

5183-US

Figure 1A

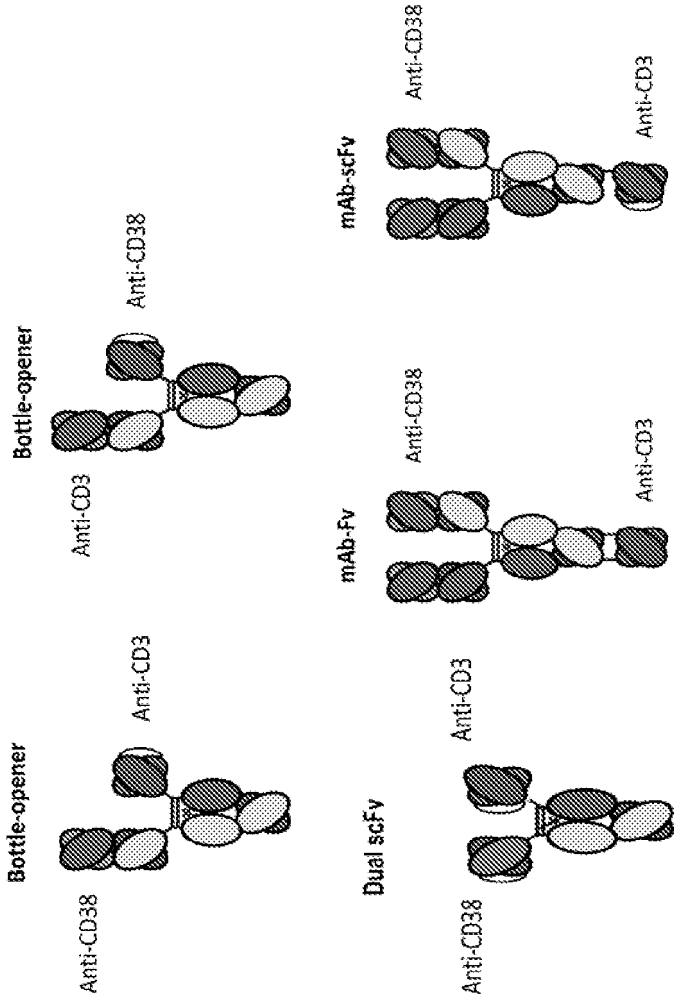


Figure 1B

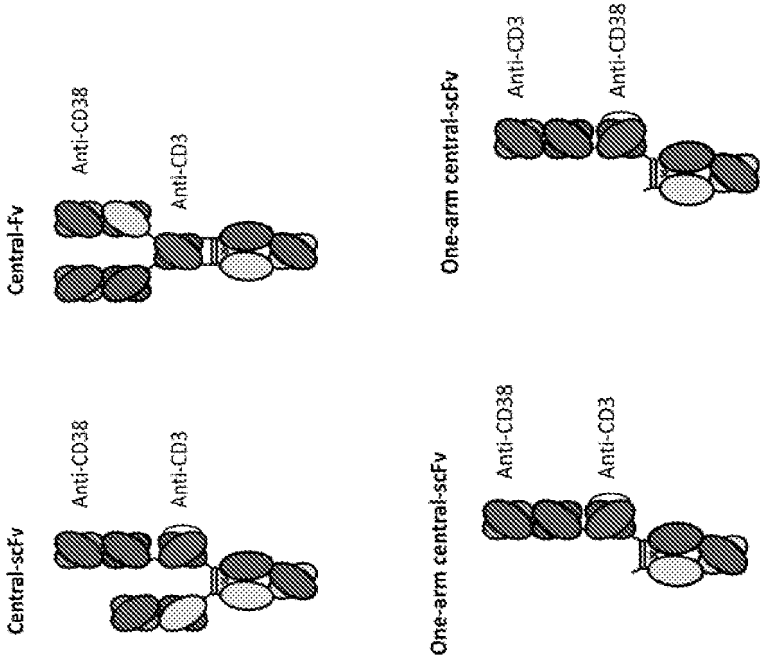


Figure 2

High CD3: Anti-CD3_H1.30_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNEGDSYVSWFAYWGQGTLVTVSS	1
vhCDR1	TYAMN	2
vhCDR2	RIRSKYNNVATYYADSVK	3
vhCDR3	HGNEGDSYVSWFAY	4
Variable light (vl) domain	QAVVTQEPSTVSPGGTTLTCSSTIGAVTISNYANWVQKPGKSPRGLIGGINKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHWVF GGG TKLTVL	5
vlCDR1	GSSTGAVTTSNYAN	6
vlCDR2	GTNKRAP	7
vlCDR3	ALWYSNHWV	8
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNEGDSYVSWFAYWGQGTLVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT VTLTCSSTIGAVTTSNYANWVQKPGKSPRGLIGGINKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHW V FGG GT KL TVL	9

Figure 3

High-Int #1 CD3: Anti-CD3_H1.32_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWRQAPGKGLEWVGRISKANNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS	10
vhCDR1	TYAMN	11
vhCDR2	RIRSKANNYATYYADSVKG	12
vhCDR3	HGNFGDSYVSWFAY	13
Variable light (vl) domain	QAVVTQEPSTVSPGGITVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	14
vlCDR1	GSSTGAVTTSNYAN	15
vlCDR2	GTNKRAP	16
vlCDR3	ALWYSNHHWV	17
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWRQAPGKGLEWVGRISKANNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT VTLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHW VFGGGTKLTVL	18

Figure 4

High-Int #2 CD3: Anti-CD3_H1.89_I1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGLTVTVSS	19
vhCDR1	TYAMN	20
vhCDR2	RIRSKYNNVATYYADSVKG	21
vhCDR3	HGNFGDEYVSWFAY	22
Variable light (vl) domain	QAVVTQEPSTVSPGGITVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	23
vlCDR1	GSSTGAVTTSNYAN	24
vlCDR2	GTNKRAP	25
vlCDR3	ALWYSNHHWV	26
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT VTLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHW VFGGGTKLTVL	27

Figure 5

High-Int #3 CD3: Anti-CD3_H1.90_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRISKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGLTVTVSS	28
vhCDR1	TYAMN	29
vhCDR2	RIRSKYNNVATYYADSVKG	30
vhCDR3	HGNFGDPYVSWFAY	31
Variable light (vl) domain	QAVVTQEPSTVSPGGTIVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	32
vlCDR1	GSSTGAVTTSNYAN	33
vlCDR2	GTNKRAP	34
vlCDR3	ALWYSNHHWV	35
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRISKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT VTLCGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHW VFGGGTKLTVL	36

Figure 6

Intermediate CD3: Anti-CD3_H1.33_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFDYWGQGLTVTVSS	37
vhCDR1	TYAMN	38
vhCDR2	RIRSKYNNVATYYADSVKG	39
vhCDR3	HGNFGDSYVSWFDY	40
Variable light (vl) domain	QAVVTQEPSTVSPGGITVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	41
vlCDR1	GSSTGAVTTSNYAN	42
vlCDR2	GTNKRAP	43
vlCDR3	ALWYSNHHWV	44
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMNWVRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT VTLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHW VFGGGTKLTVL	45

Figure 7

Low CD3: Anti-CD3_H1.31_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL QMNSLRAEDTAVYYCVRHGNFGDSVSWFAYWGQGLTVTVSS	46
vhCDR1	TYAMS	47
vhCDR2	RIRSKYNNYATYYADSVKG	48
vhCDR3	HGNFGDSVSWFAY	49
Variable light (vl) domain	QAVVTQEPSTVSPGGTIVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	50
vlCDR1	GSSTGAVTTSNYAN	51
vlCDR2	GTNKRAP	52
vlCDR3	ALWYSNHHWV	53
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL QMNSLRAEDTAVYYCVRHGNFGDSVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGTV TLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHWV FGGGTKLTVL	54

Figure 8

High CD38: OKT10_H1.77_L1.24

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNVWRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVVYCARYGNWFPYWGQGTILTVSS	55
vhCDR1	YSWMN	56
vhCDR2	EINPQSSTINYATSVKG	57
vhCDR3	YGNWFPY	58
Variable light (vl) domain	DIVMTQSPSSLSASVGDRTITCRASQNVDTWVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGGTDFTLTISLQPEDFA TYFCQQYDSYPLTFGGGTKLEIK	59
vlCDR1	RASQNVDTWVA	60
vlCDR2	SASYRY	61
vlCDR3	QQYDSYPLT	62
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNVWRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVVYCARYGNWFPYWGQGTILTVSSGKPGSGKPGSGKPGSDIVMTQSPSSLSASVGDRTITCRASQ NVDTWVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTKLEIK	63

Figure 9

Intermediate CD38: OKT10_H1L1.24

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNKNTLYLQ MNSLRAEDTAVVYCARYGNWFPYWGQGTILTVSS	64
vhCDR1	RSWMN	65
vhCDR2	EINPDSSTINYATSVKG	66
vhCDR3	YGNWFPY	67
Variable light (vl) domain	DIVMTQSPSSLSASVGDRTITCRASQNVDTWVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGGTDFTLTISLQPEDFA TYFCQQYDSYPLTFGGGTKLEIK	68
vlCDR1	RASQNVDTWVA	69
vlCDR2	SASYRYS	70
vlCDR3	QQYDSYPLT	71
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNKNTLYLQ MNSLRAEDTAVVYCARYGNWFPYWGQGTILTVSSGKPGSGKPGSGKPGSDIVMTQSPSSLSASVGDRTITCRASQ NVDTWVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTKLEIK	72

Figure 10

Low CD38: OKT10_H1L1

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFD FSRSWMN WVRQAPGKGLEWVSEINPDSSTIN YATSVKGRFTISRDNSKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGTILTVSS	73
vhCDR1	RSWMN	74
vhCDR2	EINPDSSTIN YATSVK G	75
vhCDR3	YGNWFPY	76
Variable light (vl) domain	EVQLVESGGGLVQPGGSLRLSCAASGFD FSRSWMN WVRQAPGKGLEWVSEINPDSSTIN YATSVKGRFTISRDNSKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGTILTVSS	77
vlCDR1	RASQNVDTNVA	78
vlCDR2	SASYRYS	79
vlCDR3	QQYDSYPLT	80
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFD FSRSWMN WVRQAPGKGLEWVSEINPDSSTIN YATSVKGRFTISRDNSKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGTILTVSSGGKPGSGKPGSEVQLVESGGGLVQPGGSLRLSCAASGF D FSRSWMN WVRQAPGKGLEWVSEINPDSSTIN YATSVKGRFTISRDNSKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWG QGTILTVSS	81

Figure 11

XENP15331

XENP13551 HC-Fab SEQ ID NO:82

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVRQAPGKGLEWVSEINPQSSTINVATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYVCARYGNWFPYWG
 QGTLTVSSASTKGPSVFPLAPSSKSTSGGTAAIGCLVKDYEPPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHHKPSDTKVDKKVERKSC
 DKHTCPPCPAPPVAGPSVFLPPKPKDTILMISRTPEVTCVVVDVCKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVIHQDWLNGKEYCKKVSNAKALP
 APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPDSIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQ
 KSLSLSPGK

XENP13551 HC-scFv SEQ ID NO:83

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNVRQAPGKGLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGDS
 YVSWFAYWGQGTILTVSSGKPGSGKPGSGQAQAVVTQEPSTVSPGGTVTLTSGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTILMISRTPEVTCVVVDVCKHEDPEVKFNWYVDGVEV
 HNAKTPREEQYNSTYRVSVLTVLHQDWLNGKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFPSPDIAVEWESNGQPENNYKT
 TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

XENP13551 LC SEQ ID NO:84

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALISASYRSGVDPDRFTGSGSGTDFTLTISIQPEDFATYFCQQQDSYPLTFGGGTGLEIKRTVA
 APSVFIFPPSDEQLKSGTASVVCCLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 12

