

Figure 1A

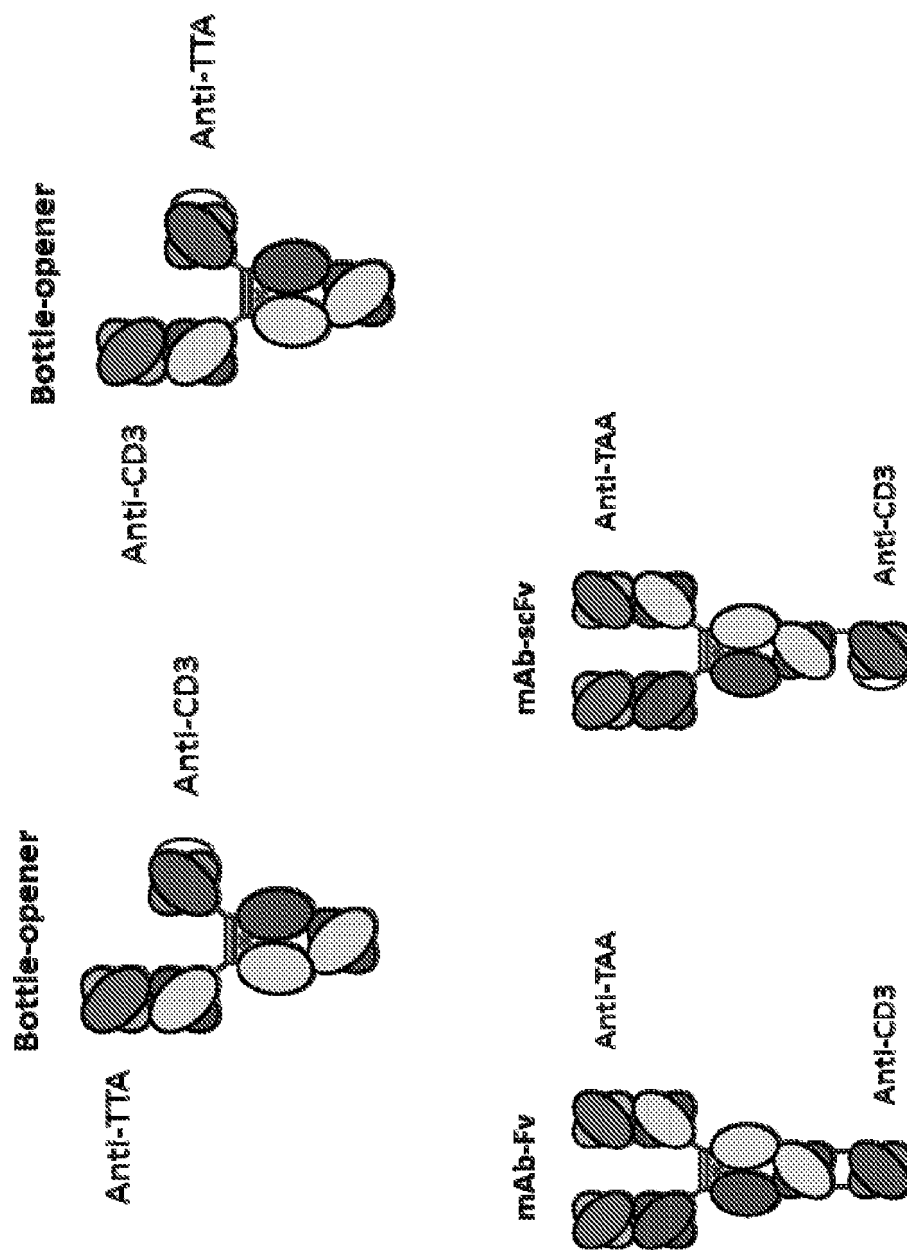


Figure 1B

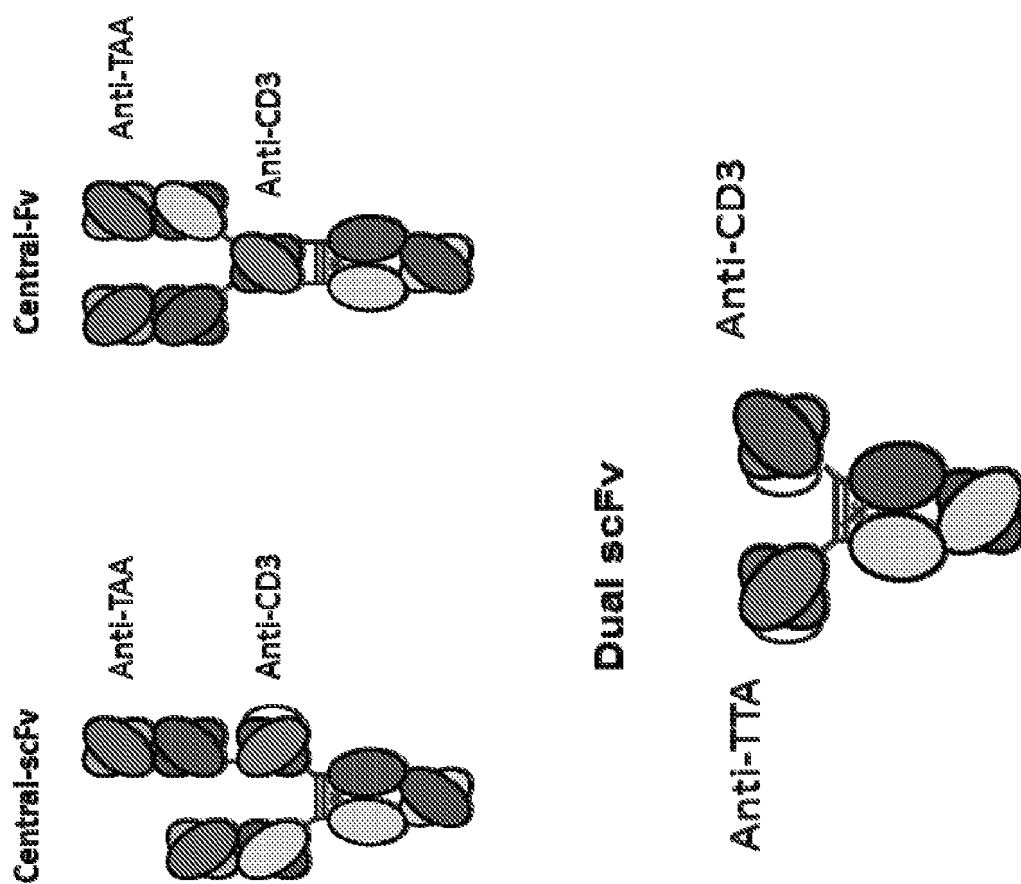


Figure 1C

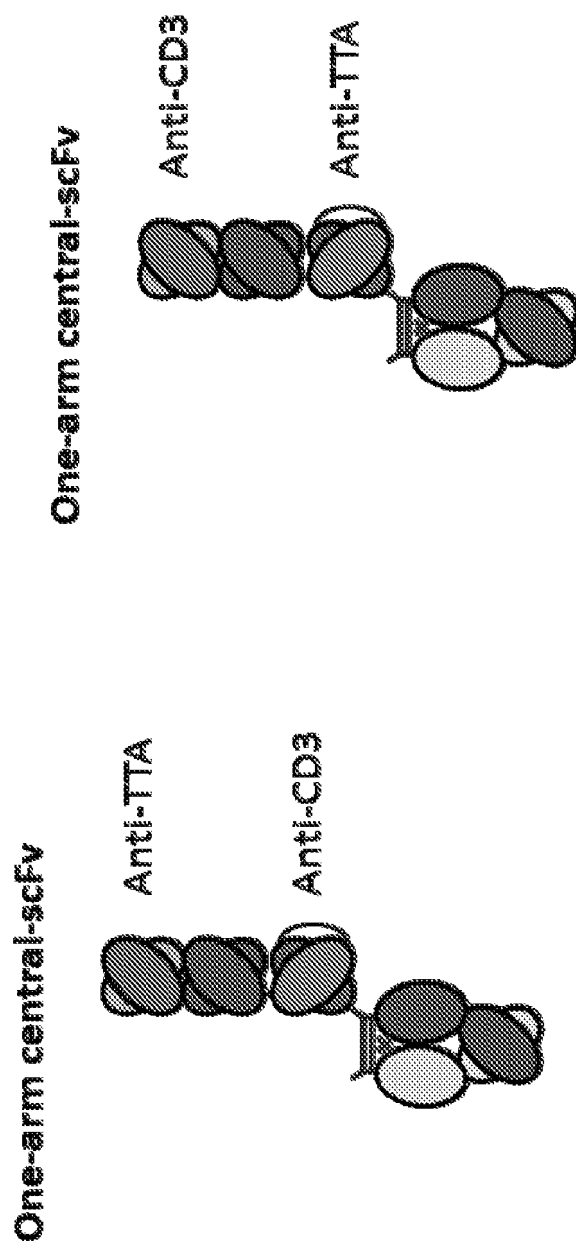


Figure 2

High CD3: Anti-CD3_H1.30_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFAYWGQGTLLTVSS	1
vhCDR1	TYAMN	2
vhCDR2	RIRSKYNNYATYYADSVKG	3
vhCDR3	HGNFGDSYVSWFAY	4
Variable light (vl) domain	QAVVTQEPSTLVSPGGTVTLTGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPE DEADYYCALWYSNHWVF FGG GTKLTVL	5
vlCDR1	GSSTGAVTTSNYAN	6
vlCDR2	GTNKRAP	7
vlCDR3	ALWYSNHWV	8
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSQAVVTQEPSTLVSPGGT VTLTGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYSNHW V FGG GTKLTVL	9

Figure 3

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

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFAYWGQGTLLTVSS	10
vhCDR1	TYAMN	11
vhCDR2	RIRSKANNYATYYADSVKGG	12
vhCDR3	HGNFGDSYVSWFAY	13
Variable light (vl) domain	QAVVTQEPSTLTVSPGGTTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	14
vlCDR1	GSSTGAVTTSNYAN	15
vlCDR2	GTNKRAP	16
vlCDR3	ALWYSNHHWV	17
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSQAVVTQEPSTLTVSPGGT VTLCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHW VFGGGTKLTVL	18

Figure 4

High-Int #2 CD3: Anti-CD3_H1.89_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDEYVSWFAYWGQGTLLTVSS	19
vhCDR1	TYAMN	20
vhCDR2	RIRSKYNNYATYYADSVKG	21
vhCDR3	HGNFGDEYVSWFAY	22
Variable light (vl) domain	QAVVTQEPSTLVSPGGTTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPE DEADYYCALWYSNHWVF GGG TKLTVL	23
vlCDR1	GSSTGAVTTSNYAN	24
vlCDR2	GTNKRAP	25
vlCDR3	ALWYSNHWV	26
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDEYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSQAVVTQEPSTLVSPGGT VTLCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYSNHW VF GGG TKLTVL	27

Figure 5

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

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDPYVSWFAYWGQGTLLTVSS	28
vhCDR1	TYAMN	29
vhCDR2	RIRSKYNNYATYYADSVKG	30
vhCDR3	HGNFGDPYVSWFAY	31
Variable light (vl) domain	QAVVTQEPSTLVSPGGTVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHWVF GGG TKLTVL	32
vlCDR1	GSSTGAVTTSNYAN	33
vlCDR2	GTNKRAP	34
vlCDR3	ALWYSNHWV	35
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDPYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSQAVVTQEPSTLVSPGGT VTLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHW VF GGG TKLTVL	36

Figure 6

Intermediate CD3: Anti-CD3_H1.33_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFDYWGGQTLTVSS	37
vhCDR1	TYAMN	38
vhCDR2	RIRSKYNNYATYYADSVKG	39
vhCDR3	HGNFGDSYVSWFDY	40
Variable light (vl) domain	QAVVTQEPSTLVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPE DEADYYCALWYSNHWVF GGG TKLTVL	41
vlCDR1	GSSTGAVTTSNYAN	42
vlCDR2	GTNKRAP	43
vlCDR3	ALWYSNHWV	44
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTFYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQMNSLRAEDTAVYVCVRHGNFGDSYVSWFDYWGGQTLTVSSGKPGSGKPGSGKPGSQAVVTQEPSTLVSPGGT VTLCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYSNHW V FGG GT TKL TVL	45

Figure 7

Low CD3: Anti-CD3_H1.31_L1.47

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL QMNSLRAEDTAVYCVRHGNFGDSYVSWFAYWGQGLTVTVSS	46
vhCDR1	TYAMS	47
vhCDR2	RIRSKYNNYATYYADSVKGG	48
vhCDR3	HGNFGDSYVSWFAY	49
Variable light (vl) domain	QAVVTQEPSTVSPGGTTLTSGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE DEADYYCALWYSNHHWVFGGGTKLTVL	50
vlCDR1	GSSTGAVTTSNYAN	51
vlCDR2	GTNKRAP	52
vlCDR3	ALWYSNHHWV	53
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL QMNSLRAEDTAVYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGTV TLTSGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPEDEADYYCALWYSNHHWV FGGGTKLTVL	54

Figure 8

High CD38: OKT10_H1.77_L1.24

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGTLVTVSS	55
vhCDR1	YSWMN	56
vhCDR2	EINPQSSTINYATSVKG	57
vhCDR3	YGNWFPY	58
Variable light (vl) domain	DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQQKPGQSPKALIYASARYSGVPDRFTGSGSGTDFLTISSLQPEDFA TYFCQQYDSYPLTFGGGKLEIK	59
vlCDR1	RASQNVDTWVA	60
vlCDR2	SASYRYS	61
vlCDR3	QQYDSYPLT	62
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGTLVTVSSGKPGSGKPGSGKPGSDIVMTQSPSSLSASVGDRVTITCRASQ NVDTWVAWYQQKPGQSPKALIYASARYSGVPDRFTGSGSGTDFLTISSLQPEDFATYFCQQYDSYPLTFGGGKLEIK	63

Figure 9

Intermediate CD38: OKT10_H1L1.24

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFD FS RSWMN WVRQAPGKGLEWVSEINPD SSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGT LVTVSS	64
vhCDR1	RSWMN	65
vhCDR2	EINPD SSTINYATSVK G	66
vhCDR3	YGNWFPY	67
Variable light (vl) domain	DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQQKPGQSPKAL YASARYSGVPDRFTGSGSGTDFTLTIS SLQPEDFA TYFCQQYDSYPLTFGGG TKLEIK	68
vlCDR1	RASQNVDTWVA	69
vlCDR2	SASYRYS	70
vlCDR3	QQYDSYPLT	71
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFD FS RSWMN WVRQAPGKGLEWVSEINPD SSTINYATSVKGRFTISRDN SKNTLYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGT LVTVSS GKPGSGKPGSGKPGSGDIVMTQSPSSLSASVGDRVTITCRASQ NVDTWVAWYQQKPGQSPKAL YASARYSGVPDRFTGSGSGTDFTLTIS SLQPEDFATYFCQQYDSYPLTFGGG TKLEIK	72

