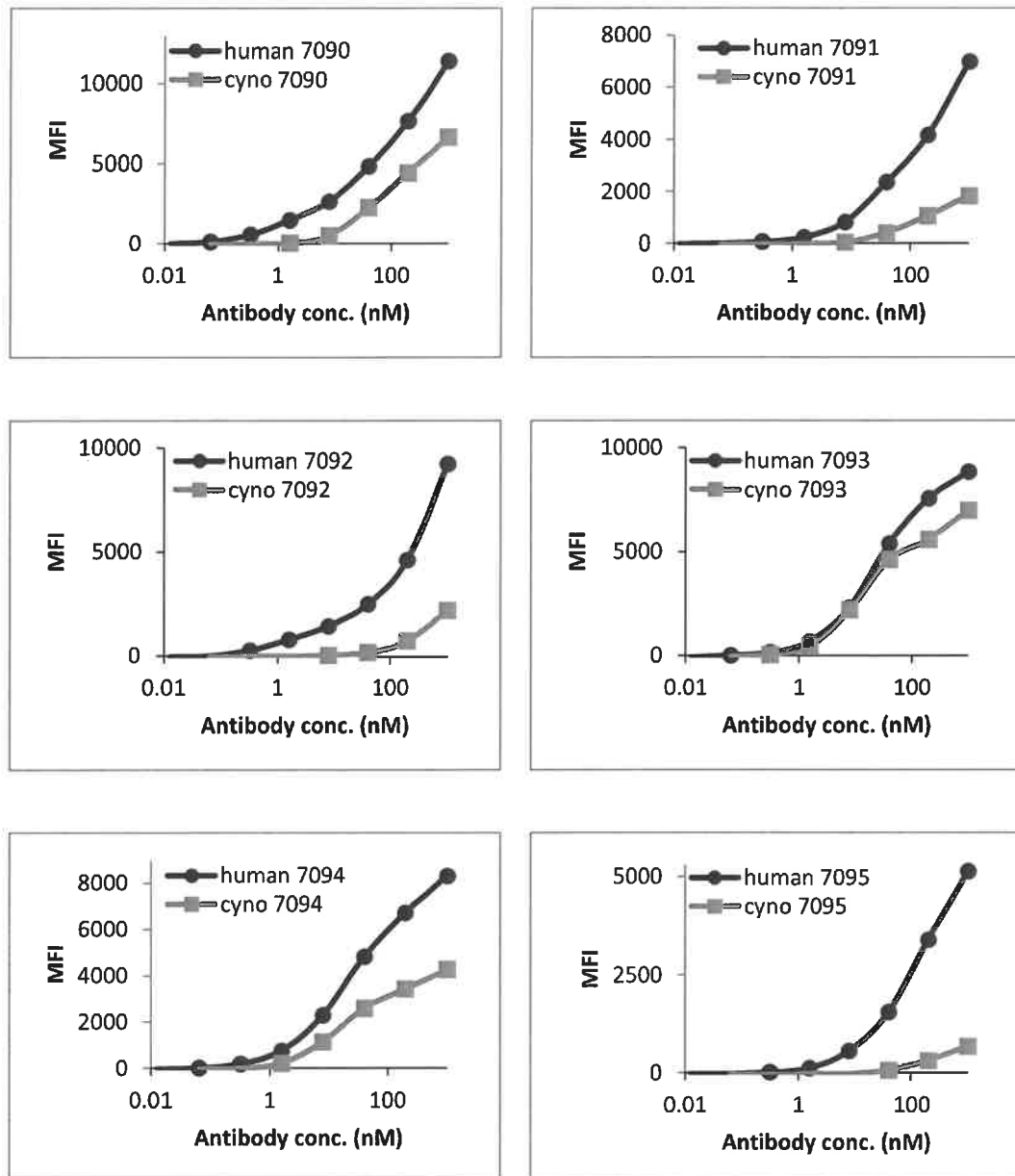
LD52S Rv : GTCGGGTCTCTTATCGCTCCGGTAGATGATTGTG