XENP13243 HC-Fab SEQ. ID NO:85

EVQLVESGGGLVQPGGSLRLSCAASGDFSRWMNWVRQAPGKGLEWVSEINPDSSTINVATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCARYGNWFPYW
 GQGTITVTVSSASTKGPSVEFLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPKS
 CDKTHTCPPCPAPPVAGPSVFLPPPKDITLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAAKTPREEEYNSTYRVSVTLVHQQDWLNGKEYCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQQGVFSCVMHEALHNHYT
 QKSLSLSPGK

XENP13243 HC-scFv SEQ. ID NO:86

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWNVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
 YVSWFAYWVGQGTITVTVSSGKPGSGKPGSGKPGSQAVVTQEPLTVSPGGTVTLTCGSSTGAVTTSNVAWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCCPPCAPPVAGPSVFLPPPKDITLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEV
 HNAKTKPREEQYNSTYRVSVTLVHQQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKTCLVKGFYPSDIAVEWESNGQPENNYKT
 TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

XENP13243 LC SEQ. ID NO:87

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASRYSGVPDRFTGSGSGTDFLTITSSLPQEDFATYFCQQYDSYPLTGGGGTKLEIKRTVA
 APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSSTYLSLSTLTLSKADYEKHKVYACEVTHHQLSPVTKSFNRGEC

Figure 13

XENP14702 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD38 Fab-Fc (OKT10 H1.77)) SEQ ID NO:88

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYVCARYGNWFPYWG
QGTLLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHNKPSDTKVDKKVEPKSC
DKTHCTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVWVSVLTVLHQDWLNGKEYCKVSNKALP
APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSPDIAVEWESDGPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQQGVFSCVMHEALHNHYTQ
KSLSLSPGK

XENP14702 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3 scFv-Fc (α CD3 H1.31 L1.47)) SEQ ID NO:89

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMSWVRQAPGKGLEWVGRIRSKYNNVATYVADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGDSY
VSWFAYWVGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGTVTLTCSSTGAVTTSNYANWVQKPKSPRGLIGGTNKRAPGVPARFSGSLIG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVH
NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

XENP14702 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD38 (OKT10 L1.24)) SEQ ID NO:90

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQKPGQSPKALISASYRSGVDPDRFTGSGSGTDFTLTISISLPEDFATYFCQYDSYPLTFGGGTGLEIKRTVA
APSVFIFPPSPDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 14

XENP15426 Anti-CD38 (OKT10_H1.77_L1.24, CD38high) x Anti-CD3 (H1.33_L1.47, CD3med) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO:91)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNWVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
GQGTILTVSSASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICWVNHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKKVSNA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPPVLDSGDSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO:92)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMN WVRQAPGKGLEWVGRIRSKYNVATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGD
SYVSWFDYWGGQTLTVSSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGS
LLGGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
EVHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFPYPSDIAVEWESNGQPENN
YKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSPGK

LC (SEQ ID NO:93)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALIYSASYRSGVDPDRFTGSGSGTDFTLTISSLQPEDFATYFCQQYDSYPLTFGGGTKEIKRTV
AAPSVFIIPPSDEQLKSGTASVVCCLINNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYLSLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 15

XENP14701 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD38 Fab-Fc (OKT10 H1)) (SEQ ID NO:94)

EVQLVESGGGLVQPGGSLRLSCAASGFDTSRWMMNVRQAPGKGLEWVSEINPDSSTINVATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
GQGTLLVTVSSASTKGPSVEPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPKS
CDKTHTCPAPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKAL
PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTTPPVLDSDGSFFLYSKLTVDKSRWEQQGVFSCSVMHEALHNHYT
QKSLSLSPGK

XENP14701 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3 scFv-Fc (αCD3 H1.31 L1.47)) (SEQ ID NO:95)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMSWVRQAPGKGLEWVGRIRSKYNNVATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSY
VSWFAYVWGGTLLVTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLIG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVH
NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSQSVMHEALHNHYTQKSLSLSPGK

XENP14701 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD38 (OKT10 L1)) (SEQ ID NO:96)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSARYSGVDPDRFTGSGSGTDFTLTISSLPEDFATYFCQQYDSYPLTFGGGTKEIKRTVA
APSVFIFPPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 16

XENP14703 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD38 Fab-Fc (OKT10 H1)) (SEQ ID NO:97)

EVQLVESGGGLVQPGGSLRLSCAASGDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINVATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYVCARYGNWFPYVW
GQGTLTVTSSASTKGPSVEPLAPSSKSTSGGTAALCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPKS
CDKTHTCPPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKKVSNAKAL
PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYT
QKSLSLSPGK

XENP14703 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3-scFv-Fc (α CD3 H1.31 L1.47)) (SEQ ID NO:98)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMSWVRQAPGKGLEWVGRIRSKYNNVATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYCVRHGNFGDSY
VSWFAYWGOGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPKSPRGLIGGTNKRAPGVPARFSGSLLG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWVVDGVEVH
NAKTKPREEQYNSTYRVVSVLTVHLQDWLNGKEYCKKVSNAKALPAIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

XENP14703 Anti-CD38 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD38 (OKT10 L1.53)) (SEQ ID NO:99)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYASVYRKSGVPDRFTGSGSGTDFTLTISSLQPEDFATYFCQQQYDSYPLTFGGGTKEIKRTVA
APSVFIIPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTISLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 17

XENP13243 Anti-CD38 (OKT10_H111) x Anti-CD3 (H1.30_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO:100)

EVQLVESGGGLVQPGGSLRLSCAASGDFSRWMNWVRQAPGKGLWVSEINPDSSTINVATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
 GGGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAIGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPK
 SCDKTHCTCPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWEEQGDVFSCSVMEALHNHYT
 QKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO:101)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWVRQAPGKGLWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
 YVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGQAQAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
 VHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYK
 TTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFPSCSVMEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:102)

DIVMTQSPSSLSASVGRVITTCRASQNVDTNVAWYQQKPGQSPKALISASVRYSGVDPDRFTGSGSGTDFLTITSSLPEDFATYFCQQQYDSYPLTFGGGT/KLEIKRTV
 AAPSVFIFPPSDEQLKSGTASVVCCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 18

XENP18967 Anti-CD38 (OKT10_H1.77_L1.24) x Anti-CD3 (SP34_H1.32_L1.47) mAb-scFv**HC 1 (SEQ ID NO:103)**

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVRQAPGKGLEWVSEINPQSSTINVATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARYGNWFYPYWG
 QGTILTVSS/ASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVWTVPSSSLGTQTICNVNHHKPSDTKVDKKVEPKS
 CDKTHCTPCPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEVNSTYRVSVLTVLHQDWLNGKEYCKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWEEQGDVFSCSVMEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:104)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNVRQAPGKGLEWVGRIIRSKANNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
 YVSWFAYWGQGTILTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGS
 LLGGKAALTISGAQPEDEADYYCALWYSNHHWVFGGGTKLTVL/EPKSSDKTHTCPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNY
 KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVVFSCSVMEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:105)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALYASARYSGVPDRFTGSGSGTDFTLTISIQPEDFATYFCQQQYDSYPLTFGGGTKEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVVCCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 19

XENP18971 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.32_L1.47) mAb-scFv**HC 1 (SEQ ID NO:106)**

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FSRW~~MNVRQAPGKGL~~EWVSEINPD~~STIN~~YATSVKGRFTISR~~DN~~SKNTLYLQMN~~SLRAEDTAVYYCARYGNW~~FPYW~~
 GGGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAIGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPK
 SCDKTHCTPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTTPVLDSGGSFFLYSKLTVDKSRWEQQGVFSCSVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:107)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNVRQAPGKGL~~EWVGRIRSKANN~~YATYADSVKGRFTISR~~DDSKNTLYLQMN~~SLRAEDTAVYYCVRHGN~~EGDS~~
 YVSWFAYWGQGLTVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQEP~~SLTVSPGGTVTLTCGS~~STGAVTTSNYANWVQKPGKSPRGLIGGTNKR~~APGV~~PARFSGS
 LLGGKAALTISGAQPEDEADY~~CA~~LYWY~~SNHWW~~FGGGTKLTVL/EPKSSDKTHTCP~~PC~~APPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNW~~VVDGV~~
 EVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQV~~KL~~TLCLVKGFPSDIAVEWESNGQ~~PENNY~~
 KTTTPVLDSGGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:108)

DIVMTQSPSSLSASVGRVITTCRASQNVDTNVAWYQQKPGQSPKAL~~IYSASVRYSGV~~PD~~RFTGSGSGTDFLT~~ISSLPEDFATYFCQQYDSYPLT~~FGGGTKLEIK/RTV~~
 AAPSVFIFPPSDEQLKSGTASVVCCLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 20

XENP18969 Anti-CD38 (OKT10_H1L1.24) x Anti-CD3 (SP34_H1.33_L1.47) mAb-scFv

HC 1 (SEQ ID NO:109)

EVQLVESGGGLVQPGGSLRLSCAASGFD¹SRSWMNWVRQAPGKGLEWVSEINPD²STIN³YATSVKGRFTISRDN⁴SKNTLYLQMINSLRAEDTAVYYCAR⁵YGNWIFPYW
 GQGT⁶LVTVSS/ASTKGPSVFPLAPSSKSTSGGTAA⁷LGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV⁸TVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPK
 SCDK⁹TH¹⁰CPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKKVS¹¹NKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPENNYK¹²TPPVLDSDGSFFLYSKLTVDKSRWEQGDV¹³FSCSV¹⁴MHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:110)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMN¹WVRQAPGKGLEWVGRIRSKYNNYATYVADSVKGRFTISRDDSKNTLYLQMINSLRAEDTAVYYCV²RHGNFGDS
 YVSWFEDYWGQGT³LVTVSS/GKPGSGKPGSGKPGS/QAVVTQEP⁴SLTVSPGGTVTLTCGSSITGA⁵VTTSNYANWVQKPGKSPRGLIGGTNKRAPGV⁶PARFSGS
 LLGGKAALTISGAQPEDEADYYCALWY⁷SNHHWVFGGGTKLTVL/EPKSSDK⁸TH⁹TCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKKVS¹⁰NKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQV¹¹KLTVLKGFPYSDIAVEWESNGQ¹²PENNY
 K¹³TPPVLDSDGSFFLYSKLTVDKSRWQQGNV¹⁴FSCSV¹⁵MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:111)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQKPGQSPKALYSA¹SYRYS²GVDPDRFTGSGSGTDFTLT³TISSIQPEDFATYFCQ⁴QYDSYPLTFGGGT⁵KLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASV⁶VCLINNFYPREAKVQWVKVDNALQSGNSQESVTEQ⁷DSKDS⁸TYLSSTLTLSKADY⁹EKKHKVYACEVTH¹⁰HQGLSPVTKSFNRGEC

Figure 21

XENP18970 Anti-CD38 (OKT10_H1L1.24) x Anti-CD3 (SP34_H1.31_L1.47) mAb-scFv

HC 1 (SEQ ID NO:112)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FSRW~~MMNWRQAPGKGLEWVSEINPDSSTIN~~YATSVKGRFTISR~~DN~~SKNTLYLQ~~MNSLRAEDTAVYYCARYGNWFPYVW
 GGGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAIGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPK
 SCDKTHCTCPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:113)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGL~~EWVGRIRSKYNN~~YATYADSVKGRFTISR~~DDSKNTLYLQ~~MNSLRAEDTAVYYCVRHGNFGDSY
VSWFAYVWGQGLTVTVSS/GKPGSGKPGSGKPGS/QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
 VHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYK
 TTPPVLDSDGSFFLYSKLTVDKSRWQQGNV~~FS~~CSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:114)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALYASARYSGVPDRFTGSGSGTDFTLTISIQPEDFATYFCQQQYDSYPLTFGGGTGLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVIVCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSYSTLSLSTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 22

XENP18972 Anti-CD38 (OKT10_H111) x Anti-CD3 (SP34_H1.33_L1.47) mAb-scFv

HC 1 (SEQ ID NO:115)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FSRW~~MNVRQAPGKGL~~EWVSEINPD~~STIN~~YATSVKGRFTISR~~DN~~SKNTLYLQMN~~SLRAEDTAVYYCARYGNWFPYVW
 GGGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAIGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPK
 SCDKTHCTCPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLT~~VLHQDWLNGKEYCKVSNKAL~~
 PAPIETISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQQGVFSCSVMEALHNHHT
 QKSLSLSPGK