Figure 10

Low CD38: OKT10_H1L1

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	EVQLVESGGGLVQPGGSLRLSCAASGFD FS RW MN WVRQAPGKGLEWVSEINPD SS TINYATSVKGRFTISRDN SK N NT LYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGT LV TVSS	73
vhCDR1	RSW MN	74
vhCDR2	EINPD SS TINYATSVK G	75
vhCDR3	YGNWFPY	76
Variable light (vl) domain	EVQLVESGGGLVQPGGSLRLSCAASGFD FS RW MN WVRQAPGKGLEWVSEINPD SS TINYATSVKGRFTISRDN SK N NT LYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGT LV TVSS	77
vlCDR1	RASQNVDTNVA	78
vlCDR2	SASYRYS	79
vlCDR3	QQYDSYPLT	80
scFv (including charged linker)	EVQLVESGGGLVQPGGSLRLSCAASGFD FS RW MN WVRQAPGKGLEWVSEINPD SS TINYATSVKGRFTISRDN SK N NT LYLQ MNSLRAEDTAVYYCARYGNWFPYWGQGT LV TVSSGKPGSGKPGSEVQLVESGGGLVQPGGSLRLSCAASGF DF SR SW MN WVRQAPGKGLEWVSEINPD SS TINYATSVKGRFTISRDN SK N NT LYLQMNSLRAEDTAVYYCARYGNWFPYWG QGT LV TVSS	81

Figure 11

XENP15331

XENP13551 HC-Fab SEQ ID NO:82

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNWRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYCYARYGNWFPYWG
 QGTLTVSSASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHNKPSDTKVDKKVEPKSC
 DKHTCTPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALP
 APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQ
 KSLSLSPGK

XENP13551 HC-scFv SEQ ID NO:83

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYCVRHGNFGDS
 YVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVLTGSGSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEV
 HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGIFYPSDIAVEWESNGQPENNYKT
 TPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

XENP13551 LC SEQ ID NO:84

DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQQKPGQSPKALYASARYSGVPDRFTGSGGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTVA
 APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYLSLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 12

XENP13243 HC-Fab SEQ ID NO:85

EVQLVESGGGLVQPGGSLRLSCAASGFDGSRSMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYVCARYGNWFPYW
 GGGLTVTVSSASTKGPSVFLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHHKPSDTKVDKKVEPKS
 CDKHTCTPCPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSFGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYT
 QKSLSLSPGK

XENP13243 HC-scFv SEQ ID NO:86

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGDS
 YVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPKGKSPRGLIGGTNKRAPGVPARFSGSL
 GGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEV
 HNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVLTCLVKGFFYPSDIAVEWESNGQPENNYKT
 TPPVLDSDGSFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGK

XENP13243 LC SEQ ID NO:87

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVDPDRFTGSGSGTDFTLTISSLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTVA
 APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNVVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDNKNTLYQMNSLRAEDTAVYCYARYGNWFPYWG
QGTLTVSSASTKGPSVFPLAPSSKSTSGGTAAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHNKPSDTKVDKKVEPKSC
DKHTCTPCPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKALP
APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPPVLDSGDSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQ
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

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYCVRHGNFGDSY
VSWFAYWGGQTLTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLIG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVH
NAKTKPREEEQYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSGDSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

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

DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQQKPGQSPKALIYASARYSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTVA
APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

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)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNWVRQAPGKGLEWVSEINPQSSTINATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARYGNWFPYW
GQGTLTVTSSASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSLSPGK

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWVRQAPGKGLEWVGRIIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGD
SYVSWFDYWGGTLTVTSSGKPGSGKPGSGKPGSQAVWTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGS
LLGGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWVVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGYFSPDIAVEWESNGQPENN
YKTTTPVLDSDGGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:93)

DIVMTQSPSSLSASVGDRTITCRASQNVDTWVAWYQQKPGQSPKALYASRYSGVPDRFTGSGGTDFTLTISLQPEDFATYFCQYDSYPLTFGGGTKLEIKRTV
AAPSVFIIPPSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 15

XENP14701_Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD38 Fab-Fc (OKT10 H1)) (SEQ ID NO:94)

EVQLVESGGGLVQPGGSLRLSCAASGDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCARYGNWFPYW
GQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHNKPSDTKVDKKVEPKS
CDKTHTCPAPPCAPPVAGPSVFLPPKPKDITLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKAL
PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEEQGDVFSCSVMHEALHNHYT
QKSLSLSPGK

XENP14701_Anti-CD38 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3 scFv-Fc (α CD3 H1.31 L1.47)) (SEQ ID NO:95)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSY
VSWFAYWGGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTSGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLIG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDITLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVH
NAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

XENP14701_Anti-CD38 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD38 (OKT10 L1)) (SEQ ID NO:96)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTKLEIKRTVA
APSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTLSSTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 16

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

EVQLVESGGGLVQPGGSLRLSCAASGFDSSRWNNVVRQAPGKGLEWVSEINPDSTINAYATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYYCARYGNWFPYW
GQGTLLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHKPSDTKVDKKVEPKS
CDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNATKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKVSNKAL
PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYT
QKSLSPGK

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)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSY
VSWFAYWGGGTLTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLG
GKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVH
NAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSPGK

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

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYASRYKSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTVA
APSVFIFPPSDEQLKSGTASVVCCLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 17

XENP13243 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (H1.30_L1.47) Fab-scFv-Fc

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

EVQLVESGGGLVQPGGSLRLSCAASGFD^{FS}RSWMNWVRQAPGKGLEWVSEINPDSTIN^{YAT}SVKGRFTISRD^{NS}KN^{TLY}LQMNSLRAEDTAV^YCARYGNWFPYVW
 GQGT^{LV}TVSS/ASTKGPSVFPLAPSSKSTSGGTAA^{LG}CLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV^{TV}PS^{SSL}GTQT^YICNVN^{HK}PSD^TKVDKKVEPK
 SCDKTHTCPPCPAPPVAGPSVFLFPKPKD^{TL}MI^{SR}TP^{EV}TCV^{VD}VKHEDPEVKFNW^YVDGVEVHNAKTKPREEEYNSTYRV^{SV}LT^{VL}HQDWLNGKEYCKV^{SN}KAL
 PAPIEKTISKAKGQPREPQV^YTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPEN^{NY}K^{TT}PPVLDSDGSFFLYSKLTVDKSRW^{EQ}GDV^FSCSVMHEALHN^{HY}T
 QKSLSLSPGK

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMN^WVRQAPGKGLEWVGRIRSKYNN^{YAT}YYADSVKGRFTISR^{DD}SKN^{TLY}LQMNSLRAEDTAV^YYCV^{RH}GNF^{GD}S
YVSWFAYWGQGT^{LV}TVSSGKPGSGKPGSGKPGSQAVVTQEP^{SL}TVSPGGT^{VT}LTTCGSSTGAV^{TT}SNYANWVYQQKPGKSPRGLIGGT^{IN}KRAPGVPARFSGSLL
 GGKAALTISGAQPEDEADY^YCALWYSNHWVFGGGTK^{LT}VL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPKPKD^{TL}MI^{SR}TP^{EV}TCV^{VD}VKHEDPEVKFNW^YVDGVE
 VHNAKTKPREEQYNSTYRV^{SV}LT^{VL}HQDWLNGKEYCKV^{SN}KALPAPIEKTISKAKGQPREPQV^YTLPPSREQMT^{KN}QV^{KL}TC^{LV}KGFYPSDIAVEWESNGQPEN^{NY}K
 TTPPVLDSDGSFFLYSKLTVDKSRWQ^QGNV^FSCSVMHEALHN^{HY}TQKSLSLSPGK

LC (SEQ ID NO:102)

DIVMTQSPSSLSASVGD^{RV}TTITCRASQNV^{DT}NVAWYQQKPGQSPKALIYSASYR^YSGV^{PD}RFTGSGSGTDFTLT^{IS}SLQPEDFATYFCQ^QYDSY^{PL}TFGGGT/KLEIKRTV
 AAPSVFIFPPSDEQLKSGTASV^VCLLNNFYPR^EAKVQWKVDNALQSGNSQESVTEQDSK^DSTYSLSTLTLSKADY^EKHKVYACEVTHQGLSSP^{VT}KSFNRGEC

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)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYWMNWRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDNKNTLYLQMNSLRAEDTAVYVCARYGNWFYPYWG
 QGTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVVDKKEPKS
 CDKHTCTPCPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:104)

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYVCVRHGNFGDS
YVSWFAYWGQGLTVSS/GKPGSGKPGSGKPGS/QAVVTQEPSLTVSPGGTVTLTGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGS
 LLGGAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFPSPDIAVEWESNGQPENNY
 KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:105)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTWVAWYQQKPGQSPKALYASRYSGVPDRFTGSGGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYLSSTLTLSKADYEEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 19

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

HC 1 (SEQ ID NO:106)

EVQLVESGGGLVQPGGSLRLSCAASGFD¹FSRW²MN³W⁴RQAPGKGLEWVSEIN⁵PD⁶STIN⁷YAT⁸SVKGRFTISRD⁹NSKNT¹⁰LYQMNSLRAEDTAVYYCARYGNWFPYVW
 GQGT¹¹LVTVSS/ASTKGPSVFPLAPSSKSTSGGTAA¹²LGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV¹³TVPSSSLGTQTYICNVN¹⁴NHKPSD¹⁵TKVDKKVEPK
 SCDK¹⁶THTCPPCAPPVAGPSVFLFPPKPKD¹⁷TL¹⁸MISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVS¹⁹GFPSDIAVEWESDGGQPEN²⁰NYK²¹TPPVLDSDGSFFLYSKLTVDKSRW²²EQGDV²³FSCSV²⁴MHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:107)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMN¹WVRQAPGKGLEWVGRIRSKANN²YAT³YYADSVKGRFTISRDDSKNT⁴LYQMNSLRAEDTAVYYCVRHGNFEGDS
 YVSWFAYWGQGT⁵LVTVSS/GKPGSGKPGSGKPGS/QAVVTQEP⁶SLTVSPGGTVTLT⁷CGSSTGAVTTSN⁸YANWVQKPGKSPRGLIG⁹TNKRAPGV¹⁰PARFSGS
 LLGGAALTISGAQPEDEADY¹¹CALWYSNHWVFGGGTK¹²LTVL/EPKSSDKTHTCPPCAPPVAGPSVFLFPPKPKD¹³TL¹⁴MISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQV¹⁵KLTVLKG¹⁶FYPSDIAVEWESNGQPEN¹⁷NY
 K¹⁸TPPVLDSDGSFFLYSKLTVDKSRWQ¹⁹QGNV²⁰FSCSV²¹MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:108)

DIVMTQSPSSLSASVGDRVTITCRASQNV¹DTNVAWYQQKPGQSPKALIYSASYR²SGV³PD⁴RFTGSGSGTDFTLT⁵TISS⁶LQPEDFATYFCQ⁷QYDSYPLTFGGG⁸TKLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASV⁹VCLLN¹⁰NFY¹¹PREAKVQWKVDNALQSGNSQESVTEQDSK¹²DSTYSLSTLTLSKADY¹³EKH¹⁴KVYACEV¹⁵THQGLSPV¹⁶TKSFNRGEC

Figure 20

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

HC 1 (SEQ ID NO:109)

EVQLVESGGGLVQPGGSLRLSCAASGFD^{FS}RSWMNWVRQAPGKGLEWVSEINPDSSTIN^{YATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVY}CARYGNWFPYVW
 GGGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHHKPSDTKVDKKVEPK
 SCDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWVVDGVEVHNAKTPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSPDIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEEQGDVFCSCVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:110)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMINWVRQAPGKGLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYCVRHGNEGDS
YVSWFDYWGQGTLVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGINKRAPGVPARFSGS
 LLGGAALTISGAQPEDEADYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWVVDGV
 EVHNAKTPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFPYPSDIAVEWESNGQPENNY
 KTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:111)

DIVMTQSPSSLSASVGRVTITCRASQNVDTWVAWYQQKPGQSPKALIYASRYSGVPDRFTGSGSGTDFLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 21

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

HC 1 (SEQ ID NO:112)

EVQLVESGGGLVQPGGSLRLSCAASGFD¹FSRW²MN³W⁴RQAPGKGLEWVSEIN⁵PD⁶STIN⁷YAT⁸SVKGRFTISRD⁹NSKNT¹⁰LYQMNSLRAEDTAVYYCARYGNWFPY¹¹W
 GQGTLVTVSS/ASTKGPSVFPLAPSSKSTSGGTAA¹²LGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSV¹³TVPSSSLGTQTYICNVN¹⁴NHKPSD¹⁵TKVDKKVEPK
 SCDKTH¹⁶TCPPCAPPVAGPSVFLPPKPKD¹⁷TL¹⁸MI¹⁹SR²⁰TP²¹EV²²TCV²³VDV²⁴KHEDPEVKFNWYVDGVEVHNAKTKPREEEYN²⁵STYRVVSVLTVLHQDWLNGKEYKCKVSNKAL
 PAPIEK²⁶TISKAKGQPREPQVY²⁷TLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPEN²⁸NYK²⁹TPPVLDSDGSFFLYSKLTVDKSRW³⁰EQGDV³¹FSCSV³²MHEALHNH³³YT
 QKSLSLSPGK

HC 2 (SEQ ID NO:113)

EVQLVESGGGLVQPGGSLRLSCAASGFTF¹STYAM²SWVRQAPGKGLEWVGRIRSKYNNYAT³YYADSVKGRFTISRDD⁴SKNT⁵LYQMNSLRAEDTAVYYCVRHGNFGDSY
 VSWFAYWGQGLTVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQEP⁶SLTVSPGGTVTLT⁷CGSSTGAVT⁸TSN⁹YANWVQQKPGKSPRGLIG¹⁰GTNKRAPGV¹¹PARFSGSLL
 GGKAALTISGAQPEDEADYYCALWYSNHHWVFGGGTKLTVL/EPKSSDK¹²TH¹³TCPPCAPPVAGPSVFLPPKPKD¹⁴TL¹⁵MI¹⁶SR¹⁷TP¹⁸EV¹⁹TCV²⁰VDV²¹KHEDPEVKFNWYVDGVE
 VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEK²²TISKAKGQPREPQVY²³TLPPSREQMTKNQV²⁴KL²⁵TVKGFYPSDIAVEWESNGQPEN²⁶NYK
 TPPVLDSDGSFFLYSKLTVDKSRWQQGNV²⁷FSCSV²⁸MHEALHNH²⁹YTQKSLSLSPGK

LC (SEQ ID NO:114)

DIVMTQSPSSLSASVGDRVTITCRASQNVD¹TWVAWYQQKPGQSPKALY²SASYRYS³GV⁴PD⁵RFTGSGSGTDFTLTIS⁶SLQPEDFATYFCQQYDSY⁷PLTFGGG⁸TKLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASV⁹VCLLNNFY¹⁰FPREAKVQWKVDNALQSGNSQESVTEQDSK¹¹DSTYSLSTLTLSKADY¹²EKH¹³KVYACEV¹⁴THQGLSPV¹⁵TKSFNRGEC

Figure 22**XENP18972 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.33_L1.47) mAb-scFv**

HC 1 (SEQ ID NO:115)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
 GQGT~~LV~~TVSS/ASTKGPSVFPLAPSSKSTSGGTAA~~LG~~CLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHNKPSDTKVDKKVEPK
 SCDKTHTCPPCPAPPVAGPSVFLPPPKD~~TL~~MISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL
 PAPIEKTISKAKGQPREPQVY~~TL~~PPSREEMTKNQVSLTCDVS~~GF~~PSDIAVEWESDGGQPENNYK~~TT~~PPVLDSDGSFFLYSKLTVDKSRWEEQGDVFCSCVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:116)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
YVSWFDYWGGTILTVSS/GKPGSGKPGSGKPGKS/QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTISNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGS
 LLGGAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLPPPKD~~TL~~MISRTPEVTCVVDVKHEDPEVKFNWYVDGV
 EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY~~TL~~PPSREQMTKNQVKLTCLVKGFPYPSDIAVEWESNGQPENNY
 K~~TT~~PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:117)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTIS~~SL~~QPEDFATYFCQQYDSYPLTFGGGKLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPR~~AK~~VQWKVDNALQSGNSQESVTEQDSKDS~~TS~~LSSTLTLSKADY~~E~~KHKVYACEVTHQGLSPVTKSFNRGEC