LD52A Rv : GTCGGGTCTCTTATCGGCCCGGTAGATGATTGT

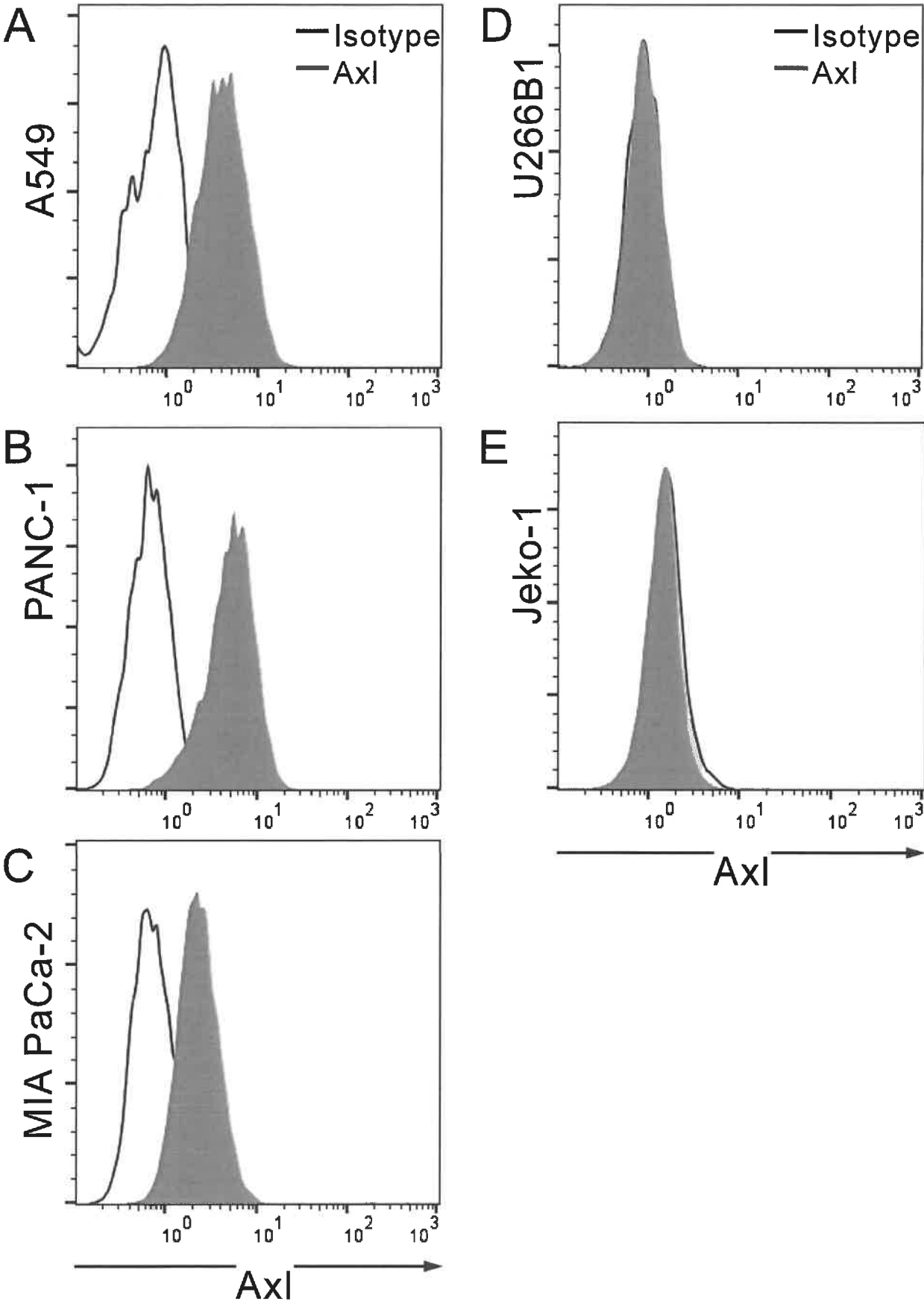
[Figure 106-1]