HC 2 (SEQ ID NO:116)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNVRQAPGKGL~~EWVGRIRSKYNNYATYYADSVKGRFTISR~~DD~~SKNTLYLQMN~~SLRAEDTAVYYCVRHGNEGDS
 YVSWFDYWGQGLTVTVSS/~~GKPGSGKPGSGKPGSG~~/QAVVTQEP~~SLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKR~~APGVPARFSGS
 LLGGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEEYNSTYRVSVLT~~VLHQDWLNGKEYCKVSNKALPAPIETISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNY~~
 KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNV~~FSCSVMEALHNHHTQKSLSLSPGK~~

LC (SEQ ID NO:117)

DIVMTQSPSSLSASVGRVITTCRASQNVDTNVAWYQQKPGQSPKAL~~IYSAVRYSGVPDRFTGSGSGTDFLTIS~~SLQPEDFATYFCQQYDSYPLT~~FGGGTKLEIK/RTV~~
 AAPSVFIFPPSDEQLKSGTASVVCCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDSYSTLSLSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 23

XENP18973 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.31_L1.47) mAb-scFv

HC 1 (SEQ ID NO:118)

EVQLVESGGGLVQPGGSLRLSCAASGFD¹FSRWMMNWVRQAPGKGL²EWVSEINPDSSTIN³YATSVKGRFTISRDN⁴SKNTLYLQMN⁵SLRAEDTAVYYCARYGNW⁶FPYVW
 GG⁷GLTVTVSS/ASTKGP⁸SVFPLAPSSK⁹STSGGTAA¹⁰LGCLVKDYFPEPVT¹¹SVWNSGALTSGVHTFPAVLQSSGLYSLSSV¹²VTVPSSSLGTQTYICNVNHKPSDTKVDK¹³KEPK
 SCDK¹⁴THCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVK¹⁵SNKAL
 PAPIEK¹⁶TISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGGFPSDIAVEWESDGGQPEN¹⁷NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQQDVFSCSV¹⁸MHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:119)

EVQLVESGGGLVQPGGSLRLSCAASGFTF¹STYAMSWVRQAPGKGL²EWVGRIRSKYNNYATYADSVKGRFTISRDD³SKNTLYLQMN⁴SLRAEDTAVYYCVRHGNFGDSY
 VSWFAYW⁵GQGLTVTVSS/GKPGSGKPGSGKPGS/QAVWTQEP⁶SLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGV⁷PARFSGSLL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDK⁸THTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
 VHNAK⁹TKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVKSNKALPAPIEK¹⁰TISKAKGQPREPQVYTLPPSREQMTKNQV¹¹KLTCLVKGFYPSDIAVEWESNGQPENNYK
 TTPPVLDSDGSFFLYSKLTVDKSRWQQGNV¹²FSVCSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:120)

DIVMTQSPSSLSASVGRV¹ITCRASQNVDTNVAWYQQKPGQSPKAL²IYSASVRYSGVPDRFTGSGSGTDFLTIS³SLQPEDFATYFCQQYDSYPLT⁴FGGGTKLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASV⁵VCLLNNFYPREAKVQWVKVDNALQSGNSQESVTEQDSKDS⁶TYSLSTLTLSKADY⁷KEHKVYACEVTHQGLSPVTKSFNRGEC

Figure 24

XENP15055 Anti-CD38 (OKT10_H1L1, CD38low) x Anti-CD3 (H1.33_L1.47, CD3med) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO:121)

EVQLVESGGGLVQPGGSLRLSCAASGFDISRWMNVRQAPGKGLEWVSEINPDSSITINYATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYVCARYGNWFPYVW
GQGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICWVNHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKKVSNA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO:122)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNVRQAPGKGLEWVGRIRSKYNVATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGD
SYVSWFDYWGGTLTVSSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGS
LLGGKAALTISGAQPEDEADYYCALWYSNHWVFGGGLKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
EVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKKVSNAKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFPYSDIAVEWESNGQPENN
YKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSPGK

LC (SEQ ID NO:123)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALYASRYSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQQYDSYPLTFGGGTGLEIKRTV
AAPSVFIIPPSDEQLKSGTASVVCCLINNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 25

XENP13544 Anti-CD38 (OKT10_H1L1, CD38low) x Anti-CD3 (H1.79_L1.48) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO:124)

EVQLVESGGGLVQPGGSLRLSCAASGFDTSRWMNWVRQAPGKGLEWVSEINPDSSITINYATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYVCARYGNWFPYVW
GQGTILTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHNKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO:125)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWVRQAPGKCLEWVGRIRSKYNINATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGDS
YVSWFAYWGQGTILTVSSGKPGSGKPGSGKPGSQAVVTQEPSTLSPGGTVTLTCGSSTGAVTTSNYANWVQOKPGKSPRGLIGGTNKRAPGVPARFSGSL
LGGAALTISGAQPEDEADYICALWYSNHWVFGCGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
VHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNY
KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:126)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALISASYRSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQQYDSYPLTFGGGTGLEIKRTV
AAPSVFIIPPSDEQLKSGTASVVCCLNNFYPRPAKVQWVKVDNALQSGNSQESVTEQDSKDSYLSLSLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 26

XENP13694 Anti-CD38 (OKT10_H1.77_L1.24, CD38high) x Anti-CD3 (H1.79_L1.48) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO:127)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNWVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVVYCARYGNWFPVW
GQGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICWVNHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO:128)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMN WVRQAPGKCLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVVYCVRHGNFGDS
YVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEP SLTVSPGGTVTLTCGSSTGAVTTSNYANWVQOKPGKSPRGLIGGTNKRAPGVPARFSGSL
LGGAALTISGAQPEDEADYICALWYSNHWVFGCGTKLT VLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
VHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNY
KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSPGK

LC (SEQ ID NO:129)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALIYSARYSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTV
AAPSVFIIPPSDEQLKSGTASVCLLNNFYPRPAKVKQWKVDNALQSGNSQESVTEQDSKDSYLSLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 27

>sp|P07766|CD3E_HUMAN T-cell surface glycoprotein CD3 epsilon chain

(SEQ ID NO:130)

MQSGTHWRVLGLCLLSVGWVGQDGNEEMGGITQTPYKVSISGTTVILTCPQYPGSEILWQ

HNDKNIGGDEDDKNIGSDEDHLSLKEFSELEQSGYYVCYPRGSKPEDANFYLYLRARVCE

NCMEMDVMSVATIVVDICITGGLLLLVYYWSKNRKAKAKPVTRGAGAGGRQRGQNKERP

PPVPNPDYEPIRKGQRDLYSGLNQRI

Figure 28

Human CD38 sequence, "/" indicates the junction with the extracellular domain (ECD)

(SEQ ID NO:131)

MANCEFSPVSGDKPCCRLSRRALCLGVLSILVLILVVVLAVV/VPRWRQQWSGPGTTKRFP
ETVLARCVKYTEIHPMRHVDCQSVWDAFKGAFISKHPCNITEEDYQPLMKLGTQTVPCN
KILLWSRIKDLAQFTQVQRDMFTLEDTLGLYADDLTWCGEFNTSKINYQSCPDRKDC
SNNPVSFVKTVSRRFAEAACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEA
WVIHGGREDSRDLCQDPTIKELESISKRNIFSKNIYRPDKFLQCVKNPEDSSCTSEI

ECD domain **(SEQ ID NO:132)**

VPRWRQQWSGPGTTKRFPETVLARCVKYTEIHPMRHVDCQSVWDAFKGAFISKHPCNITEEDYQPLMKLGTQTVPC
NKILLWSRIKDLAQFTQVQRDMFTLEDTLGLYADDLTWCGEFNTSKINYQSCPDRKDC
SNNPVSFVKTVSRRFAEAACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEA
WVIHGGREDSRDLCQDPTIKELESISKRNIFSKNIYRPDKFLQCVKNPEDSSCTSEI

Figure 29A

Monomer 1	Monomer 2
F405A	T394F
S364D	Y349K
S364E	L368K
S364E	Y349K
S364F	K370G
S364H	Y349K
S364H	Y349T
S364Y	K370G
T411K	K370E
V397S/F405A	T394F
K370R/T411K	K370E/T411E
L351E/S364D	Y349K/L351K
L351E/S364E	Y349K/L351K
L351E/T366D	L351K/T366K
P395T/V397S/F405A	T394F
S364D/K370G	S364Y/K370R
S364D/T394F	Y349K/F405A
S364E/F405A	Y349K/T394F
S364E/F405S	Y349K/T394Y
S364E/T411E	Y349K/D401K
S364H/D401K	Y349T/T411E
S364H/F405A	Y349T/T394F
S364H/T394F	Y349T/F405A
Y349C/S364E	Y349K/S354C
L351E/S364D/F405A	Y349K/L351K/T394F
L351K/S364H/D401K	Y349T/L351E/T411E
S364E/T411E/F405A	Y349K/T394F/D401K
S364H/D401K/F405A	Y349T/T394F/T411E
S364H/F405A/T411E	Y349T/T394F/D401K

Figure 29B

Monomer 1	Monomer 2
K370E/T411D	T411K
L368E/K409E	L368K
Y349T/T394F/S354C	S364H/F405A/Y349C
T411E	D401K
T411E	D401R/T411R
Q347E/K360E	Q347R
L368E	S364K
L368E/K370S	S364K
L368E/K370T	S364K
L368E/D401R	S364K
L368E/D401N	S364K
L368E	E357S/S364K
L368E	S364K/K409E
L368E	S364K/K409V
L368D	S364K
L368D/K370S	S364K
L368D/K370S	S364K/E357L
L368D/K370S	S364K/E357Q
T411E/K360E/Q362E	D401K
K370S	S364K
L368E/K370S	S364K/E357Q
K370S	S364K/E357Q
T411E/K360D	D401K
T411E/K360E	D401K
T411E/Q362E	D401K
T411E/N390D	D401K
T411E	D401K/Q347K
T411E	D401K/Q347R
T411E/K360D/Q362E	D401K

Figure 29C

Monomer 1	Monomer 2
T411E/K360E/N390D	D401K
T411E/Q362E/N390D	D401K
T411E/Q347R	D401K/K360D
T411E/Q347R	D401K/K360E
T411E/K360	D401K/Q347K
T411E/K360D	D401K/Q347R
T411E/K360E	D401K/Q347K
T411E/K360E	D401K/Q347R
T411E/S364K	D401K/K370S
T411E/K370S	D401K/S364K
Q347E	E357Q
Q347E	E357Q/Q362K
K360D/Q362E	Q347R
K360D/Q362E	D401K
K360D/Q362E	Q347R/D401K
K360E/Q362E	Q347R
K360E/Q362E	D401K
K360E/Q362E	Q347R/D401K
Q362E/N390D	D401K
Q347E/K360D	D401N
K360D	Q347R/N390K
K360D	N390K/D401N
K360E	Y349H
K370S/Q347E	S364K
K370S/E357L	S364K
K370S/E357Q	S364K
K370S/Q347E/E357L	S364K
K370S/Q347E/E357Q	S364K

Figure 29D

Monomer 1	Monomer 2
L368D/K370S/Q347E	S364K
L368D/K370S/E357L	S364K
L368D/K370S/E357Q	S364K
L368D/K370S/Q347E/E357L	S364K
L368D/K370S/Q347E/E357Q	S364K
L368E/K370S/Q347E	S364K
L368E/K370S/E357L	S364K
L368E/K370S/E357Q	S364K
L368E/K370S/Q347E/E357L	S364K
L368E/K370S/Q347E/E357Q	S364K
L368D/K370T/Q347E	S364K
L368D/K370T/E357L	S364K
L368D/K370T/E357Q	S364K
L368D/K370T/Q347E/E357L	S364K
L368D/K370T/Q347E/E357Q	S364K
L368E/K370T/Q347E	S364K
L368E/K370T/E357L	S364K
L368E/K370T/E357Q	S364K
L368E/K370T/Q347E/E357L	S364K
L368E/K370T/Q347E/E357Q	S364K
T411E/Q362E	D401K/T411K
T411E/N390D	D401K/T411K
T411E/Q362E	D401R/T411R
T411E/N390D	D401R/T411R
Y407T	T366Y
F405A	T394W
T366Y/F405A	T394W/Y407T
Y407A	T366W
T366S/L368A/Y407V	T366W
T366S/L368A/Y407V/Y349C	T366W/S354C