Figure 23**XENP18973 Anti-CD38 (OKT10_H1L1) x Anti-CD3 (SP34_H1.31_L1.47) mAb-scFv**

HC 1 (SEQ ID NO:118)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWRQAPGKGLEWVSEINPD~~SS~~TINYATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
 GQGTLVTVSS/ASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTS~~GV~~HTFPAVLQSSGLYSLSSVTV~~PS~~SSLGTQTYICNVNNHKPSDTKVDKKVEPK
 SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKAL
 PAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVS~~GF~~PSDIAVEWESDGQ~~PEN~~NYKTT~~PP~~VL~~DS~~GD~~S~~FFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYT
 QKSLSLSPGK

HC 2 (SEQ ID NO:119)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSY
VSWFAYWGQGTLVTVSS/GKPGSGKPGSGKPGSGKPGS/QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLL
 GGKAALTISGAQPEDEADYYCALWYSNHHWVFGGGTKLTVL/EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
 VHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYK
 TTPPVLDSDGSFFLYSKLTVDKSRWQQGNV~~FSCSV~~MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:120)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTIS~~SLQ~~PEDFATYFCQQYDSYPLTFGGGTKLEIK/RTV
 AAPSVFIFPPSDEQLKSGTASVVCLLNNFYPR~~EAK~~VQWKVDNALQSGNSQESVTEQDKSDSTYSLSSTLTLSKADYEKHKVACEVTHQGLSSPVTKSFNRGEC

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)

EVQLVESGGGLVQPGGSLRLSCAASGFDPSRWMNWVRQAPGKGLEWVSEINPDSTINYATSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
GQGTLTVTSSASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQDENNYKTTTPVLDSDGSGFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSLSPGK

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFTYAMNWWVRQAPGKGLEWVGRIIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGD
SYVSWFDYWGQGTLTVTSSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGS
LLGGKAALTISGAQPEDEADYYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWVVDGV
EVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKTCLVKGFYPSDIAVEWESNGQPENN
YKTTTPVLDSDGSGFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:123)

DIVMTQSPSSLSASVGDRTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYSGVPDRFTGSGSGTDFLTITSLQPEDFATYFCQQYDSYPLTFGGGTKEIKRTV
AAPSVFIIPPSDEQLKSGTASVCLINNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTYLSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

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)

EVQLVESGGGLVQPGGSLRLSCAASGFDGSRSWMNWVRQAPGKGLWVSEINPDSSSTINYATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARYGNWFPYVW
GQGTLLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHNKPSDTKVDKKVEPK
SCDKTHTCTCPPCAPPVAGPSVFLPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVSVLTVLHQDWLNGKEYCKCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSEFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHY
TQKSLSLSPGK

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWWVRQAPGKCLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
YVSWFAYWGGTLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSL
LGGAALTISGAQPEDEADYYCALWYSNHWVFGCGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVE
VHNAKTKPREEQYNSTYRVSVLTVLHQDWLNGKEYCKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFPYPSDIAVEWESNGQPENNY
KTTTPVLDSDGSEFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:126)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYSGVPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGTGLEIKRTV
AAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSYSTLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

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)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSYSWMNWVRQAPGKGLEWVSEINPQSSTINYATSVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARYGNWFPYW
GQGTLTVTSSASTKGPSVFPLAPSSKSTSGGTAAAGCLVKDYFPEPTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVTPSSSLGTQTYICNVNHHKPSDTKVDKKVEPK
SCDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKA
LPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTTTPVLDSGDSGFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHY
TQKSLSLSPGK

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

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWVRQAPGKCLEWVGRIRSKYNNYATYADSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVYYCVRHGNFGDS
YVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAWWTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSL
LGGAALTISGAQPEDEADYCALWYSNHWVFGCGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVWVDVKHEDPEVKFNWVVDGVE
VHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNY
KTTTPVLDSGDSGFFLYSKLTVDKSRWQQGNVFCSCVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:129)

DIVMTQSPSSLSASVGDRTITCRASQNVDTWVAWYQQKPGQSPKALIASYRYSGVDPDRFTGSGSGTDFTLTISLQPEDFATYFCQQYDSYPLTFGGGKLEIKRTV
AAPSVFIFPPSDEQLKSGTASVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSKDSSTLSSTLTLSKADYEEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 27

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

(SEQ ID NO:130)

MQSGTHWRVLGLCLLSVGWVGQDGNEEMGGITQTPYKVSISGTTVILTCPQYPGSEILWQ

HNDKNIGGDEDDKNIGSDEDHLSLKEFSELEQSGYYVCYPRGSKPEDANFYLYLRARVCE

NCMEMDVMSVATIVVDICITGGLLLVYYWSKNRKAKAKPVTRGAGAGGRQRGQNKERP

PPVPNPDYEPiRKGQRDLYSGLNQRRi

Figure 28

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

(SEQ ID NO:131)

MANCEFSPVSGDKPCCRLSRAQLCLGVSLVLILVVVLAVV/VPRWRQQWSGPGTTKRF
ETVLARCVKYTEIHPEMRHVDCQSVWDAFKGAFISKHPCNITEEDYQPLMKLGTQTVPCN
KILLWSRIKDLAHQFTQVQRDMFTLEDTLGLYADDLTWCGEFNTSKINYQSCPDRKDC
SNNPVSVFWKTVSRRFAEAACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEA
WVIHGGREDSRDLCQDPTIKELESIISKRNIFSCKNYRPDKFLQCVKNPEDSSCTSEI

ECD domain (SEQ ID NO:132)

VPRWRQQWSGPGTTKRFETVLARCVKYTEIHPEMRHVDCQSVWDAFKGAFISKHPCNITEEDYQPLMKLGTQTVPC
NKILLWSRIKDLAHQFTQVQRDMFTLEDTLGLYADDLTWCGEFNTSKINYQSCPDRKDC
SNNPVSVFWKTVSRRFAEAACDVVHVMLNGSRSKIFDKNSTFGSVEVHNLQPEKVQTLEA
WVIHGGREDSRDLCQDPTIKELESIISKRNIFSCKNYRPDKFLQCVKNPEDSSCTSEI

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
T366S/L368A/Y407V/Y349C	T366W/S354C
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	
Q295E N384D Q418E N421D	
N208D Q295E Q418E N421D	
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 A-Fc only	Q295E N384D Q418E N421D
pl_(-)_isosteric_B	N208D Q295E Q418E N421D
pl_(-)_isosteric_B-Fc only	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 (SEQ ID NOS 142 & 158)	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 (SEQ ID NOS 142 & 158)	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	133
Whitlow linker	GSTSGSGKPGSGEGSTKG	18	+1	134
6paxA_1 (+A)	IRPRAIGGSKPRVA	14	+4	135
+B	GKGGSGKGGSGKGG	15	+3	136
+C	GGKSGGKSGGKGS	15	+3	137
+D	GGKSGGKSGGKGS	15	+3	138
+E	GKGKSGKGKSGKGKS	15	+6	139
+F	GGKSGGKSGKGG	15	+3	140
+G	GKPGSGKPGSGKPGS	15	+3	141
+H	GKPGSGKPGSGKPGSGKPGS	20	+4	142
+I	GKGKSGKGKSGKGKSGKGKS	20	+8	143

Negative charged scFv linkers

Name	Sequence	Length	Charge	SEQ ID NO:
Gly-Ser 15	GGGGS GGGGS GGGGS GGGGS	20	0	144
3hsc_2 (-A)	STAGDTHLGGEDFD	14	-4	145
-B	GEGGS GEGGS GEGGS	15	-3	146
-C	GGEGSGGEGSGGEGS	15	-3	147
-D	GGGESGGGESGGGES	15	-3	148
-E	GEGESGEGESGEGES	15	-6	149
-F	GGGESGGEGSGEGGS	15	-3	150
-G	GEGESGEGESGEGESGEGES	20	-8	151

Figure 33B

scFv Linkers

GGGGSGGGSGGGGS	(SEQ ID NO:152)
GGGGSGGGSGGGSGGGGS	(SEQ ID NO:153)
GSTSGSGKPGSGEGSTKG	(SEQ ID NO:154)
PRGASKSGSASQTGSAPGS	(SEQ ID NO:155)
GTAAAGAGAAGGAAAGAAG	(SEQ ID NO:156)
GTSGSSGSGSGSGSGGGG	(SEQ ID NO:157)
GKPGSGKPGSGKPGSGKPGS	(SEQ ID NO:158)