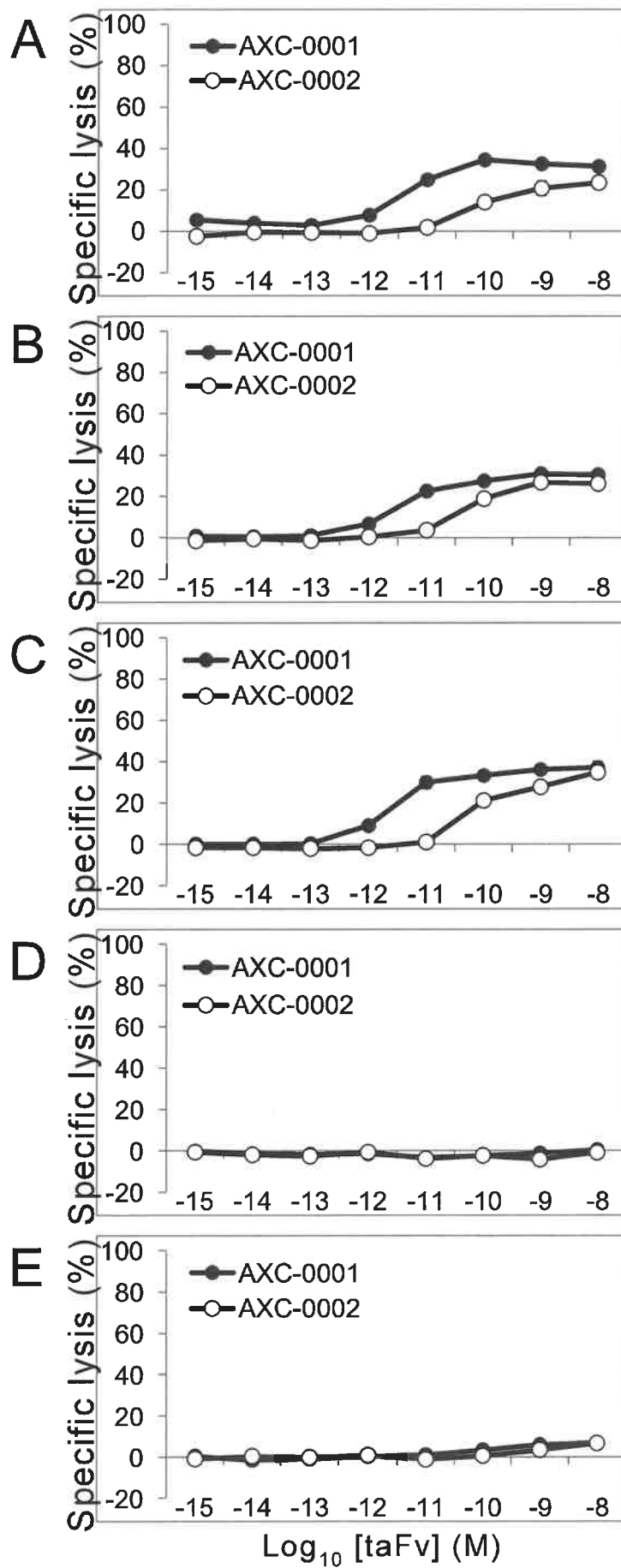
[Figure 106-2]



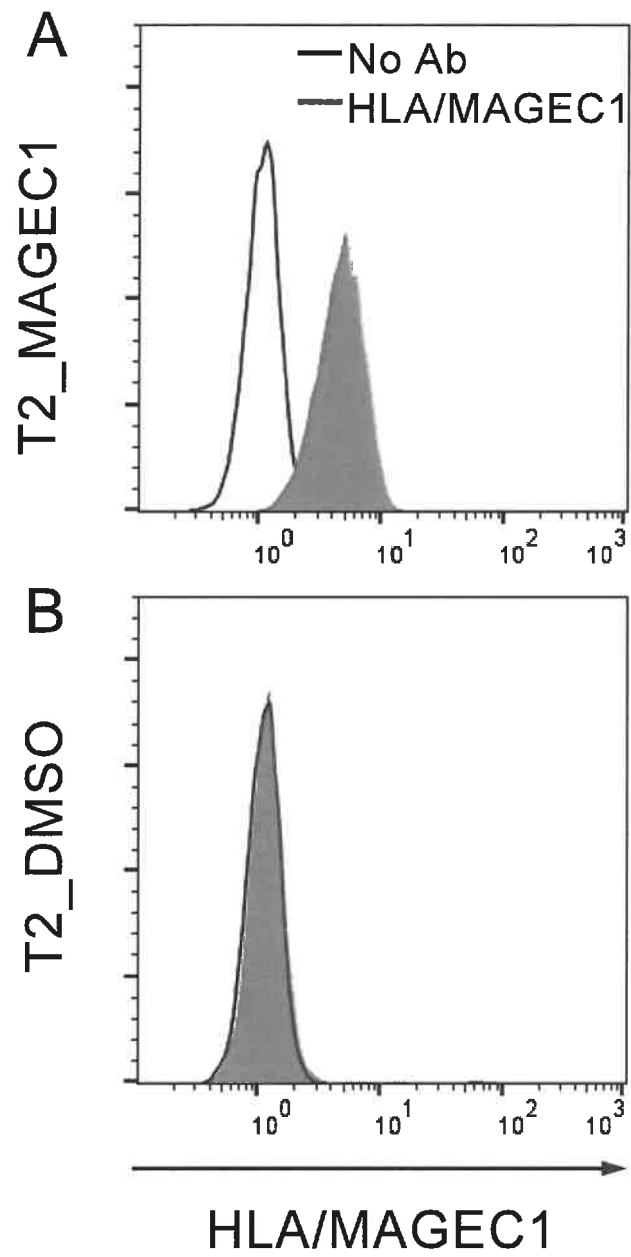
[Figure 107]