Figure 29E

Monomer 1	Monomer 2
K392D/K409D	E356K/D399K
K370D/K392D/K409D	E356K/E357K/D399K
I199T/N203D/K247Q/R355Q/N384S/K392N/V397M/Q419E/K447_	Q196K/I199T/P217R/P228R/N276K
I199T/N203D/K247Q/R355Q/N384S/K392N/V397M/Q419E/K447_	Q196K/I199T/N276K
N384S/K392N/V397M/Q419E	N276K
D221E/P228E/L368E	D221R/P228R/K409R
C220E/P228E/L368E	C220R/E224R/P228R/K409R
F405L	K409R
T366I/K392M/T394W	F405A/Y407V
T366V/K409F	L351Y/Y407A
T366A/K392E/K409F/T411E	D399R/S400R/Y407A
L351K	L351E
I199T/N203D/K247Q/R355Q/Q419E/K447_	Q196K/I199T/P217R/P228R/N276K
I199T/N203D/K247Q/R355Q/Q419E/K447_	Q196K/I199T/N276K
I199T N203D K274Q R355Q N384S K392N V397M Q419E DEL447	
N208D Q295E N384D Q418E N421D	
N208D Q295E Q418E N421D	
Q196K I199T P217R P228R N276K	
Q196K I199T N276K	
E269Q E272Q E283Q E357Q	
E269Q E272Q E283Q	
E269Q E272Q	
E269Q E283Q	
E272Q E283Q	
E269Q	

Figure 30 pl variants

<u>Variant constant region</u>	<u>Substitutions</u>
pl_ISO(-)	I199T N203D K274Q R355Q N384S K392N V397M Q419E DEL447
pl_(-)_isosteric_A	N208D Q295E N384D Q418E N421D
pl_(-)_isosteric_B	N208D Q295E Q418E N421D
pl_ISO(+RR)	Q196K I199T P217R P228R N276K
pl_ISO(+)	Q196K I199T N276K
pl_(+)_isosteric_A	E269Q E272Q E283Q E357Q
pl_(+)_isosteric_B	E269Q E272Q E283Q
pl_(+)_isosteric_E269Q/E272Q	E269Q E272Q
pl_(+)_isosteric_E269Q/E283Q	E269Q E283Q
pl_(+)_isosteric_E272Q/E283Q	E272Q E283Q
pl_(+)_isosteric_E269Q	E269Q

Figure 31 Ablation variants

Variant	Variant(s), cont.
G236R	P329K
S239G	A330L
S239K	A330S/P331S
S239Q	I332K
S239R	I332R
V266D	V266D/A327Q
S267K	V266D/P329K
S267R	S267R/A327Q
H268K	S267R/P329K
E269R	G236R/L328R
299R	E233P/L234V/L235A/G236del/S239K
299K	E233P/L234V/L235A/G236del/S267K
K322A	E233P/L234V/L235A/G236del/S239K/A327G
A327G	E233P/L234V/L235A/G236del/S267K/A327G
A327L	E233P/L234V/L235A/G236del
A327N	S239K/S267K
A327Q	267K/P329K
L328E	
L328R	
P329A	
P329H	

Figure 32

scFv monomer (+)	Fab monomer (-)
Heterodimer pl variants S364K/E357Q	Heterodimerization pl variants L368D/K370S
Optional scFv charged linker including but not limited to (GKPGS) ₄	Isosteric pl substitutions N208D/Q295E/N384D/Q418E/N421D
FcKO E233P/L234V/L235A/G236del/S267K	FcKO E233P/L234V/L235A/G236del/S267K
± 428L/434S for FcRn	± 428L/434S for FcRn
scFv of anti-CD3	Fv sequences for anti-CD38

scFv monomer	Fab monomer
Heterodimer pl variants S364K/E357Q	Heterodimerization pl variants L368D/K370S
Optional scFv charged linker including, but not limited to (GKPGS) ₄	pl substitutions I199T N203D K274Q R355Q Q419E K447del
FcKO E233P/L234V/L235A/G236del/S267K	FcKO E233P/L234V/L235A/G236del/S267K
± 428L/434S for FcRn (optional)	± 428L/434S for FcRn (optional)
scFv of anti-CD3	scFv of anti-CD38

Figure 33A

Positive charged scFv linkers

Name	Sequence	Length	Charge	SEQ ID NO:
Gly-Ser 15	GGGGS GGGGS GGGGS	15	0	
Whitlow linker	GSTSGSGKPGSGEGSTKG	18	+1	
6paxA_1 (+A)	IRPRAIGGSKPRVA	14	+4	
+B	GKGGSGKGGSGKGG	15	+3	
+C	GGKSGGKSGGKGS	15	+3	
+D	GGGKSGGGKSGGGKS	15	+3	
+E	GKGKSGKGKSGKGKS	15	+6	
+F	GGGKSGGKSGKGG	15	+3	
+G	GKPGSGKPGSGKPGS	15	+3	
+H	GKPGSGKPGSGKPGSGKPGS	20	+4	
+I	GKGKSGKGKSGKGKSGKGKS	20	+8	

Negative charged scFv linkers

Name	Sequence	Length	Charge	SEQ ID NO:
Gly-Ser 15	GGGGS GGGGS GGGGS GGGGS	20	0	
3hsc_2 (-A)	STAGDTHLGGEDFD	14	-4	
-B	GEGSGEGSGEGGS	15	-3	
-C	GGE SGGE SGGE GS	15	-3	
-D	GGGESGGGESGGGES	15	-3	
-E	GEGESGEGESGEGES	15	-6	
-F	GGGESGGEGSGEGGS	15	-3	
-G	GEGESGEGESGEGESGEGES	20	-8	

Figure 33B

scFv Linkers

GGGGSGGGSGGGGS (SEQ ID NO: xx)

GGGGSGGGSGGGSGGGGS (SEQ ID NO: xx)

GSTSGSGKPGSGEGSTKG (SEQ ID NO: xx)

PRGASKSGSASQTGSAPGS (SEQ ID NO: xx)

GTAAAGAGAAGGAAAGAAG (SEQ ID NO: xx)

GTSGSSGSGSGSGSGGGG (SEQ ID NO: xx)

GKPGSGKPGSGKPGSGKPGS (SEQ ID NO: xx)

Figure 34

XENP	Heterodimer-skewing variant, Chain 1	Heterodimer-skewing variant, Chain 2	Heterodimer Yield (%)	CH3 Tm (°C)
12757	none	none	52.7	83.1
12758	L368D/K370S	S364K	94.4	76.6
12759	L368D/K370S	S364K/E357L	90.2	77.2
12760	L368D/K370S	S364K/E357Q	95.2	77.5
12761	T411E/K360E/Q362E	D401K	85.6	80.6
12496	L368E/K370S	S364K	91.5	n.d.
12511	K370S	S364K	59.9	n.d.
12840	L368E/K370S	S364K/E357Q	59.5	n.d.
12841	K370S	S364K/E357Q	90.4	n.d.
12894	L368E/K370S	S364K	41.0	n.d.
12895	K370S	S364K	49.3	n.d.
12896	L368E/K370S	S364K/E357Q	73.9	n.d.
12901	K370S	S364K/E357Q	87.9	n.d.