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

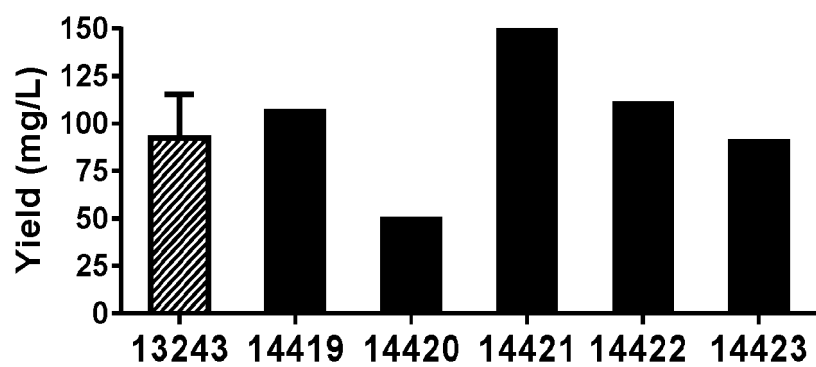


Figure 36

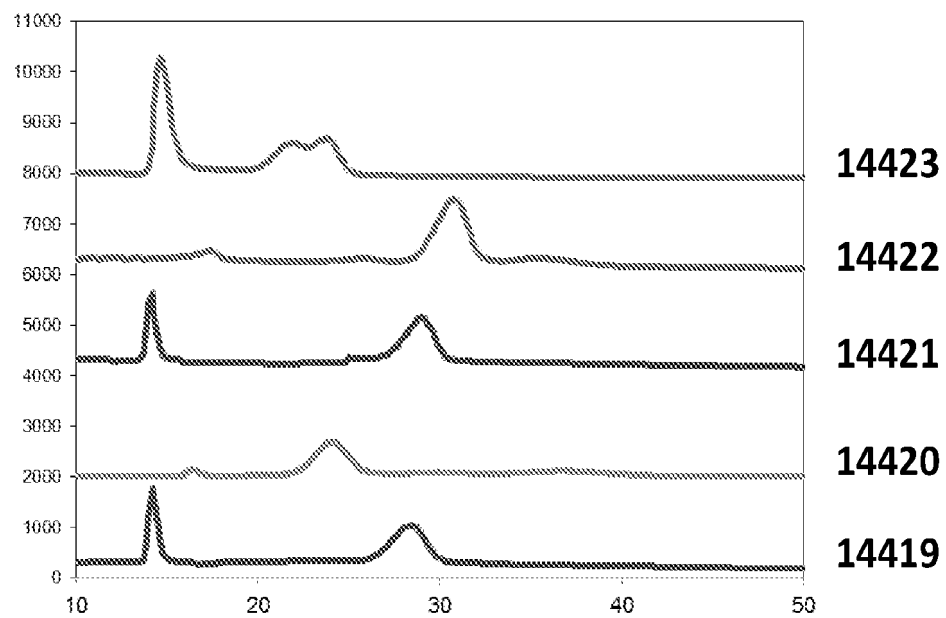


Figure 37

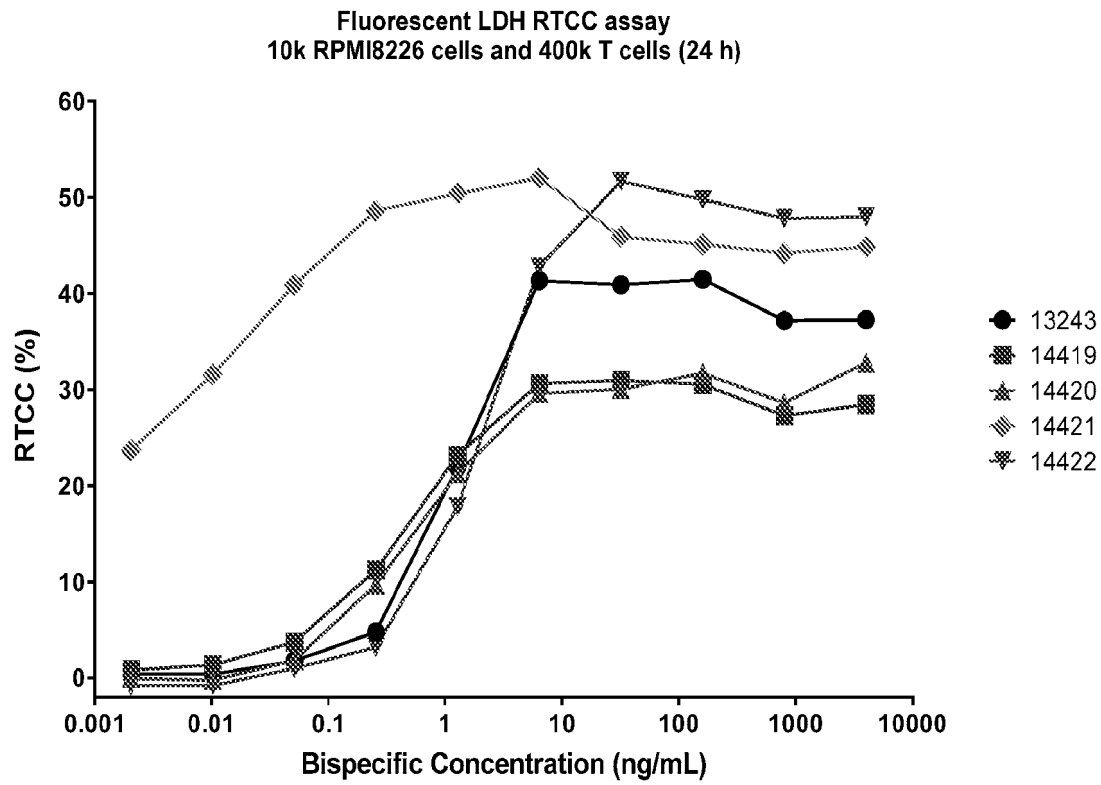


Figure 38

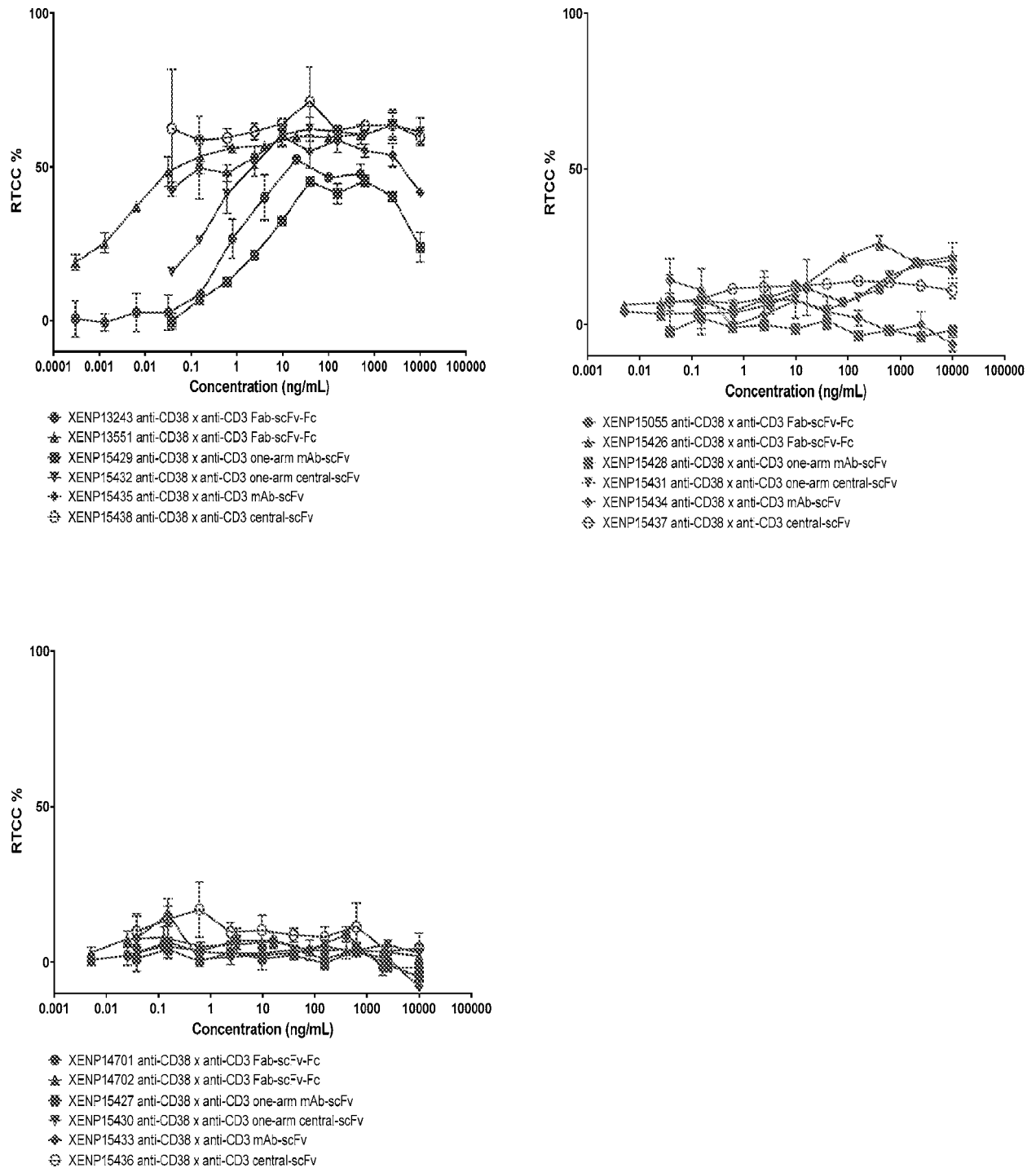


Figure 39

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

HC 1 (SEQ ID NO:159)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDVFSVMSHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:160)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVMSHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGS/EVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSTVSPGGT
 VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:161)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGSGTDFTLISSLQP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCCLNNFYFPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 40

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

HC 1 (SEQ ID NO:162)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGS/EVQLVESGG
 GLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQMN
 SLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTLTVSS

HC 2 (SEQ ID NO:163)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGS/QAVVTQE
 PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
 DYYCALWYSNHWVFGGGTKLTVL

LC (SEQ ID NO:164)

DIVMTQSPSSLSASVGDRTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISSLP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYFPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 41

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

HC 1 (SEQ ID NO:165)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSTLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGGSFFLYSKLTVDKSRWEQGDVFCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:166)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSTLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/EVQLV
 ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL
 QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPLTVSP
 GGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCAL
WYSNHWVFGGGTKLTVL/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
 EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVY
 TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGGSFFLYSKLTVDKSRWQQGNVFSCSV
 MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:167)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCCLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 42

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

HC 1 (SEQ ID NO:168)

EPKSSDKHTCPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:169)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/EVQLV
ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYL
QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSP
GGTVTLTGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCAL
WYSNHWVFGGGTKLTVL/GGGGSGGGGSKTHTCPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDP
EVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVY
TLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:170)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 43

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

HC 1 (SEQ ID NO:171)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCGGGGSGGGGS/EVQLV
 ESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSSKNTLYL
 QMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPP
 KPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLNGKEYCK
 VSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTPPVLDSD
 GSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:172)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGS/QAVV
 TQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLGGKAALTISGAQPE
 DEADYYCALWYSNHWFGGGKTLTVL/GGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCV
 VDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKG
 QPREPQVYTLPPSREQMTKNQVLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQ
 GNVFSCSVMHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO:173)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFLTISLQP
 EDFATYFCQQYDSYPLTFGGGT/KLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 44

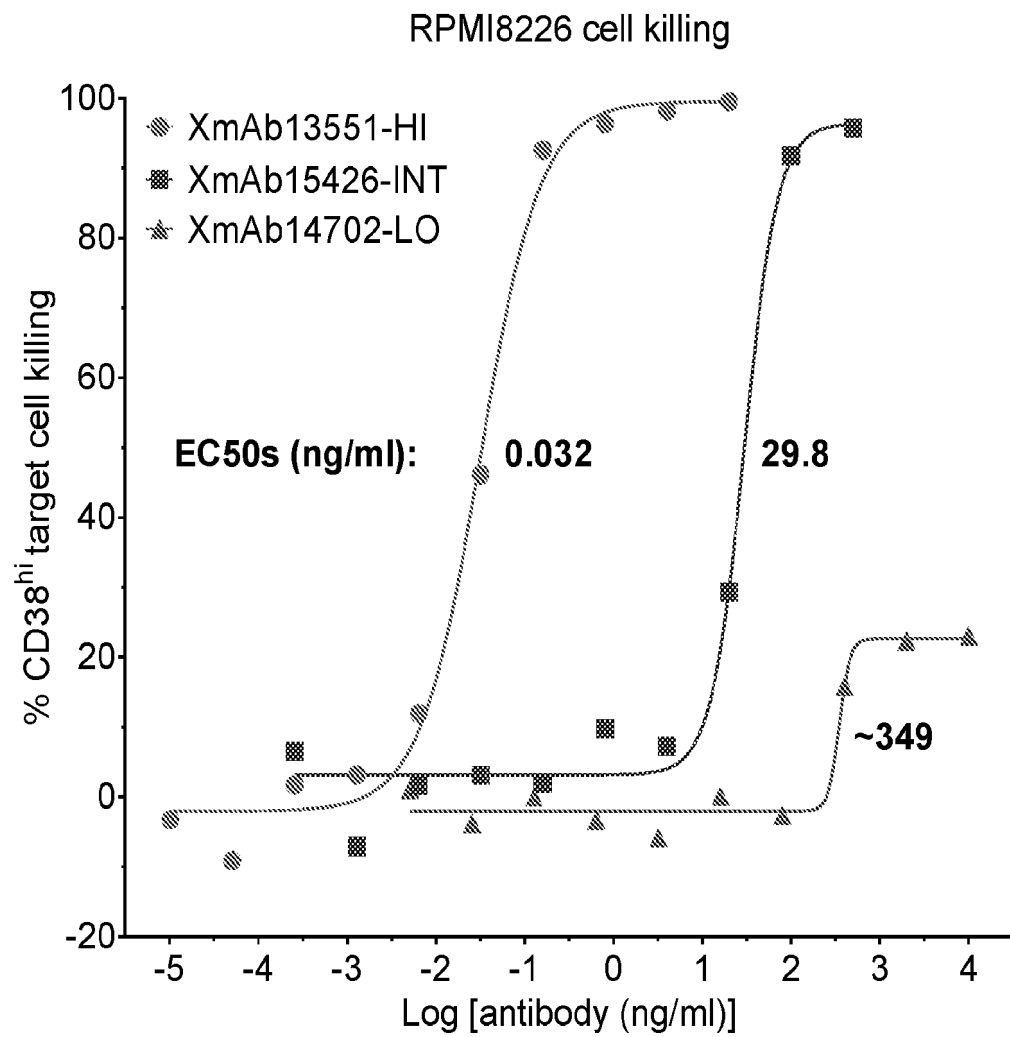


Figure 45

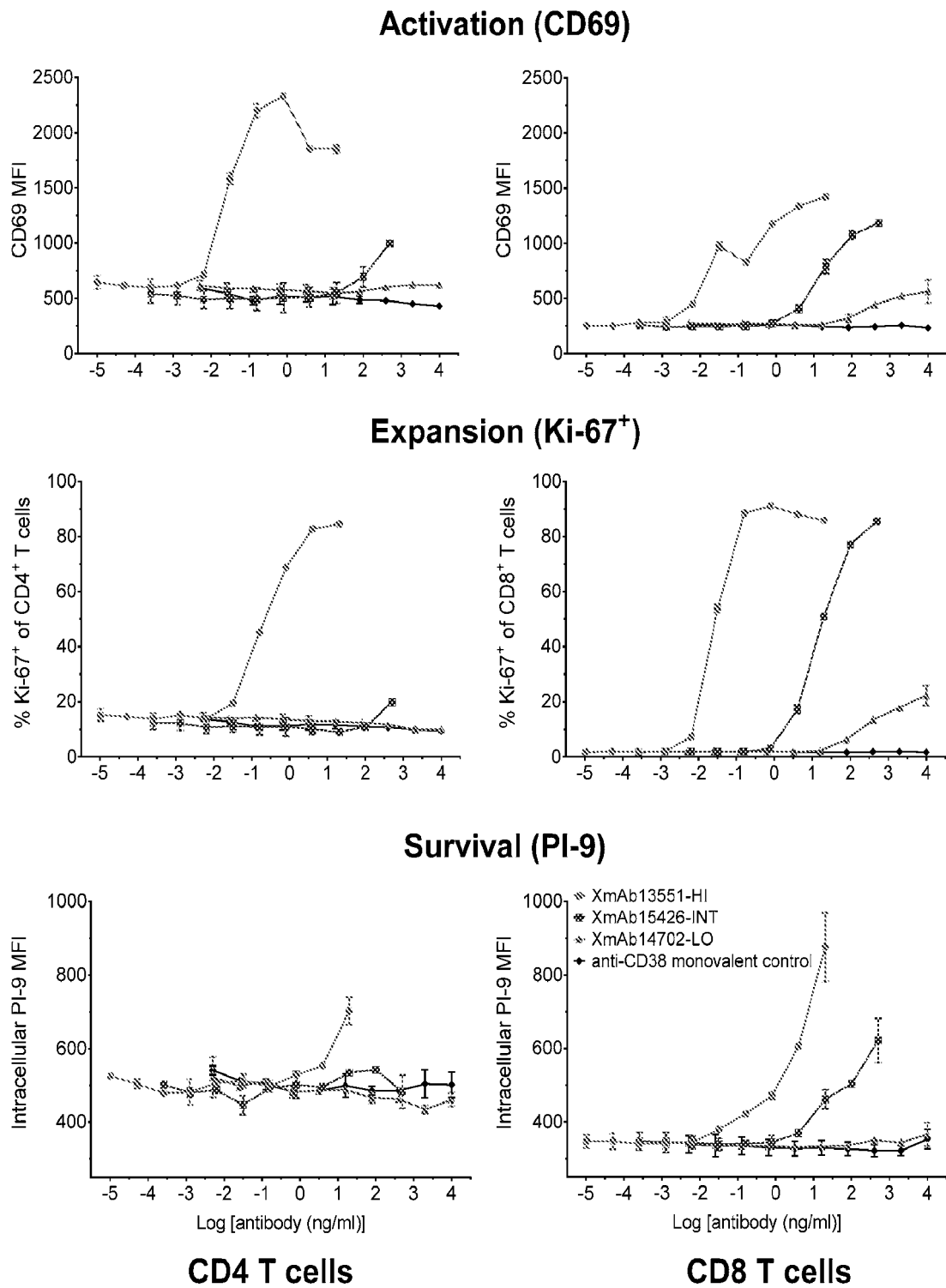


Figure 46

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)

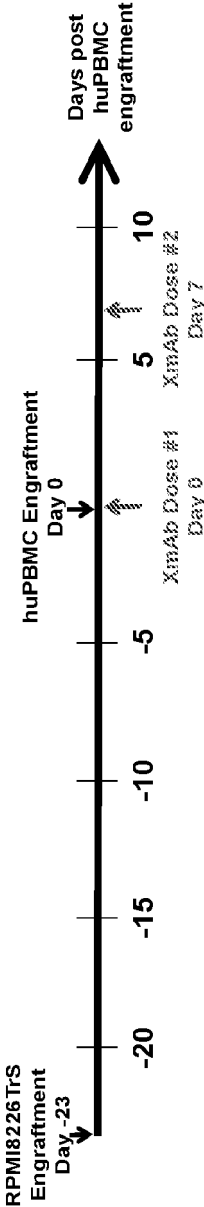


Figure 47

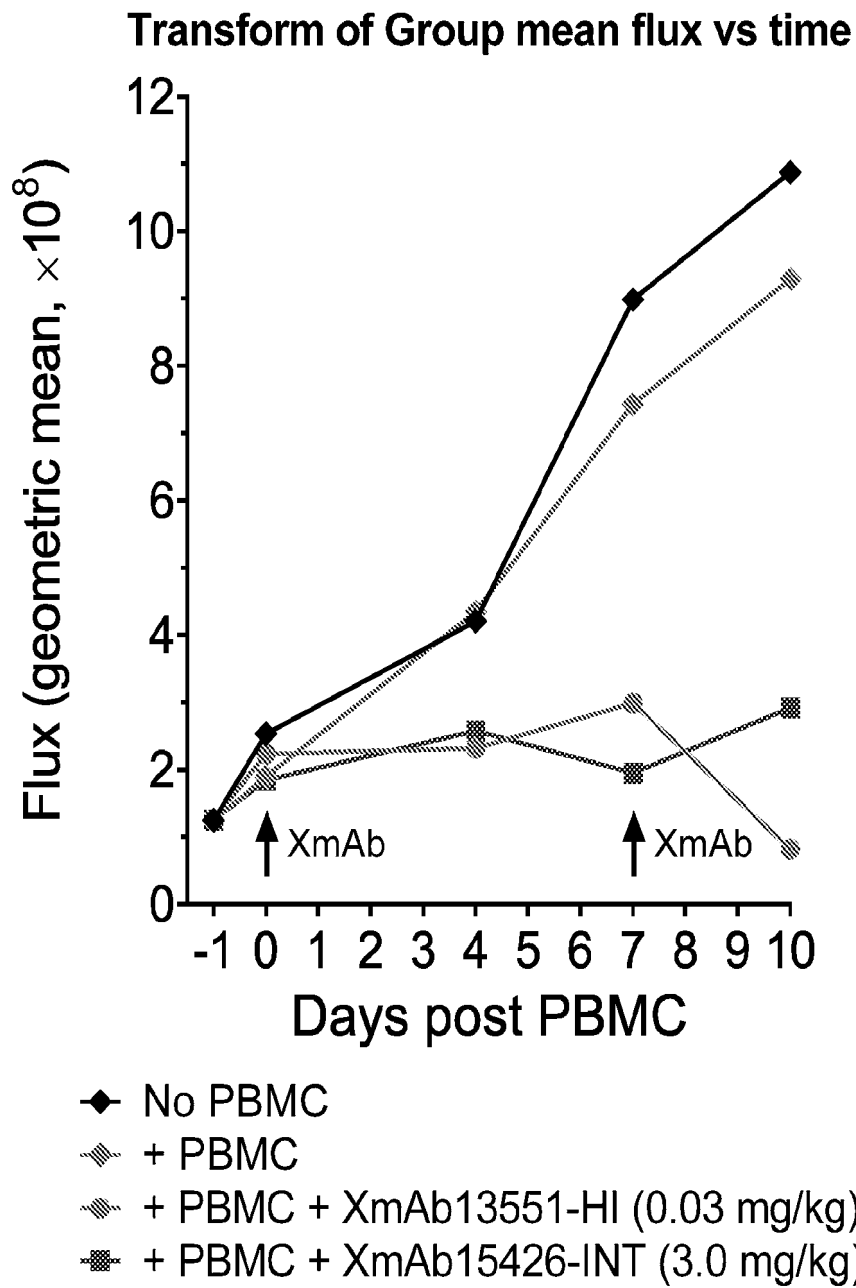


Figure 48

Bioluminescent images (Day 10)