[Figure 108]

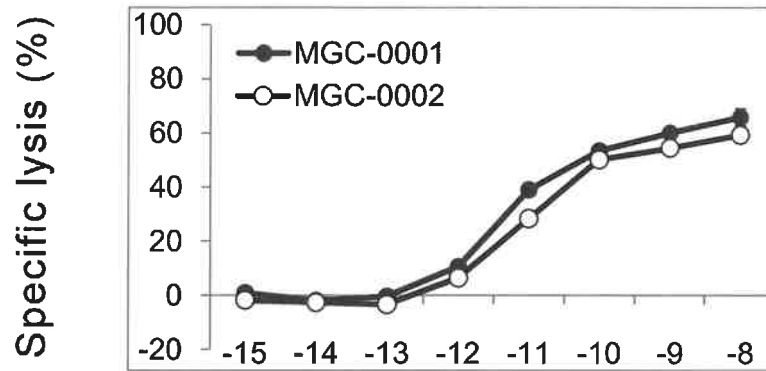


[Figure 109]

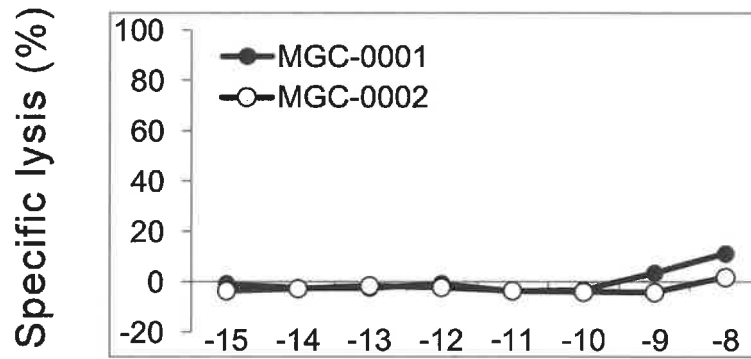


[Figure 110]

A



B



[Figure 111]

SEQ ID NO: 97 Amino acid sequence of MAGEC1 peptide

ILFGISLREV

MAGEC1(959-968)

[Figure 112]

SEQ ID NO: 98 Amino acid sequence of the CDRH2 region
of a CDR modified form

ITXaaXaaGGRI

The first Xaa and the second Xaa each represent an
arbitrary natural amino acid residue

[Figure 113]

SEQ ID NO: 99 Amino acid sequence of the CDRL2 region
of a CDR modified form

RXaaD

Xaa represents an arbitrary natural amino acid
residue

[Figure 114]

SEQ ID NO: 100 Amino acid sequence of the variable region of heavy chain of a CDR modified form of C3E-7034

EVQLVESGGGLVQPGGSLRLSCAASGVTFNYYGMSWIRQAPGKGLEWVASI
TXaaXaaGGRIYYPD SVKGRFTISRENTQKTLYLQMNSLRAEDTAVYYCTL
DGRDGWVAYWGQGT LVT VSS

The first Xaa and the second Xaa each represents an arbitrary natural amino acid residue

[Figure 115]

SEQ ID NO: 101 Amino acid sequence of the variable region of the light chain of a CDR modified form of C3E-7034

NFMLTQPHSVSESPGKTVTISCKRNTGNIGSNYVNWYQQHEGSSPTTIIYR
XaaDKRPDGVSDRFSGSIDRSSKSASLTISNLKTEDEADYFCQSYSSGFIF
GGGTKLTVL

Xaa represents an arbitrary natural amino acid residue

[Figure 116]

SEQ ID NO: 102 Amino acid sequence of the variable region of the light chain of a CDR modified form of C3E-7035

QAVLTQPSSVSGVPGQRVTISCKRNTGNIGSNYVNWYQQLPGTAPKLLIYR
XaaDKRPSGVPDRFSGSKSGTSASLAITGFQAEDEADYYCQSYSSGFIFGG
GTKLTVL

Xaa represents an arbitrary natural amino acid residue

[Figure 117]

SEQ ID NO: 103 amino acid sequence of the variable region of the light chain of a CDR modified form of C3E-7036

NFMLTQPSSVSGVPGQRVTISCTGNTGNIGSNYVNWYQQLPGTAPKLLIYR
XaaDKRPSGVPDRFSGSKSGTSASLAITGFQAEDEADYYCQSYSSGFIFGG
GTKLTVL

Xaa represents an arbitrary natural amino acid residue