Figure 35

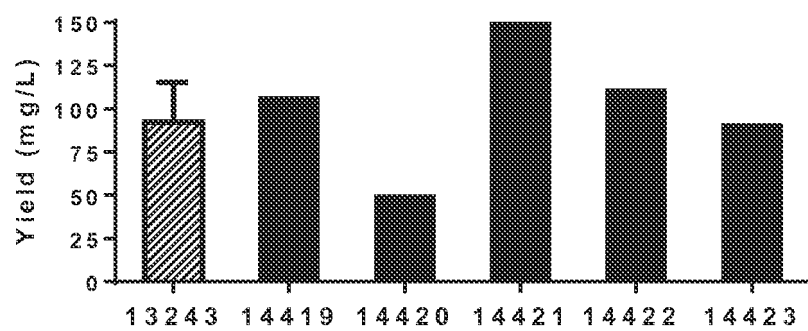


Figure 36

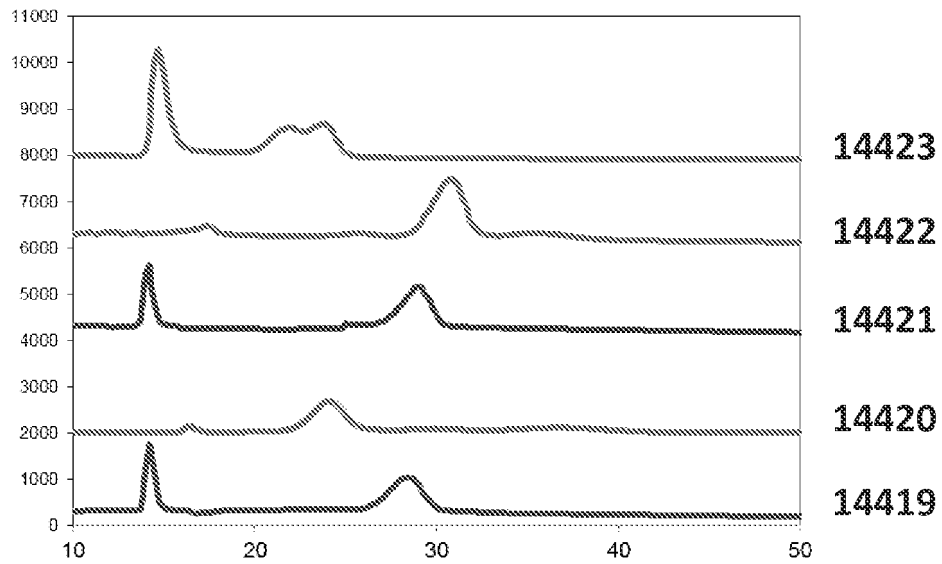


Figure 37

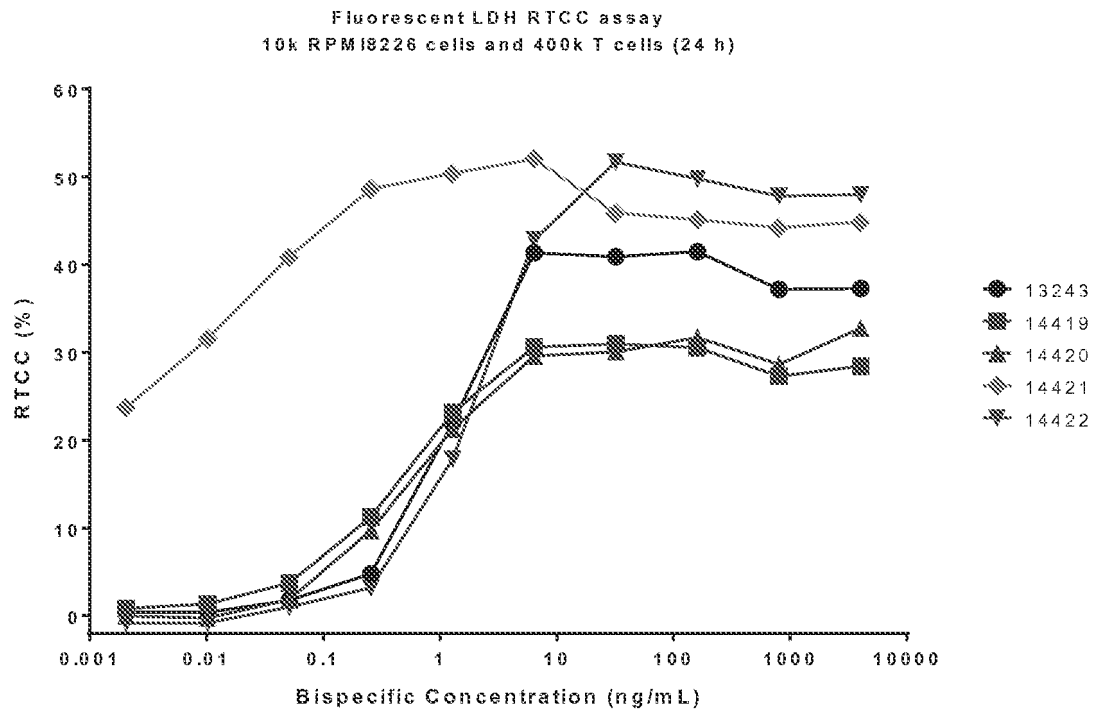


Figure 38

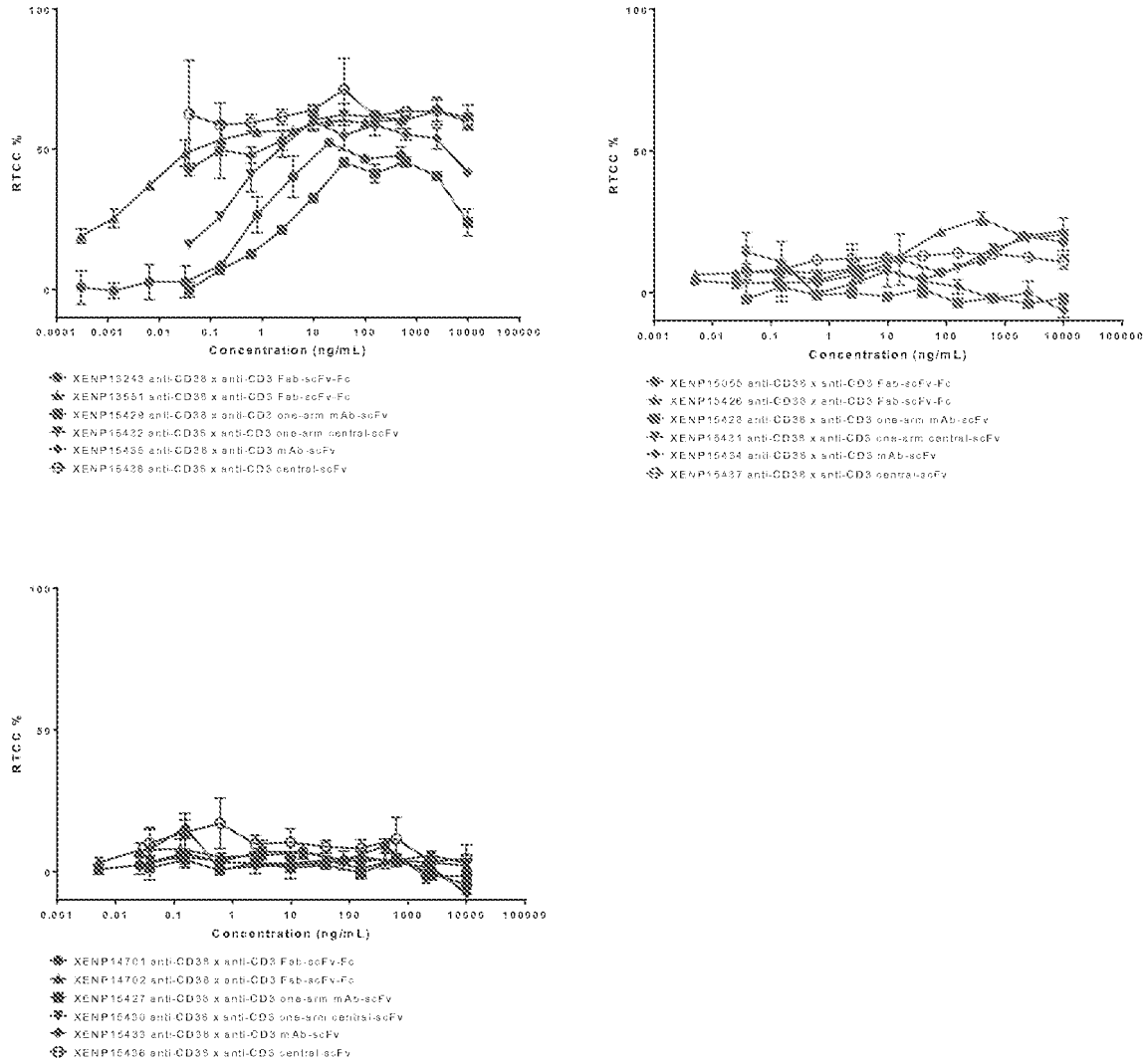


Figure 39

XENP14419 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGS/EVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPLTVSPGGT
VTLCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVITTCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDPDRFTGSGSGTDFLTISLQP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 40

XENP14420 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) mAb-Fv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGQPENNYKTP
PVLDSGSGFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGS/EVQLVESGG
GLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSSKNTLYLQMN
SLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQTLTVSS

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSGSGFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGS/QAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALISASRYSGVPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 41

XENP14421 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) central-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTT
PVLDSDGSFFLYSKLTVDKSRWEQGDFVSCSV MHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/ EVQLV
ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL
QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSP
GGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEADYYCAL
WYSNHWVFGGGTKLTVL/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPVY
TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 42

XENP14422 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) one-arm central-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/EVQLV
ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL
QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSP
GGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCAL
WYSNHWWVFGGGTKLTVL/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY
TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 43

XENP14423 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) central-Fv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCGGGGSGGGGS/EVQLV
 ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL
 QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQTLTVSS/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPP
 KPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCK
 VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTPPVLDSD
 GSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/QAVV
 TQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPE
 DEADYYCALWYSNHWFVGGGTKLTVL/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVV
 VDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKG
 QPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQ
 GNVFSCFSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 44

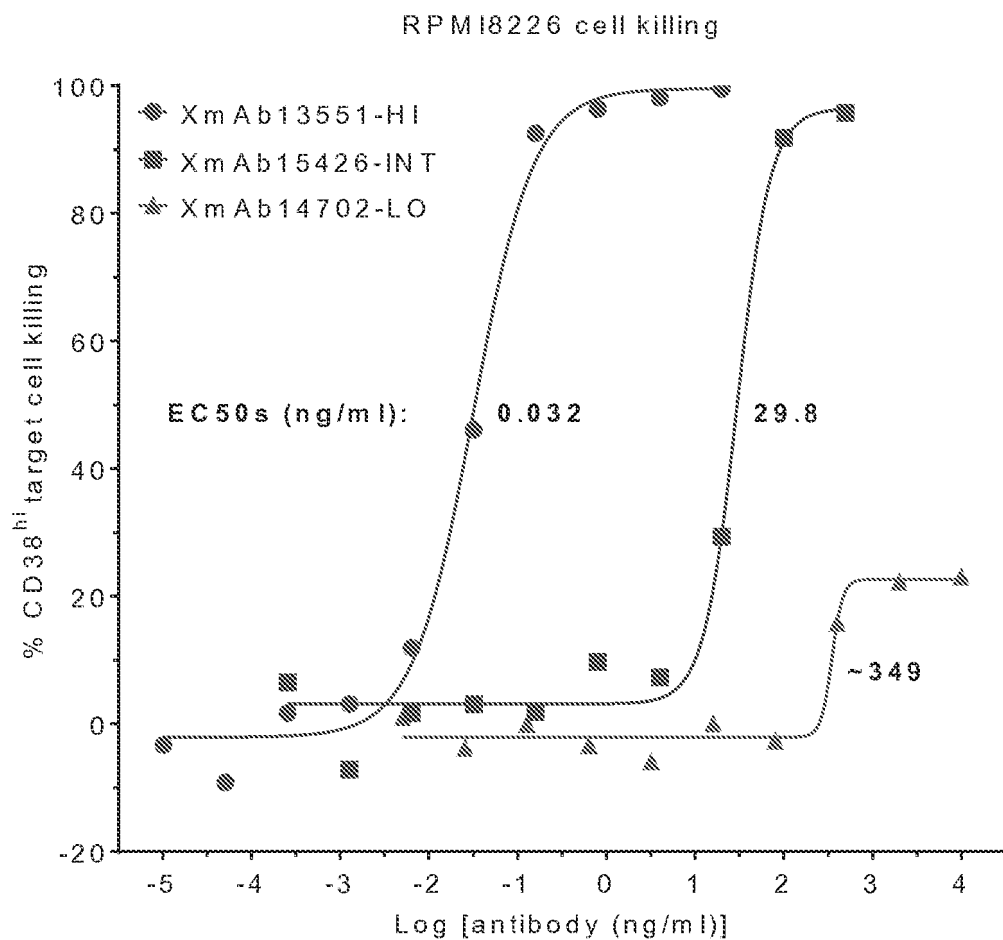


Figure 45

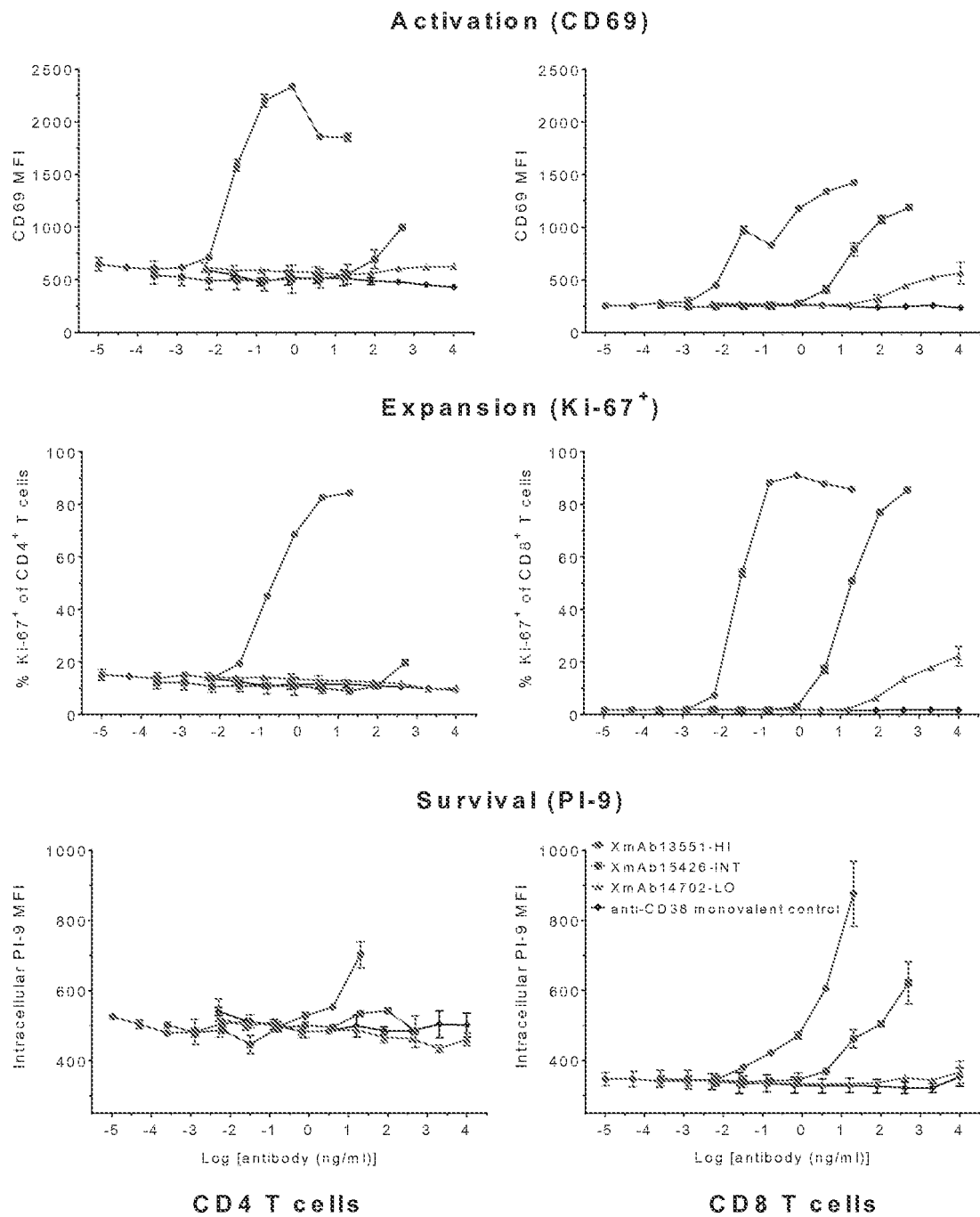


Figure 46

Study Design

- NSG mice engrafted with 5×10^6 RPMI8226TrS cells (multiple myeloma, luciferase-expressing)
- Mice engrafted IP with 10×10^6 human PBMC on Day 0
- Mice treated IP +/- bispecific antibodies on Days 0 & 7
- Tumor burden assessed by bioluminescent imaging (IVIS Lumina III)