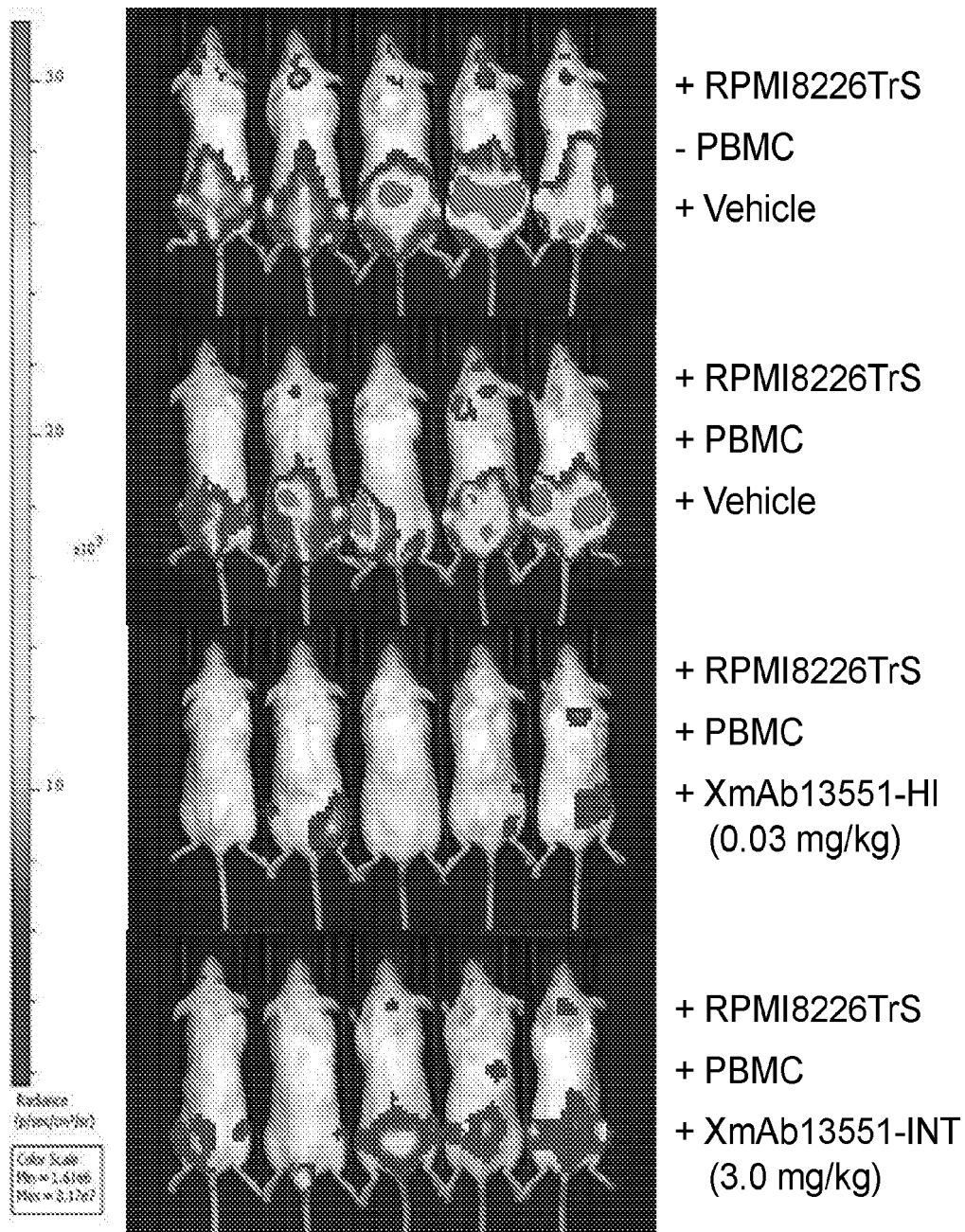
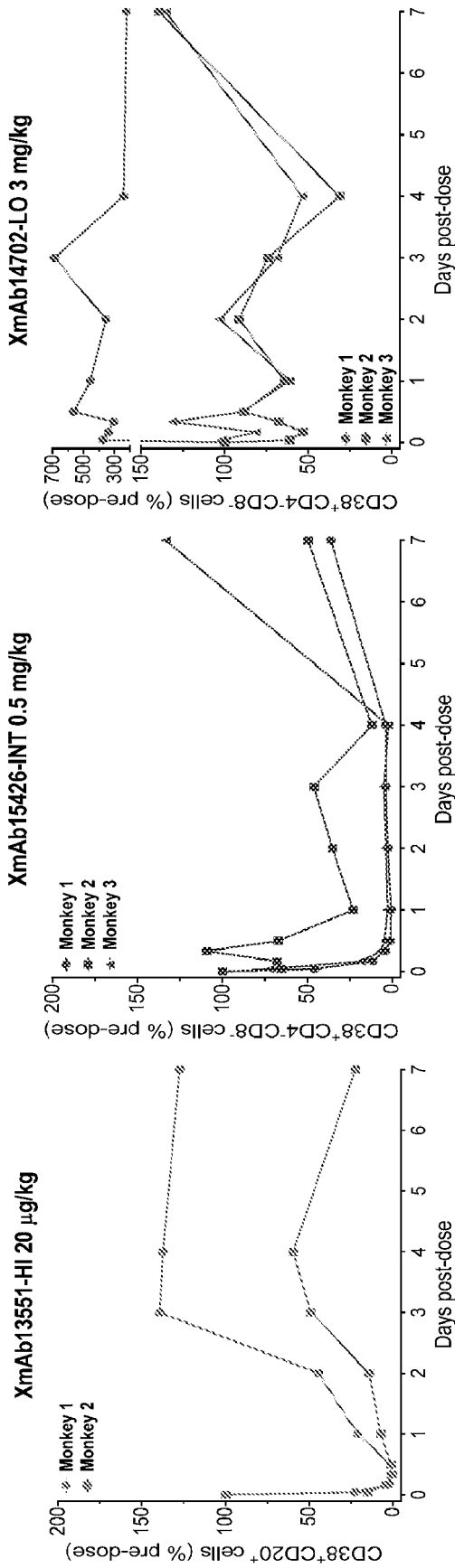


Figure 49



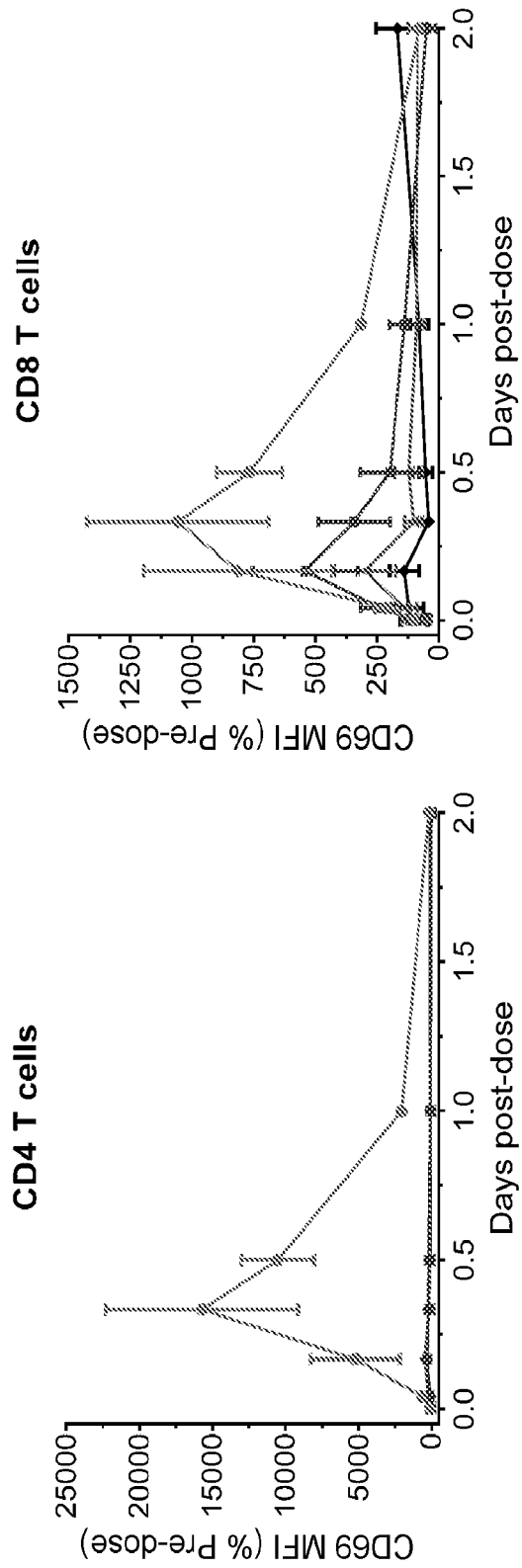


Figure 50

Figure 51

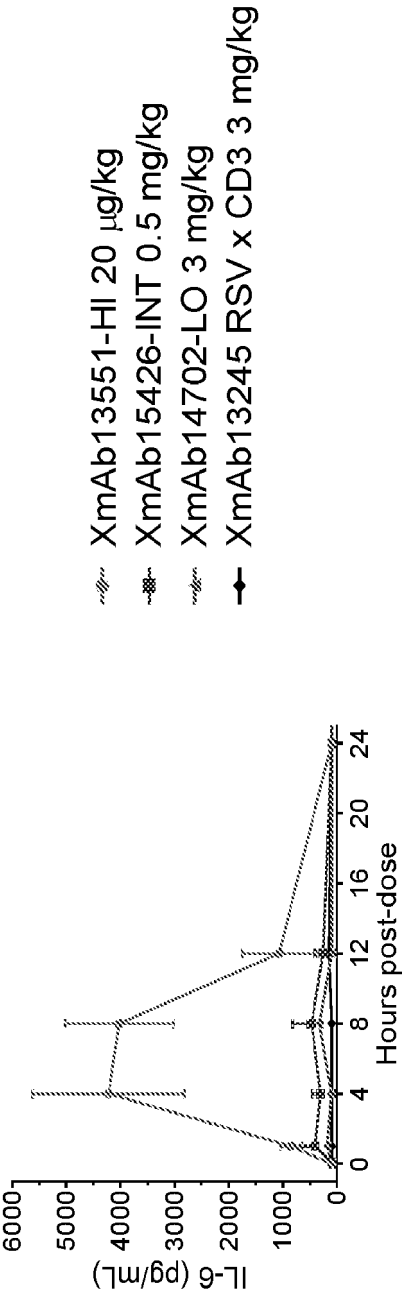


Figure 52

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

HC 1 (SEQ ID NO:174)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:175)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGTTLTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
GGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
VTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:176)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSSYRYSQVPPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 53

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

HC 1 (SEQ ID NO:177)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:178)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSSTINYATSVKGRFTISRDN SKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGKGGGGSGGGGSGGGGSEVQLVESG
GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
NSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
VTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:179)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSSYRYSGVPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGTKLEIK/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:180)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
 YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
 DIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:181)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSSTINYATSVKGRFTISRDN SKNT
 LYLQMNSLR AEDTAVYYCARYGNWFPYWGQGT LTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCFSVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
 VTLCGSSTGAVTTSNYANWVQQKPGKSPRGLIGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:182)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCCLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 55

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

HC 1 (SEQ ID NO:183)

EPKSSDKHTCPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:184)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNKNT
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWVFGGGTKLTVLGGGGSGGGGSKHTCPPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMH
EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:185)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 56

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

HC 1 (SEQ ID NO:186)

EPKSSDKHTCPCPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
 YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
 DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:187)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWVRQAPGKGLEWVSEINPDSS~~TINY~~ATSVKGRFTISRDN~~SKNT~~
 LYLMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTF~~STY~~AMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWVFGGGTKLTVLGGGGSGGGGSKHTCPCPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLP
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCFSVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:188)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISLQP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 57

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

HC 1 (SEQ ID NO:189)

EPKSSDKHTCPCPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEE
YNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPS
DIAVEWESDGGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:190)

EVQLVESGGGLVQPGGSLRLSCAASGFD~~FS~~RSWMNWVRQAPGKGLEWVSEINPDSS~~TINY~~ATSVKGRFTISRDN~~SKNT~~
LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPTVS
WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPS~~SSL~~GTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
SGGGLVQPGGSLRLSCAASGFTF~~STY~~AMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIG~~TN~~KRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWWFGGGTCLTVLGGGGSGGGGSKHTCPCPCAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVK
FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVMH
EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:191)

DIVMTQSPSSLSASVGDRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFTLTISLQP
EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNS
QESVTEQDSKSTYSLSSLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 58

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

HC 1 (SEQ ID NO:192)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:193)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
 VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:194)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDPDRFTGSGSGTDFLTISLQP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 59

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

HC 1 (SEQ ID NO:195)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDVFCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:196)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
 VTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:197)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRSGVPDRFTGSGSGTDFLTISLQP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKDSSTLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 60

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

HC 1 (SEQ ID NO:198)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:199)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGT LVT VSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
 GKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTT
 PPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVMHEALHNHYTQKSLSLSPGKGGGGSGGGSGGGGSEVQLVESG
 GGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLY LQM
 NSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPGGT
 VTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALWYS
NHWVFGGGTKLTVL

LC (SEQ ID NO:200)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDPDRFTGSGSGTDFTLTISSLP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 61

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

HC 1 (SEQ ID NO:201)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:202)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWVFGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSGGSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:203)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISSLP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCCLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 62

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

HC 1 (SEQ ID NO:204)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:205)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRSWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDN SKNT
 LY LQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWVFGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSGGSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:206)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSQVDRFTGSGSGTDFTLTSSLP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCCLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 63

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

HC 1 (SEQ ID NO:207)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAG
 PSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDWLN
 GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYKTP
 PVLDSGGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (SEQ ID NO:208)

EVQLVESGGGLVQPGGSLRLSCAASGFDFSRWMNWVRQAPGKGLEWVSEINPDSSTINYATSVKGRFTISRDNSKNT
 LYLQMNSLRAEDTAVYYCARYGNWFPYWGQGLTVTVSS/ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVS
 WNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGGGGSGGGGSEVQLVE
 SGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSKNTLYLQ
 MNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPSLTVSPG
 GTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEADYYCALW
YSNHWVFGGGTKLTVLGGGGSGGGGSKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVK
 FNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTPPVLDSGGSFFLYSKLTVDKSRWQQGNVFSCVMH
 EALHNHYTQKSLSLSPGK

LC (SEQ ID NO:209)

DIVMTQSPSSLSASVGRVTITCRASQNVDTNVAWYQQKPGQSPKALIYSASYRYSGVDPDRFTGSGSGTDFTLTISSLP
 EDFATYFCQQYDSYPLTFGGGTKLEIK/RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQSGNS
 QESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 64

XENP	CD38 affinity	αCD3 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

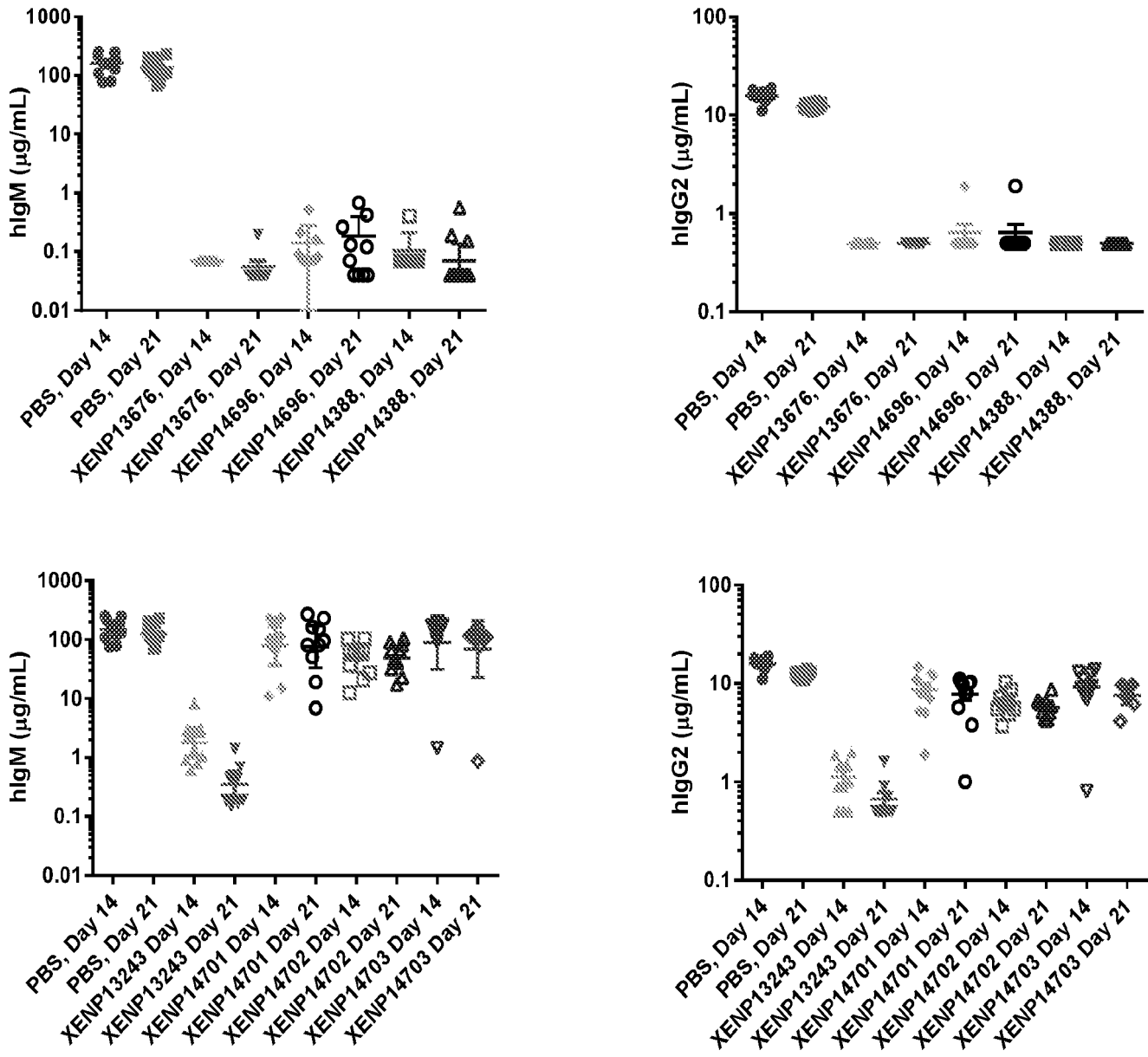


Figure 67A

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:210

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:211

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:212

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSS

SEQ ID NO:213

QAVVTQEPSTLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68B

H1.30_L1.47

SEQ ID NO:214

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTlTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:215

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTlTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:216

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTlTVSS

SEQ ID NO:217

QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68C

H1.33_L1.47

SEQ ID NO:218

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVLGSHHHHHH

SEQ ID NO:219

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGKLTVL

SEQ ID NO:220

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSS

SEQ ID NO:221

QAVVTQEPSTLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGKLTVL

Figure 68D

H1.31_L1.47

SEQ ID NO:222

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWWFGGGTKLTVLGSHHHHHH

SEQ ID NO:223

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWWFGGGTKLTVL

SEQ ID NO:224

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:225

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWWFGGGTKLTVL

Figure 68E

H1.32_L1.47

SEQ ID NO:226

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVLGSHHHHHH

SEQ ID NO:227

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVL

SEQ ID NO:228

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO:229

QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGTCLTVL

Figure 68F

H1.88_L1.47

SEQ ID NO:230

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVLGSHHHHHH

SEQ ID NO:231

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVL

SEQ ID NO:232

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGPSYVSWFAYWGQGLTVTVSS

SEQ ID NO:233

QAVVTQEPSTLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGTCLTVL

Figure 68G

H1.89_L1.47

SEQ ID NO:234

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:235

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:236

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGTLLTVSS

SEQ ID NO:237

QAVVTQEPSTLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68H

H1.90_L1.47

SEQ ID NO:238

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVLGSHHHHHH

SEQ ID NO:239

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVL

SEQ ID NO:240

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGT LVTVSS

SEQ ID NO:241

QAVVTQEPSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLTVL

Figure 68I

H1.91_L1.47

SEQ ID NO:242

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVLGSHHHHHH

SEQ ID NO:243

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVL

SEQ ID NO:244

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSS

SEQ ID NO:245

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLTVL

Figure 68J

H1.92_L1.47

SEQ ID NO:246

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVLGSHHHHHH

SEQ ID NO:247

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVL

SEQ ID NO:248

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGT LVTVSS

SEQ ID NO:249

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLTVL

Figure 68K

H1.93_L1.47

SEQ ID NO:250

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO:251

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO:252

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGLTVTVSS

SEQ ID NO:253

QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68L

H1.94_L1.47

SEQ ID NO:254

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVLGSHHHHHH

SEQ ID NO:255

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVL

SEQ ID NO:256

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSS

SEQ ID NO: 257

QAVVTQEPSTLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGTCLTVL

Figure 68M

H1.96_L1.47

SEQ ID NO: 258

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVLGSHHHHHH

SEQ ID NO: 259

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVL

SEQ ID NO: 260

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFAYWGQGTLLTVSS

SEQ ID NO: 261

QAVVTQEPSTLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGTCLTVL

Figure 68N

H1.97_L1.47

SEQ ID NO: 262

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 263

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 264

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGTLLTVSS

SEQ ID NO: 265

QAVVTQEPSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 680

H1.98_L1.47

SEQ ID NO: 266

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVLGSHHHHHH

SEQ ID NO: 267

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVL

SEQ ID NO: 268

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSS

SEQ ID NO: 269

QAVVTQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLTVL

Figure 68P

H1.99_L1.47

SEQ ID NO: 270

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVLGSHHHHHH

SEQ ID NO: 271

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGT KLTVL

SEQ ID NO: 272

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGT LVTVSS

SEQ ID NO: 273

QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLTVL

Figure 68Q

H1.100_L1.47

SEQ ID NO: 274

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGTLVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 275

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGTLVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 276

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGTLVTVSS

SEQ ID NO: 277

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68R

H1.101_L1.47

SEQ ID NO: 278

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 279

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 280

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGQGLTVTVSS

SEQ ID NO: 281

QAVVTQEPSTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68S

H1.102_L1.47

SEQ ID NO: 282

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 283

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 284

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFDYWGQGLTVTVSS

SEQ ID NO: 285

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68T

H1.103_L1.47

SEQ ID NO: 286

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 287

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 288

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWGQGTLLTVSS

SEQ ID NO: 289

QAVVTQEPSLTVSPGGTVTLTLCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68U

H1.104_L1.47

SEQ ID NO: 290

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVLGSHHHHHH

SEQ ID NO: 291

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFSGGTCLTVL

SEQ ID NO: 292

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIISKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFDYWGQGLTVTVSS

SEQ ID NO: 293

QAVVTQEPSTLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGTCLTVL

Figure 68V

H1.105_L1.47

SEQ ID NO: 294

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 295

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQE
PSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDE
ADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 296

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGQGLTVTVSS

SEQ ID NO: 297

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68W

H1.106_L1.47

SEQ ID NO: 298

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFSGGKLTVLGSHHHHHH

SEQ ID NO: 299

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFSGGKLTVL

SEQ ID NO: 300

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSS

SEQ ID NO: 301

QAVVTQEPSLTVSPGGTVTLTCGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEADYYCALWYSNHWVFSGGKLTVL

Figure 68X

H1.107_L1.47

SEQ ID NO: 302

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNGFASVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 303

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNGFASVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 304

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNGFASVSWFAYWGQGLTVTVSS

SEQ ID NO: 305

QAVVTQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 68Y

H1.108_L1.47

SEQ ID NO: 306

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLT CGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFSGGT KLT VLGSHHHHHH

SEQ ID NO: 307

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGT LVT VSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLT CGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFSGGT KLT VLGSHHHHHH

SEQ ID NO: 308

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGT LVT VSS

SEQ ID NO: 309

QAVVTQEPSLTVSPGGTVTLT CGSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFSGGT KLT VLGSHHHHHH

Figure 68Z

H1.109_L1.47

SEQ ID NO: 310

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFGGGTKLTVLGSHHHHHH

SEQ ID NO: 311

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQ
EPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPED
EADYYCALWYSNHWVFGGGTKLTVL

SEQ ID NO: 312

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDD
SKNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSS

SEQ ID NO: 313

QAVVTQEPSLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTIS
GAQPEDEADYYCALWYSNHWVFGGGTKLTVL

Figure 69

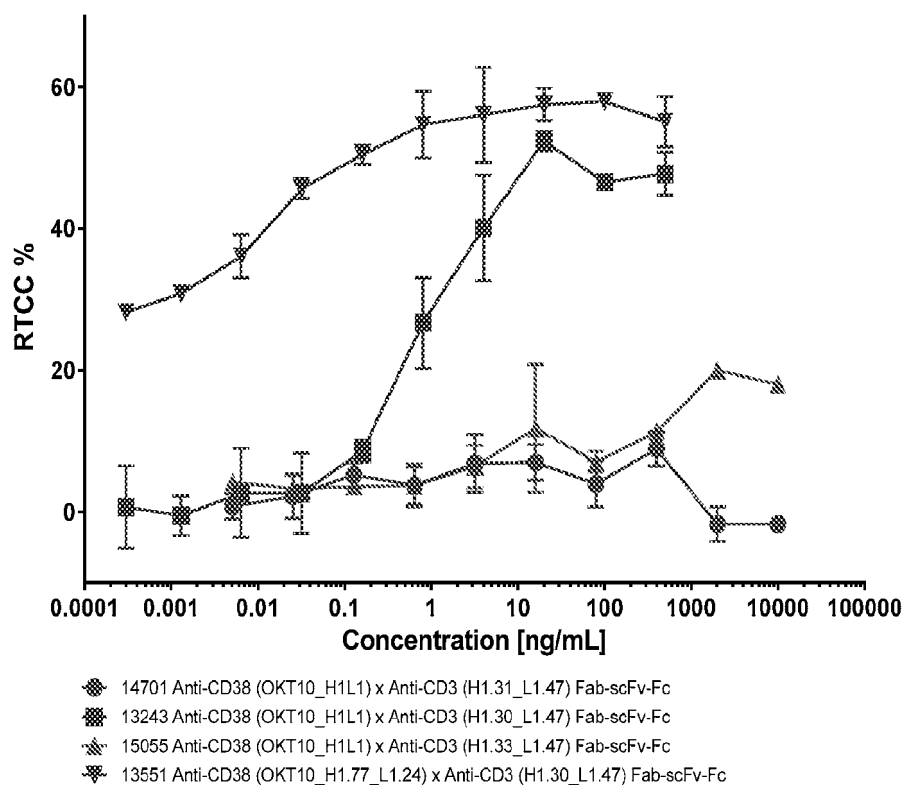
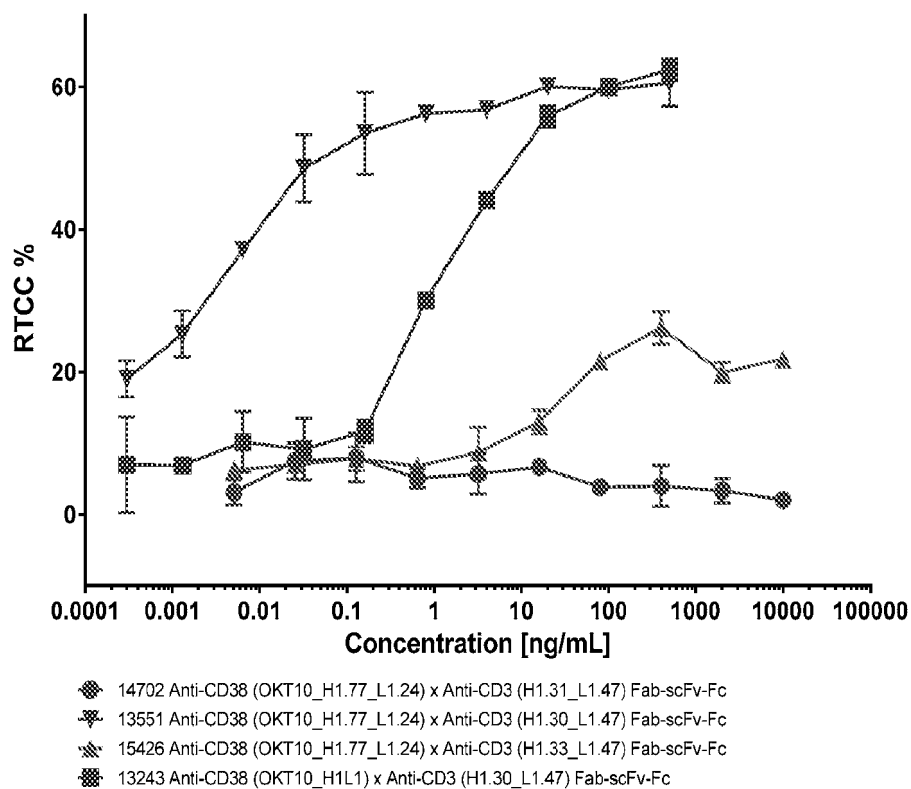