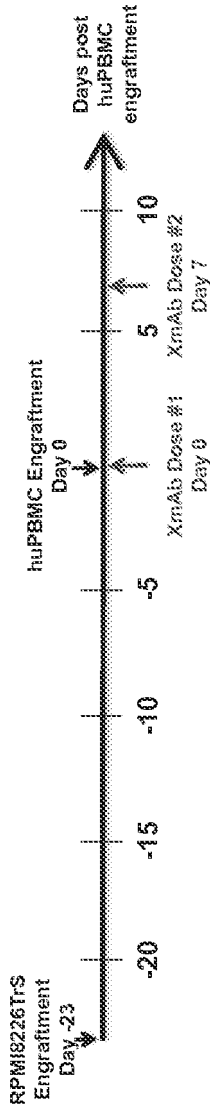


Figure 47

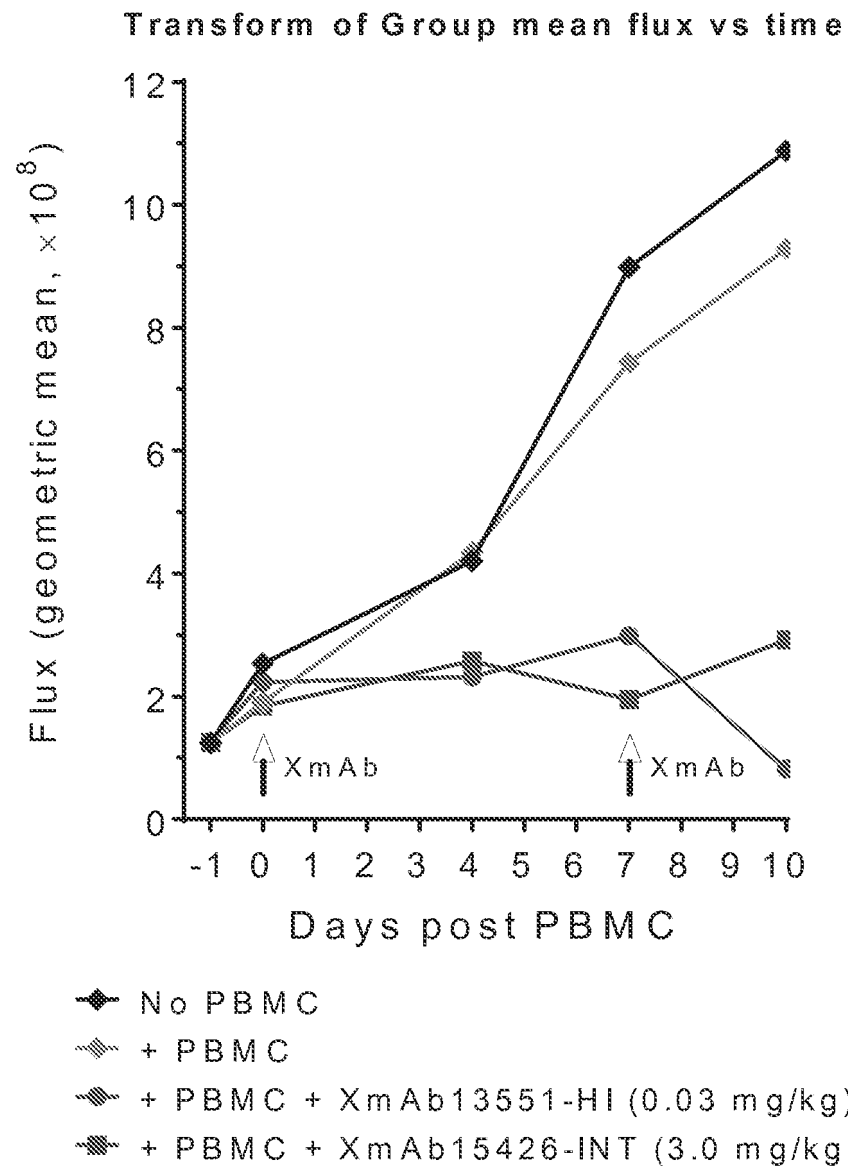


Figure 48

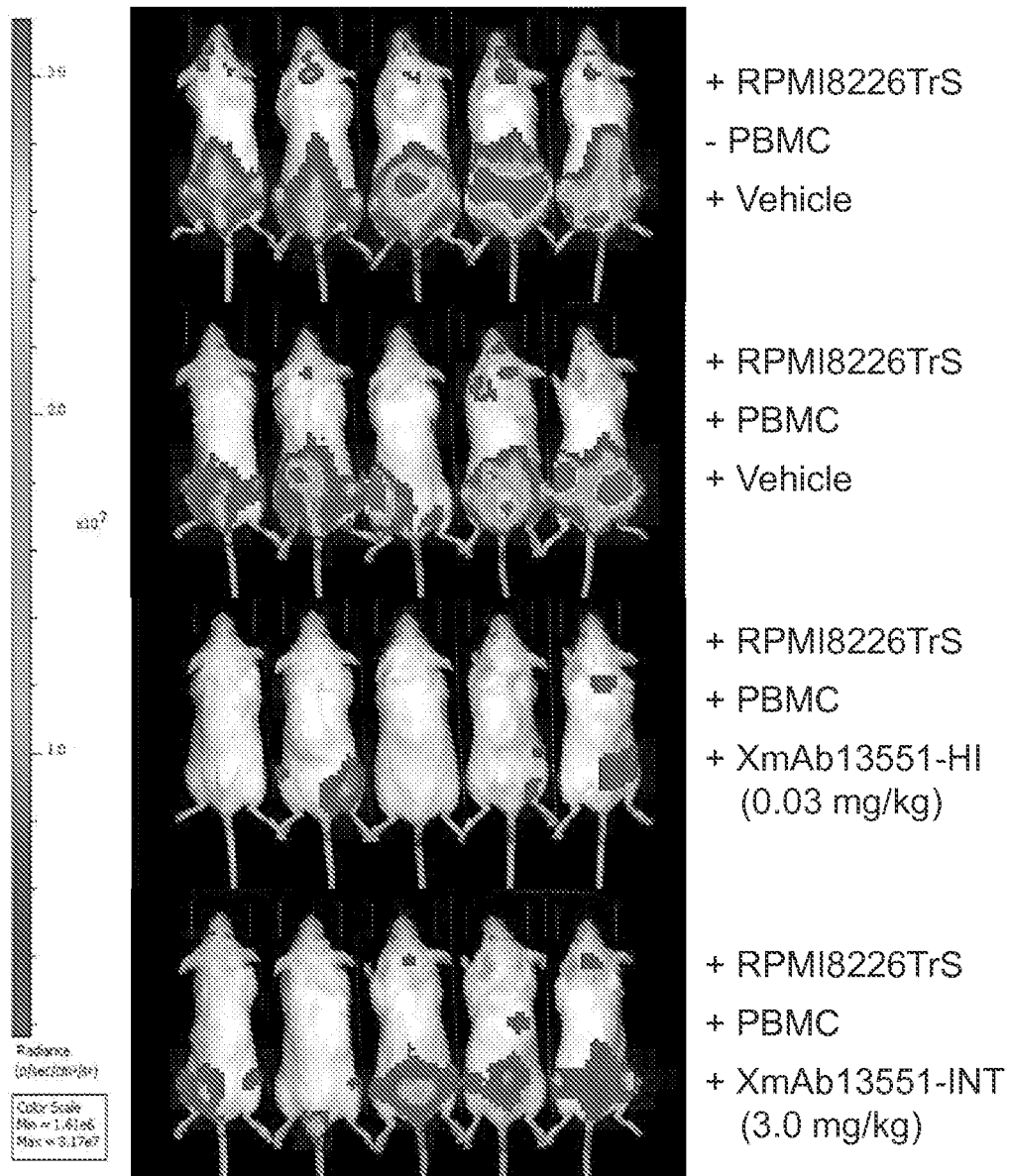
Bioluminescent images (Day 10)