Figure 70

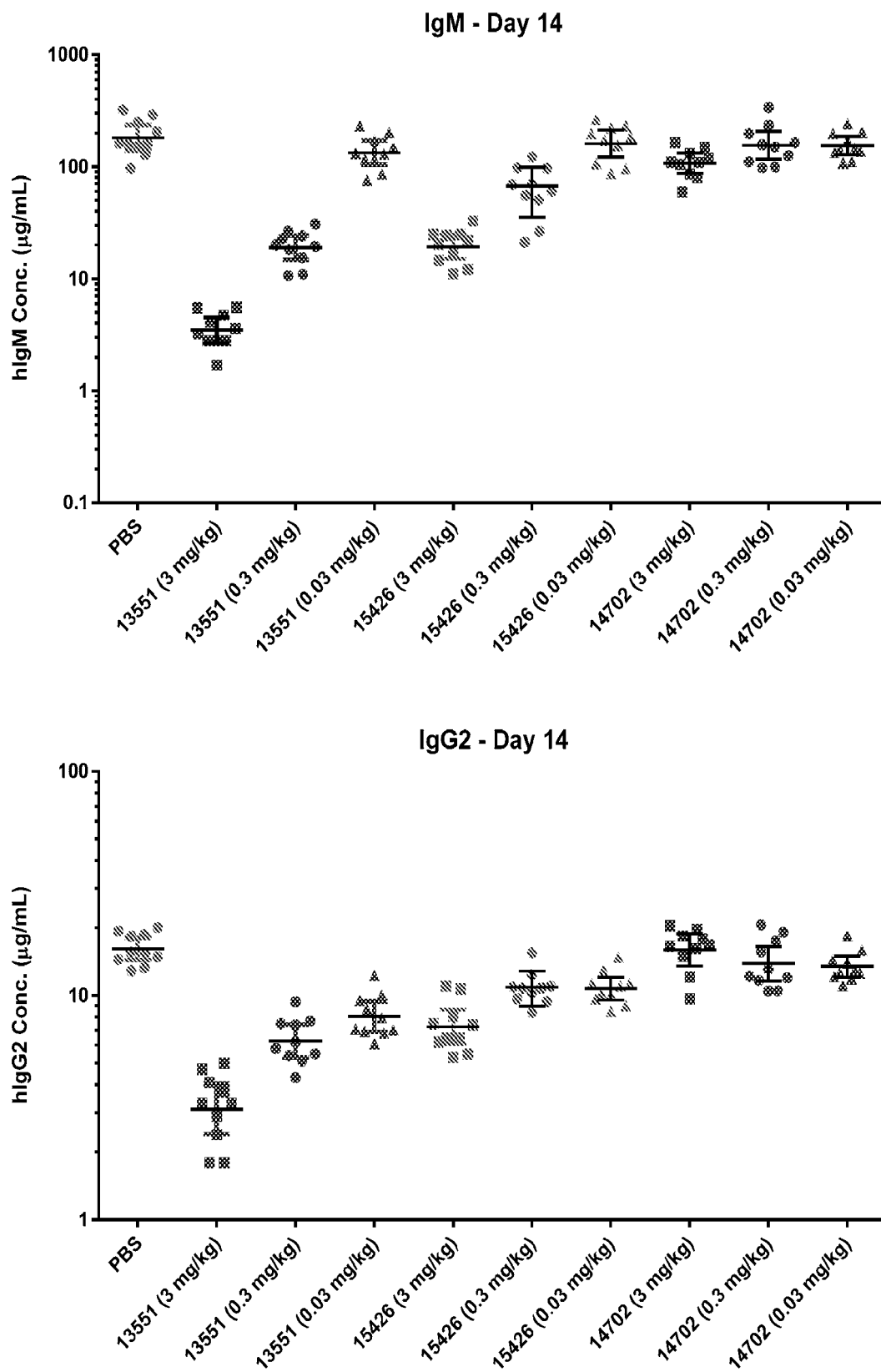


Figure 71

XENP15049 Anti-CD19 (4G7_H1.227_L1.199) x Anti-CD3 (H1.30_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 314)

EVQLVESGGGLVKPGGSLKLSAASGYFTSYVMHWVRQAPGGGLEWIGYINPYNDGTYNEKFKGRVTISSDKSKST
AYMELSSLRSEDTAVYYCARGTYYYGTRVFDYWGGQGLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKHTHTCPPCPAPPV
AGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDW
LNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYK
TTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 315)

EVQLVESGGGLVQPGGSLRLSAAAGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWWFGGGTKLTVLEPKSSDKHTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 316)

DIVMTQSPATLSLSPGERATISCRSSKSLQNVNGNTYLYWFQQKPGQSPKLLIYRASNLNSGVDPDRFSGSGSGTEFTLTIS
SLEPEDFAVYYCMQHLEYPITFGGGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPRQAKVQWKVDNALQS
GNSQESVTEQDSKDSTYLSLSLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 72

XENP15051 Anti-CD19 (4G7_H1.227_L1.199) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 317)

EVQLVESGGGLVKPGGSLKLSAASGYFTSYVMHWVRQAPGGGLEWIGYINPYNDGTYNEKFKGRVTISSDKSKST
AYMELSSLRSEDTAVYYCARGTYYYGTRVFDYWGGTLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKHTHTCPPCPAPPV
AGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDW
LNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYK
TTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 318)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKHTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 319)

DIVMTQSPATLSLSPGERATISCRSSKSLQNVNGNTYLYWFQQKPGQSPKLLIYRASNLNSGVDPDRFSGSGSGTEFTLTIS
SLEPEDFAVYYCMQHLEYPITFGGGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQS
GNSQESVTEQDSKDSTYLSLSLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 73

XENP15050 Anti-CD19 (4G7_H1.227_L1.199) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 320)

EVQLVESGGGLVKPGGSLKLSAASGYFTSYVMHWVRQAPGGGLEWIGYINPYNDGTYNEKFKGRVTISSDKSKST
AYMELSSLRSEDTAVYYCARGTYYYGTRVFDYWGGTLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKHTHTCPPCPAPPV
AGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDW
LNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYK
TTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCSCVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 321)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGGTLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKHTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFCSCVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 322)

DIVMTQSPATLSLSPGERATISCRSSKSLQNVNGNTYLYWFQQKPGQSPKLLIYRASNLNSGVPDRFSGSGSGTEFTLTIS
SLEPEDFAVYYCMQHLEYPITFGGGTKLEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQS
GNSQESVTEQDSKDSTYLSSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 74

XENP13676 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.30_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 323)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 324)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 325)

QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 75

XENP14696 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 326)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 327)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 328)

QIVLTQSPSSLSASVGRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPRVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 76

XENP15629 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.32_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 329)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 330)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 331)

QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 77

XENP15053 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 332)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 333)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 334)

QIVLTQSPSSLSASVGDRTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 78

XENP15630 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.88_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 335)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 336)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 337)

QIVLTQSPSSLSASVGRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPRVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSDSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 79

XENP15631 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.89_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 338)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 339)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 340)

QIVLTQSPSSLSASVGRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 80

XENP15632 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.90_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 341)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 342)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 343)

QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSDSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 81

XENP15633 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.91_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 344)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 345)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 346)

QIVLTQSPSSLSASVGDRTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 82

XENP15634 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.92_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 347)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 348)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 349)

QIVLTQSPSSLSASVGDRTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPRVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 83

XENP15635 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.93_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 350)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 351)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGESYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 352)

QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSDSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 84

XENP15636 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.94_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 353)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 354)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 355)

QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 85

XENP15638 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.95_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 356)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDTAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 357)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 358)

QIVLTQSPSSLSASVGRVTITCRASSSVSYIHWVQKPGKSPKPLIYATSNLASGVPRVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 86

XENP15639 Anti-CD20 (C2B8_H1L1) x Anti-CD3 (H1.96_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 359)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSI
STAYMELSSLRSEDAVYYCARSTYYGGDWYFNWVGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 360)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 361)

QIVLTQSPSSLSASVGRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTSNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSDSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 87

XENP13677 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.30_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 362)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 363)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 364)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 88

XENP14388 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 365)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 366)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMSWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGTTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 367)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 89

XENP14389 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.32_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 368)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 369)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 370)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 90

XENP14390 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 371)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 372)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 373)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 91

XENP14391 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.88_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 374)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 375)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGPSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 376)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 92

XENP14392 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.89_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 377)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 378)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 379)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 93

XENP14393 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.90_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 380)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 381)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFAYWGQGTLLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 382)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKSTYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 94

XENP16366 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.98_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 383)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 384)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATYYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 385)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 95

XENP16367 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.99_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 386)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 387)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLR AEDTAVYYCVRHGNFGDSYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 388)

QIVLTQSPSSLSASVGRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 96

XENP16368 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.100_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 389)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 390)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 391)

QIVLTQSPSSLSASVGRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 97

XENP16369 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.101_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 392)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 393)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFIYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 394)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 98

XENP16370 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.102_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 395)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 396)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDEYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 397)

QIVLTQSPSSLSASVGDRTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 99

XENP16371 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.103_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 398)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 399)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDNYVSWFDYWQGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFCFSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 400)

QIVLTQSPSSLSASVGRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 100

XENP16372 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.104_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 401)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 402)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDPYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVM
HEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 403)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 101

XENP16373 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.105_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 404)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 405)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDQYVSWFDYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 406)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 102

XENP16374 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.106_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 407)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 408)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 409)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 103

XENP16375 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.107_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 410)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 411)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGASYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 412)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 104

XENP16376 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.108_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 413)

QVQLVQSGAEVKKPGASVKVSCKASGYFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 414)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGQSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 415)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDSYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 105

Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.109_L1.47) Fab-scFv-Fc

HC 1 (Fab-Fc) (SEQ ID NO: 416)

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSA
STAYMELSSLRSEDTAVYYCARSYYMGGDWYFDVWGAGTLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFP
EPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPA
PPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQ
DWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGPEN
NYKTTTPVLDSGDSFFLYSKLTVDKSRWEQGDVFSCSVMHEALHNHYTQKSLSLSPGK

HC 2 (scFv-Fc) (SEQ ID NO: 417)

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKANNYATAYADSVKGRFTISRDDS
KNTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFDYWGGTLTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEP
SLTVSPGGTVTLTCGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEA
DYICALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVDVKHEDPE
VKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYT
LPPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSGDSFFLYSKLTVDKSRWQQGNVFSCSV
MHEALHNHYTQKSLSLSPGK

LC (SEQ ID NO: 418)

QIVLTQSPSSLSASVGDRVTITCRASWSVSIHWFAQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDF
ATYYCQQWTHNPPTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQE
SVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 106

>sp|P11836|CD20_HUMAN B-lymphocyte antigen CD20

SEQ ID NO: 419

MTTPRNSVNGTFPAEPMKGPIAMQSGPKPLFRMSSLVGPTQSFFMRESKTLGAVQIMNG
LFHIALGGLLMIPAGIYAPICVTWYPLWGGIMYIISGSLLAATEKNSRKCLVKGKMIMN
SLSLFAAISGMILSIMDILNIKISHFLKMESLNFIRAHTPYINIYNCEPANPSEKNPST
QYCYSIQSLFLGILSVMLIAFFQELVIAGIVENEWKRTCSRPKSNIVLLSAEEKKEQTI
EIKEEVVGLTETSSQPKNEEDIEIPIQEEEEETETNFPEPPQDQESSPIENDSSP

>sp|P26951|IL3RA_HUMAN Interleukin-3 receptor subunit alpha (CD123)

SEQ ID NO: 420

MVLLWLTLIIALPCLLQTKEDPNPPITNLRMKAKAQLTWDLNRNVTDIECVKDADYSM
PAVNNSYCQFGAISLCEVTNYTVRVANPPFSTWILFPENSGKPWAGAENLTCWIHDVDFL
SCSWAVGPGAPADVQYDLYLVANRRRQYECLEHYKTDAGTRIGCRFDDISRLSSGSQSS
HILVRGRSAAFIPCTDKFVVSQIEILTPPNMTAKCNKTHSFMHWKMRSHFNRKFRYEL
QIQKRMQPVITEQVRDRTSFQLLNPGTYTVQIRARERVYEFLSAWSTPQRFECDAQEEGAN
TRAWRTSLIALGTLLALVCVFVICRRYLVMQRLFPRIPHMKDPIGDSFQNDKLVVWEAG
KAGLEECLVTEVQVVQKT