Figure 49

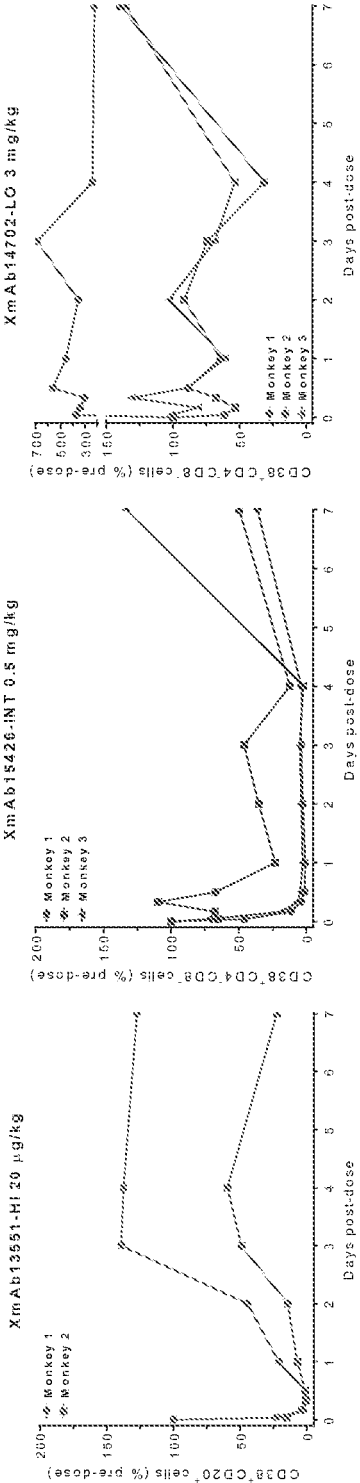


Figure 50

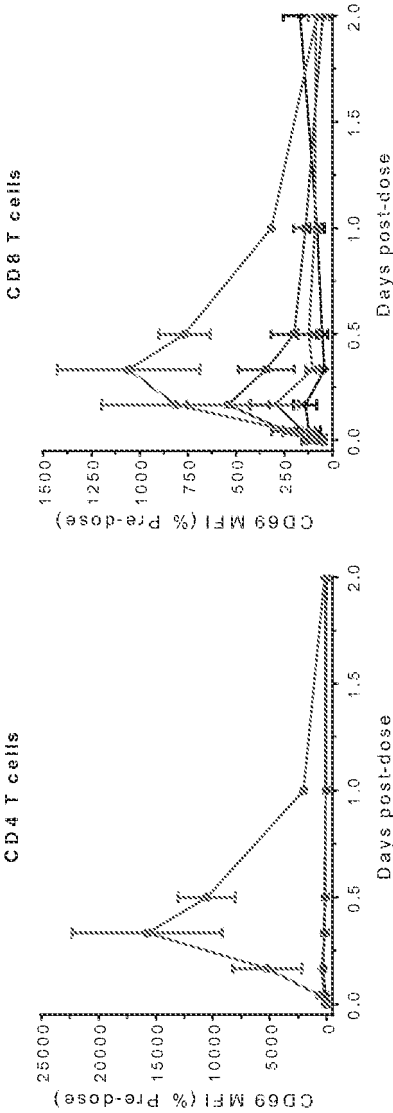


Figure 51

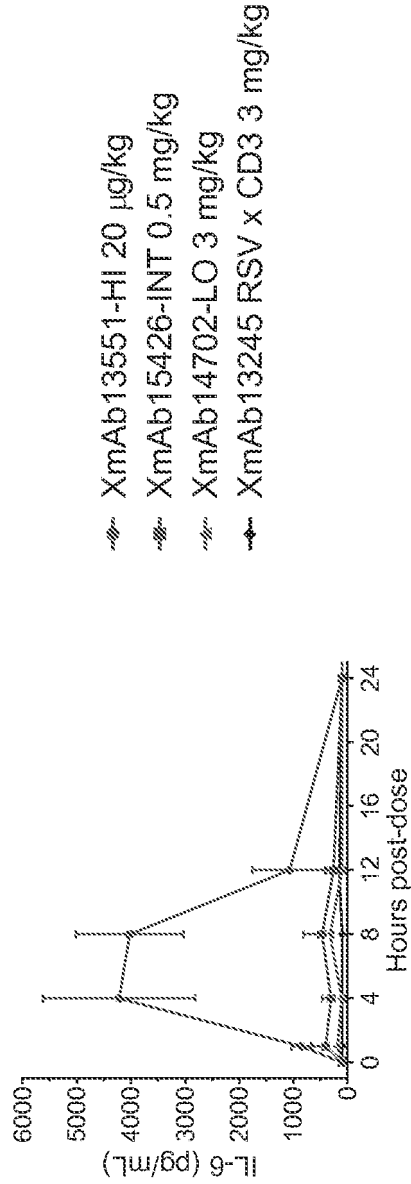


Figure 52

XENP15427 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.31_L1.47) one-arm mAb-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
 YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
 DIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSITINYATSVKGRFTISRDN SKNT
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGTLVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT
 VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDRFTGSGSGTDFTLTISSLQP
 EDFATYFCQQYDSYPLTFGGGTGLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 53

XENP15428 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.33_L1.47) one-arm mAb-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTSSLP
EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 54

XENP15429 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) one-arm mAb-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
GGLVQPGGSLRLSCAASGFTFSTYAMN WVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSA SYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 55

XENP15430 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.31_L1.47) one-arm central-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPLTVSPG
GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYCALW
YSNHWVFGGGTKLTVLGGGGSGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLP
PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH
EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLISSLQP
EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 56

XENP15431 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.33_L1.47) one-arm central-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
 YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
 DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWVRQAPGKGLEWVSEINPD~~SST~~INYATSVKGRFTISRDN~~SKNT~~
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGT~~LV~~VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTF~~ST~~YAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDD~~SKNT~~LYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT~~LV~~VSSGKPGSGKPGSGKPGSQAVVTQEPLTVSPG
 GTVTLT~~CG~~SSTGAVTTSNYANWVQQKPGKSPRGLIG~~GT~~NKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
~~YSNH~~WVFGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLP
 PSREQMTKNQVKLTCLVKGFPYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRTITCRASQNV~~DTN~~VAWYQQKPGQSPKALIY~~SA~~SYRYSGVDPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 57

XENP15432 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) one-arm central-scFv

HC 1 (SEQ ID NO:XXX)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
 YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
 DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSQAVVTQEPLTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWWVFGGGGLKTLVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQ
 EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 58

XENP15433 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.31_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGQPENNYKTP
PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
GGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPLTVSPGGT
VTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGTGLEIK/RTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRQAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 59

XENP15434 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.33_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGQPENNYKTP
 PVLDSGDSFFLYSKLTVDKSRWEQGDFVSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGDSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT
 VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYS
 NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGTGLEIK/RTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 60

XENP15435 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGDSFFLYSKLTVDKSRWEQGDFVSCSVMEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPLTVSPGGT
VTLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDPDRFTGSGSGTDFLTISLQP
 EDFATYFCQQYDSYPLTFGGGTGLEIK/RTVAAPSVFIFPPSDEQLKSGTASVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 61

XENP15436 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.31_L1.47) central-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWWVFGGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGGSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTIFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 62

XENP15437 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.33_L1.47) central-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSDDLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSDDLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
GTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWWFGGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGDSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALISASYRYSGVPDRFTGSGSGTDFTLTISSLP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 63

XENP15438 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) central-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQTLTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWWVFGGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGDSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTIFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 64

XENP	CD38 affinity	α CD3 scFv-Fc	K _D (nM)*	Fold Decrease in CD3 binding from H1.30_L1.47
13243	low	H1.30_L1.47	4.91	1
14701	low	H1.31_L1.47	1640	330
14702	high	H1.31_L1.47	1640	330
14703	v. low	H1.31_L1.47	1640	330

Figure 65

	DNA amount (%)				
Pool	Light chain	HC1 (Fab-Fc)	HC2 (scFv-Fc)	XENP13243 Heterodimer (%)	XENP13551 Heterodimer (%)
A	47.4	31.6	21.1	65.6	57.6
B	42.9	28.6	28.6	61.2	83.5
C	37.5	25.0	37.5	96.2	90.5
D	33.3	22.2	44.4	92.8	84.4
E	54.5	27.3	18.2	—	65.7
F	50.0	25.0	25.0	93.0	91.1
G	44.4	22.2	33.3	85.7	89.6
H	40.0	20.0	40.0	95.0	100.0

Figure 66

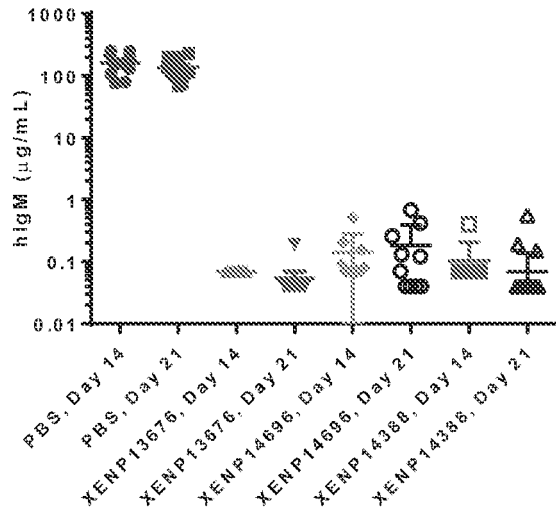
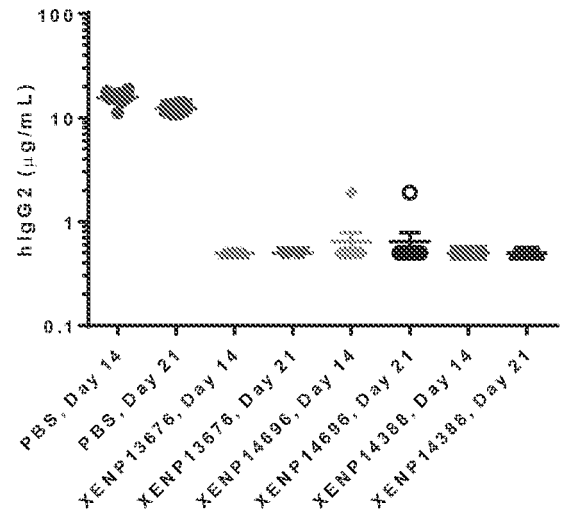
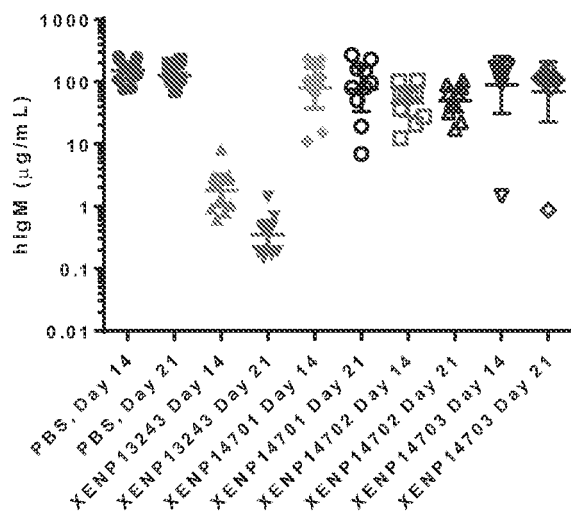
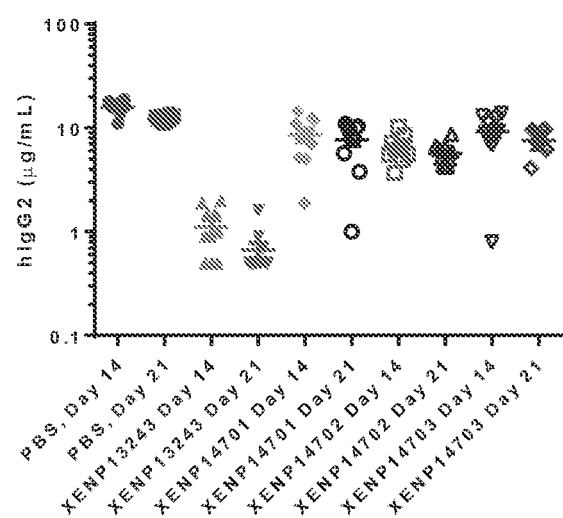


Figure 67A

VH ID	VL ID	VH Substitutions	VL Substitutions
H1	L1.4		
H1.30	L1.47	N30S/N100D	Q42K/A43S/L75I/E85D/L95H
H1.33	L1.47	N30S/N100D/A101D	Q42K/A43S/L75I/E85D/L95H
H1.31	L1.47	N30S/N35S/N100D	Q42K/A43S/L75I/E85D/L95H
H1.32	L1.47	N30S/Y52CA/N100D	Q42K/A43S/L75I/E85D/L95H
H1.88	L1.47	N30S/N100P	Q42K/A43S/L75I/E85D/L95H
H1.89	L1.47	N30S/N100D/S100AE	Q42K/A43S/L75I/E85D/L95H
H1.90	L1.47	N30S/N100D/S100AP	Q42K/A43S/L75I/E85D/L95H
H1.91	L1.47	N30S/Y52CA/N100D	Q42K/A43S/L75I/E85D/L95H
H1.92	L1.47	N30S/Y58A/N100D	Q42K/A43S/L75I/E85D/L95H
H1.93	L1.47	N30S/N100E	Q42K/A43S/L75I/E85D/L95H
H1.94	L1.47	N30S/N100Q	Q42K/A43S/L75I/E85D/L95H
H1.96	L1.47	N30S/N100D/S100AN	Q42K/A43S/L75I/E85D/L95H
H1.97	L1.47	N30S/N100D/S100AQ	Q42K/A43S/L75I/E85D/L95H
H1.98	L1.47	N30S/Y52CA/N100D/A101D	Q42K/A43S/L75I/E85D/L95H
H1.99	L1.47	N30S/Y58A/N100D/A101D	Q42K/A43S/L75I/E85D/L95H
H1.100	L1.47	N30S/N100A/A101D	Q42K/A43S/L75I/E85D/L95H
H1.101	L1.47	N30S/N100Q/A101D	Q42K/A43S/L75I/E85D/L95H
H1.102	L1.47	N30S/N100D/S100AE/A101D	Q42K/A43S/L75I/E85D/L95H
H1.103	L1.47	N30S/N100D/S100AN/A101D	Q42K/A43S/L75I/E85D/L95H
H1.104	L1.47	N30S/N100D/S100AP/A101D	Q42K/A43S/L75I/E85D/L95H
H1.105	L1.47	N30S/N100D/S100AQ/A101D	Q42K/A43S/L75I/E85D/L95H

Figure 67B

VH ID	VL ID	VH Substitutions	VL Substitutions
H1.106	L1.47	N30S/Y52CA/Y58A/N100D	Q42K/A43S/L75I/E85D/L95H
H1.107	L1.47	N30S/Y52CA/Y58A/N100A	Q42K/A43S/L75I/E85D/L95H
H1.108	L1.47	N30S/Y52CA/Y58A/N100Q	Q42K/A43S/L75I/E85D/L95H
H1.109	L1.47	N30S/Y52CA/Y58A/N100D/A101D	Q42K/A43S/L75I/E85D/L95H

Figure 68A: anti-CD3 sequences

H1_L1.4

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68B

H1.30_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68C

H1.33_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGKLTVL

Figure 68D

H1.31_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68E

H1.32_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGKLTVL

Figure 68F

H1.88_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNEFGPSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68G

H1.89_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68H

H1.90_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68I

H1.91_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68J

H1.92_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68K

H1.93_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68L

H1.94_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68M

H1.96_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68N

H1.97_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 680

H1.98_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68P

H1.99_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68Q

H1.100_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68R

H1.101_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFVGGGKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFVGGGKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGGTLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFVGGGKLTVL

Figure 68S

H1.102_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFGDEYVSWFDYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68T

H1.103_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGGTLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68U

H1.104_11.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFDYPYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFDYPYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNGFDYPYVSWFDYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68V

H1.105_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGGTLTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68W

H1.106_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68X

H1.107_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFAYWGQGTLLTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68Y

H1.108_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 68Z

H1.109_L1.47

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVLGSHHHHHH

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFEGGGTKLTVL

SEQ ID NO:XXX

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGLTVTVSS

SEQ ID NO:XXX

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFEGGGTKLTVL

Figure 69

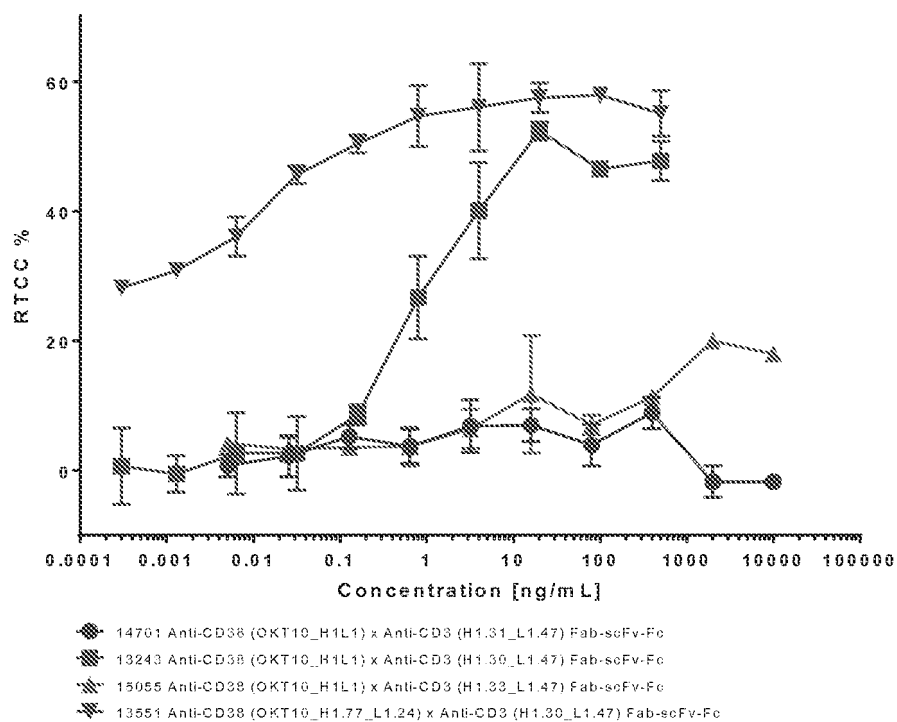
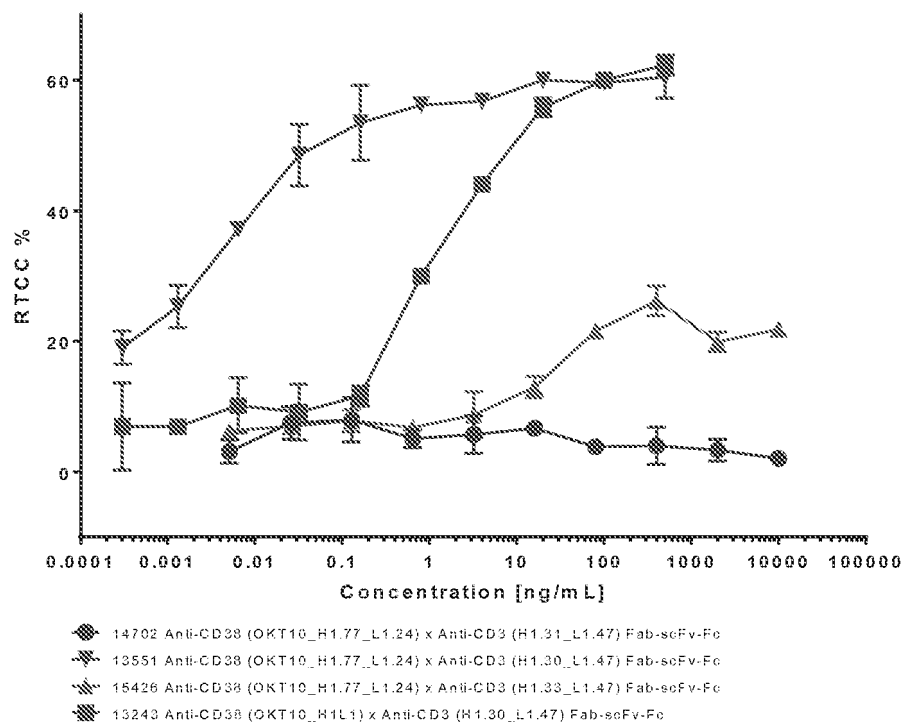


Figure 70

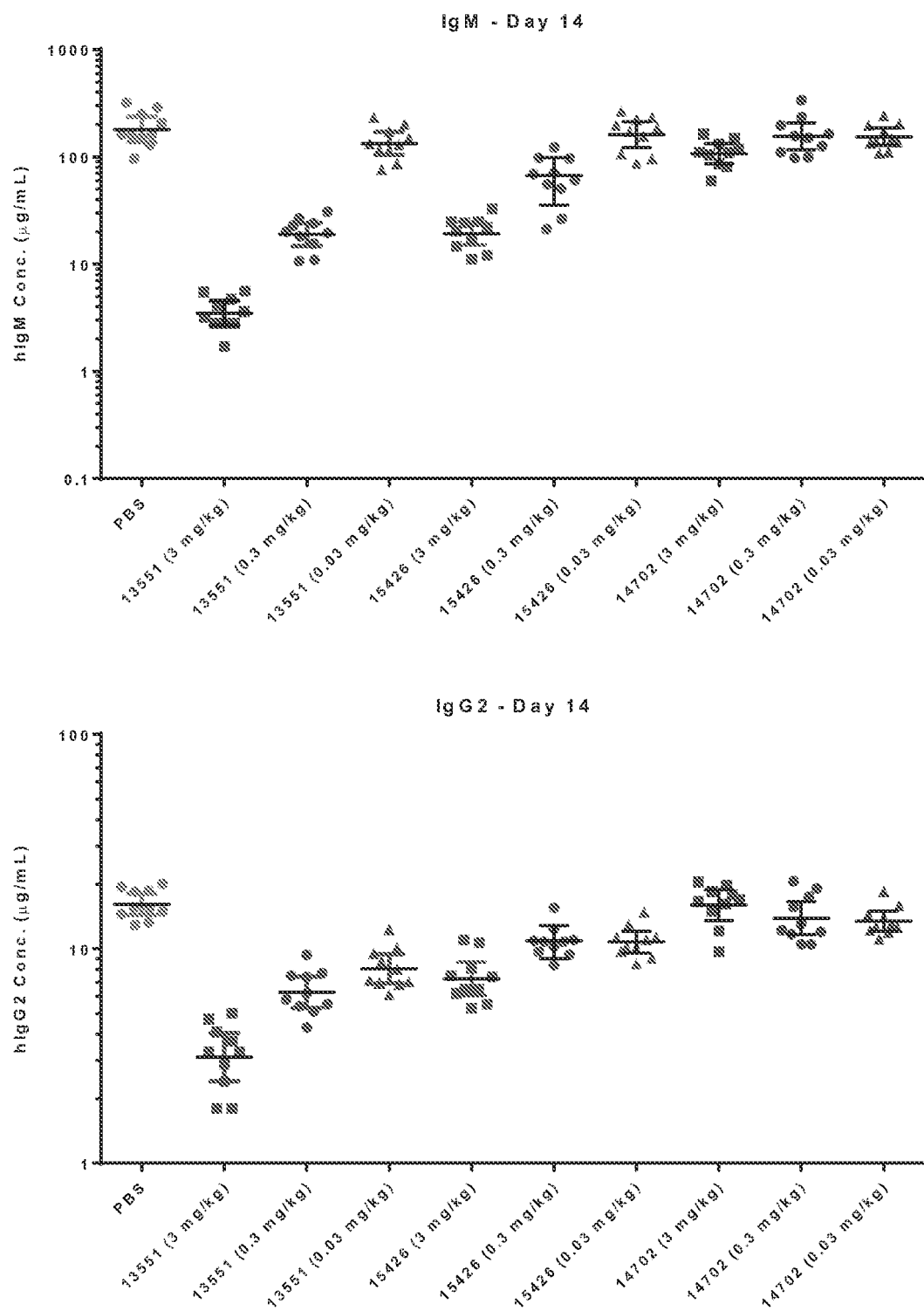


Figure 71

XENP18967 Anti-CD38 (OKT10_H1.77_L1.24) x Anti-CD3 (SP34_H1.32_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNWVRQAPGKGLEWVSEINPOSSTINYATSVKGRFTISRDN
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
PVLDSDGSFFLYSKLTVDKSRWEQGDFVSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLLTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHED
PEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQV
YTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCS
VMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQKPGQSPKALIYSASYRYSQVDRFTGSGSGTDFTLTISLQ
PEDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN
SQESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 72

XENP18971 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.32_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FSR~~SWMNWVRQAPGKGLEWVSE~~INPDS~~STINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARY~~GNW~~FPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
PVLDSGGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTF~~STY~~AMNWVRQAPGKGLEWV~~GRIR~~SKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVR~~HGN~~FGD~~SYV~~SWFAYWGQGLTVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQ
EPSLTVSPGGTVTLT~~CGS~~STGAVTT~~SNY~~ANWVQKPGKSPRGLIG~~GTN~~KRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNH~~WV~~FGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHED
PEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQV
YTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGGSFFLYSKLTVDKSRWQQGNVFSCS
VMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTIT~~CRASQ~~NVDTNVAWYQQKPGQSPKALIY~~SA~~SYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFC~~QQY~~DSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 73

XENP18969 Anti-CD38 (OKT10_H1L1.24) x Anti-CD3 (SP34_H1.33_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVY
TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRTITCRASQNVDTWVAWYQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQ
PEDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN
SQESVTEQDSKDSSTYLSSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 74

XENP18970 Anti-CD38 (OKT10_H1L1.24) x Anti-CD3 (SP34_H1.31_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGGTGLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
PVLDSGDSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGGTGLTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTGLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVY
TLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQKPGQSPKALIYSASYRYSQVDPDRFTGSGSGTDFTLTISLQ
PEDFATYFCQQYDSYPLTFGGGTGLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN
SQESVTEQDSKDSSTYLSSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 75

XENP18972 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.33_L1.47) mAb-scFv

HC 1 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
PVLDSDGSFFLYSKLTVDKSRWEQGDFVSCSVMEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQTLTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVY
TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 76

XENP18973 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.31_L1.47) mAb-scFv**HC 1 (SEQ ID NO:XXX)**

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDFVSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:XXX)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
 NTLY LQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQE
 PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
 DYYCALWYSNHWFVGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
 EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVY
 TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
 MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:XXX)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