Figure 107

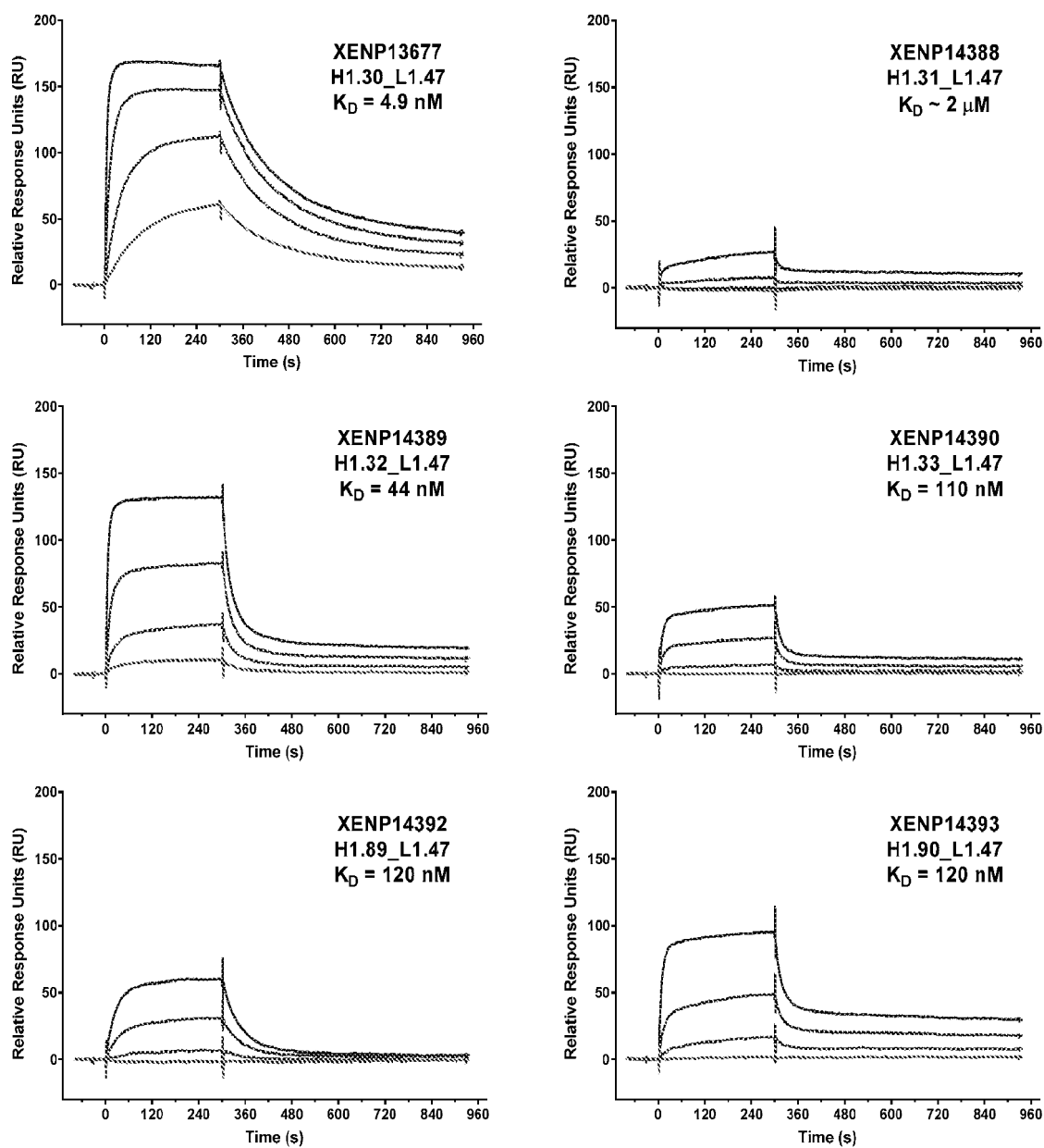


Figure 108

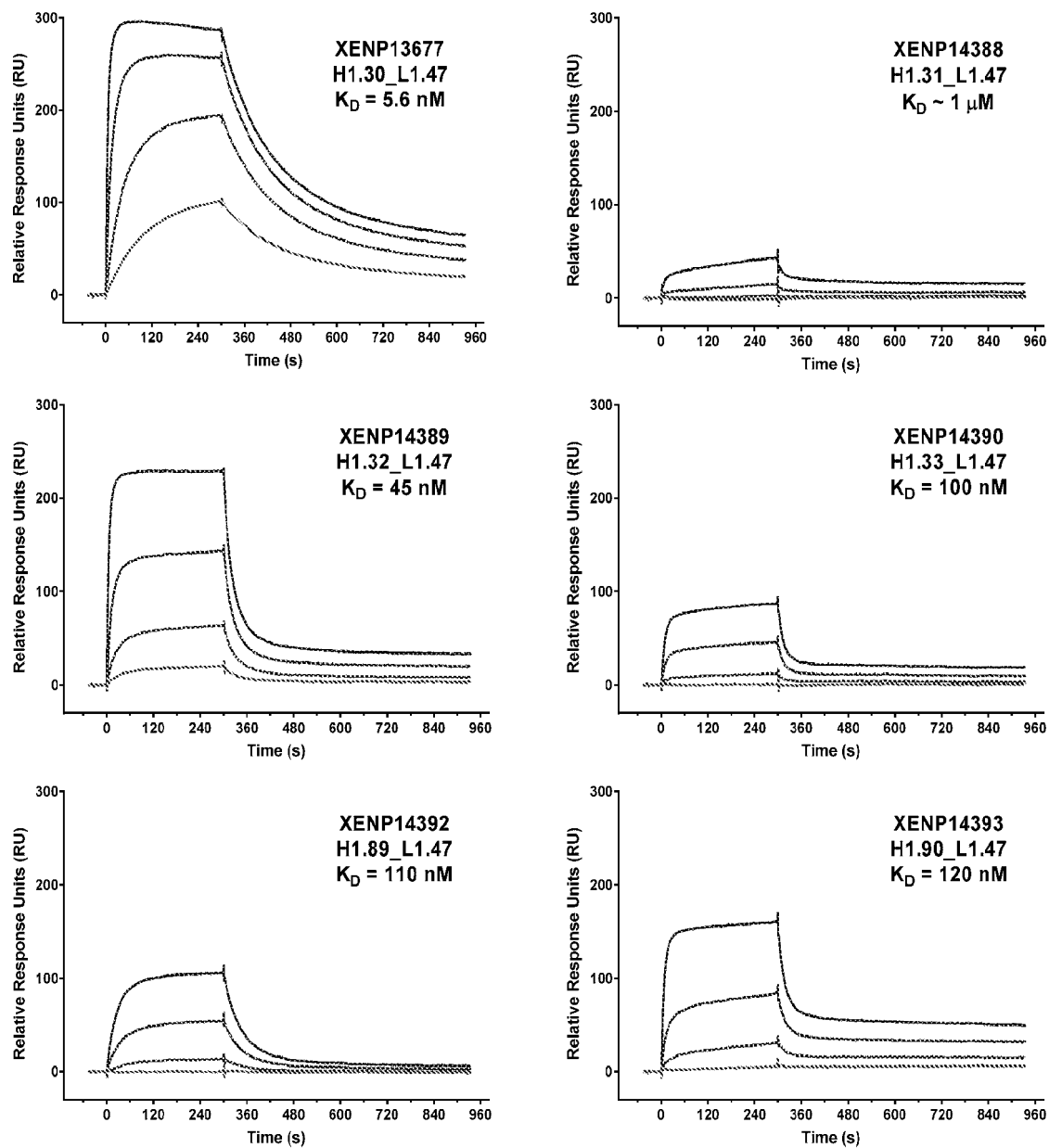


Figure 109

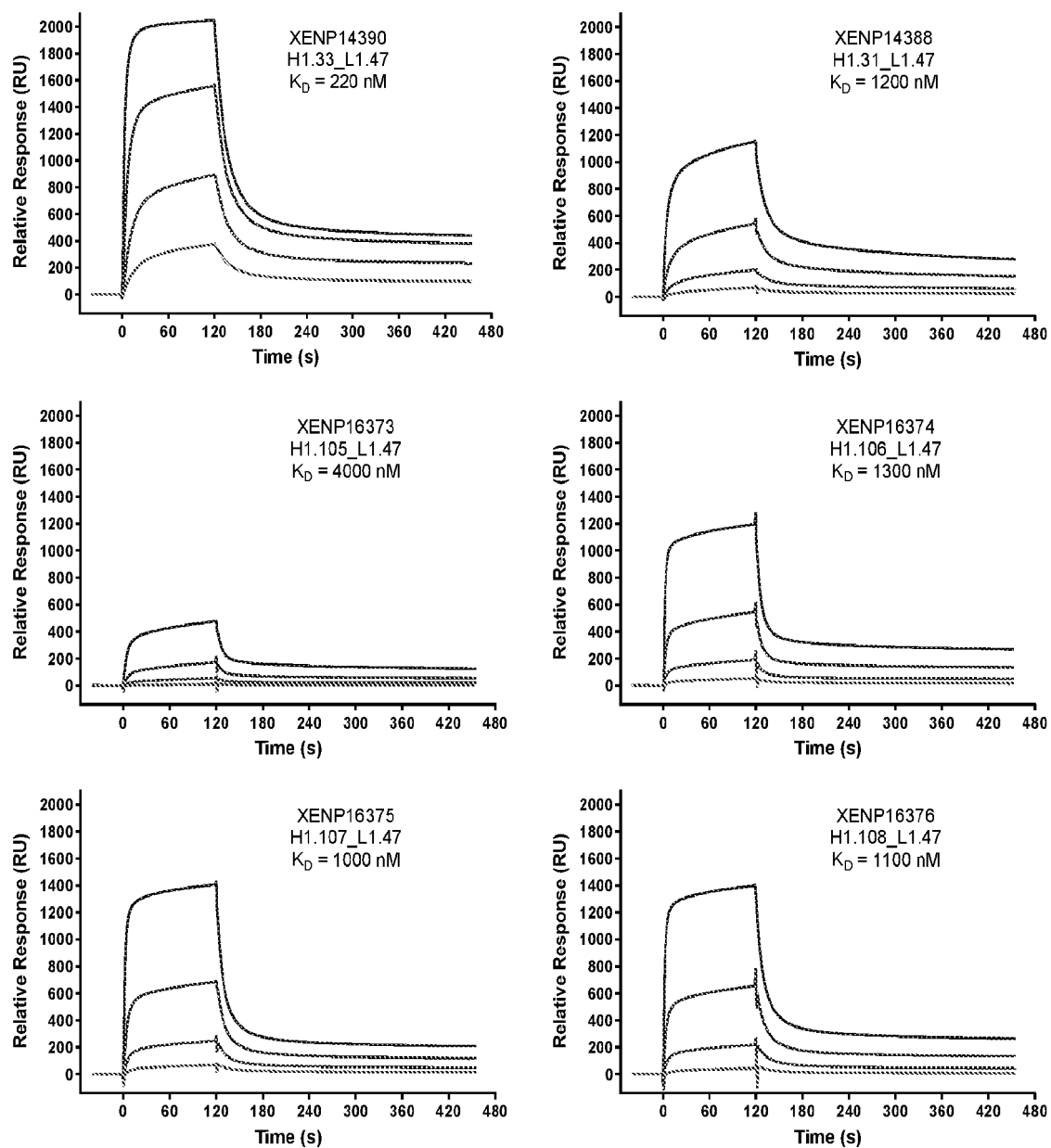


Figure 110

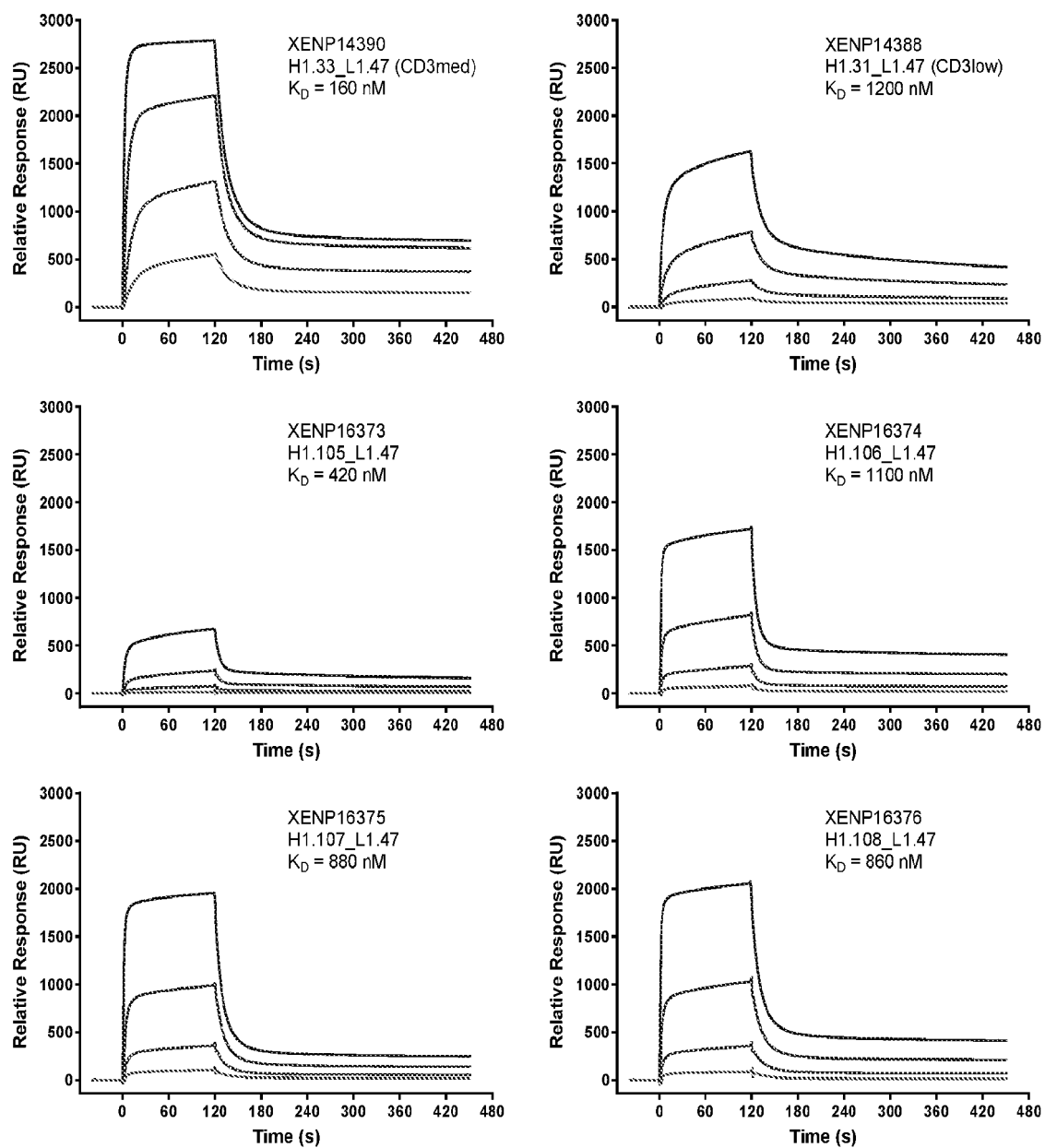


Figure 111

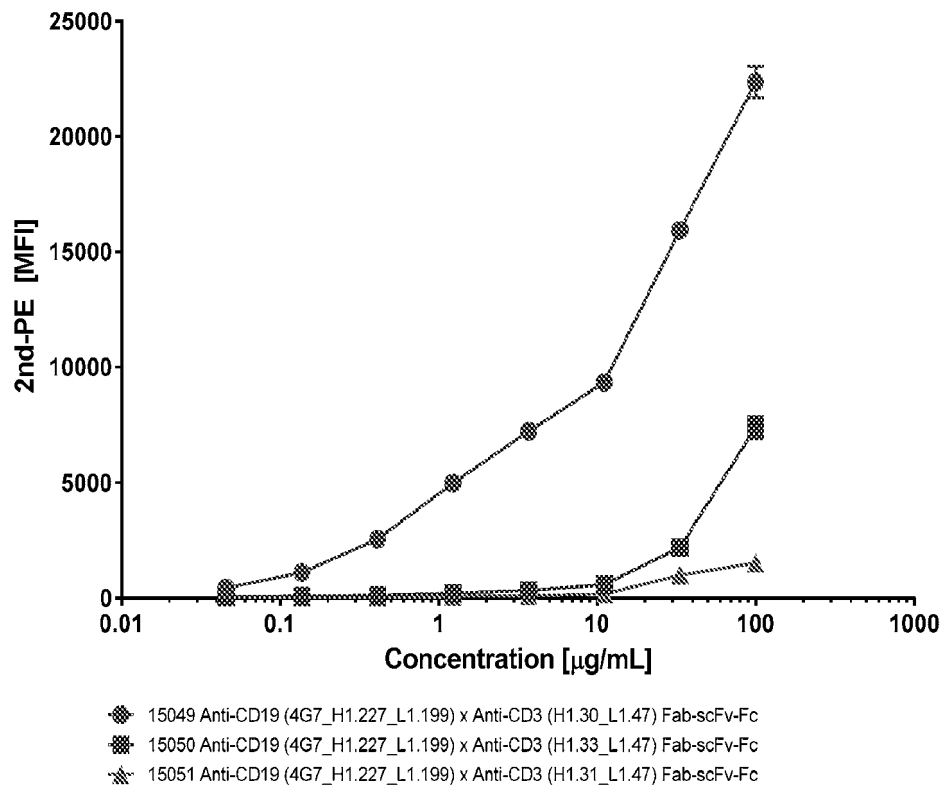
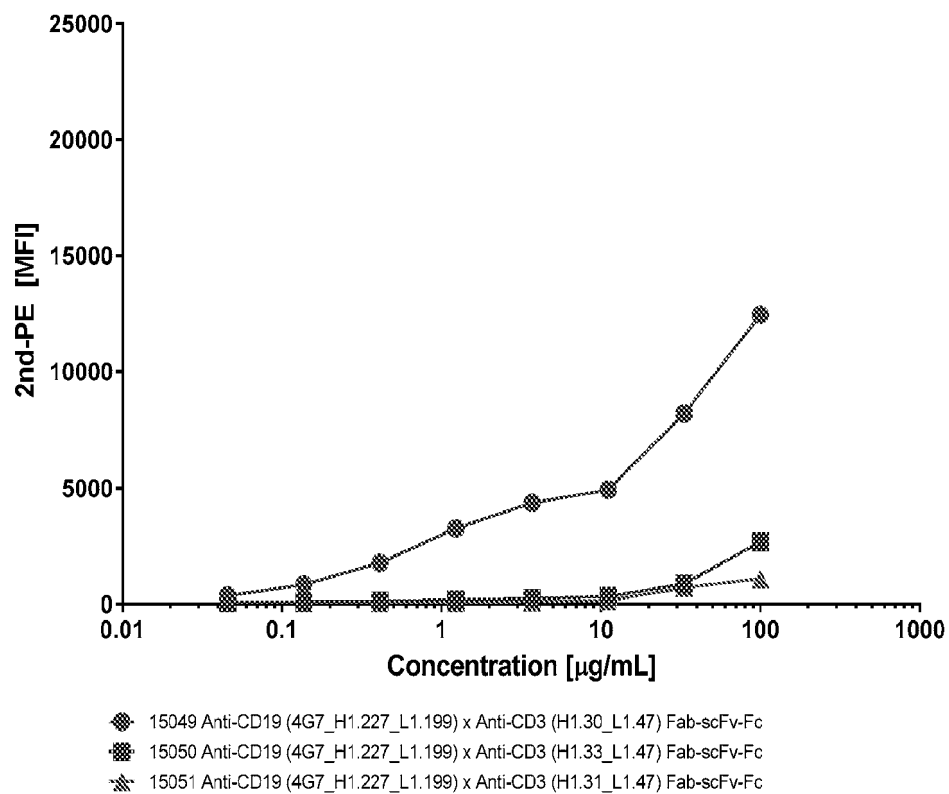


Figure 112

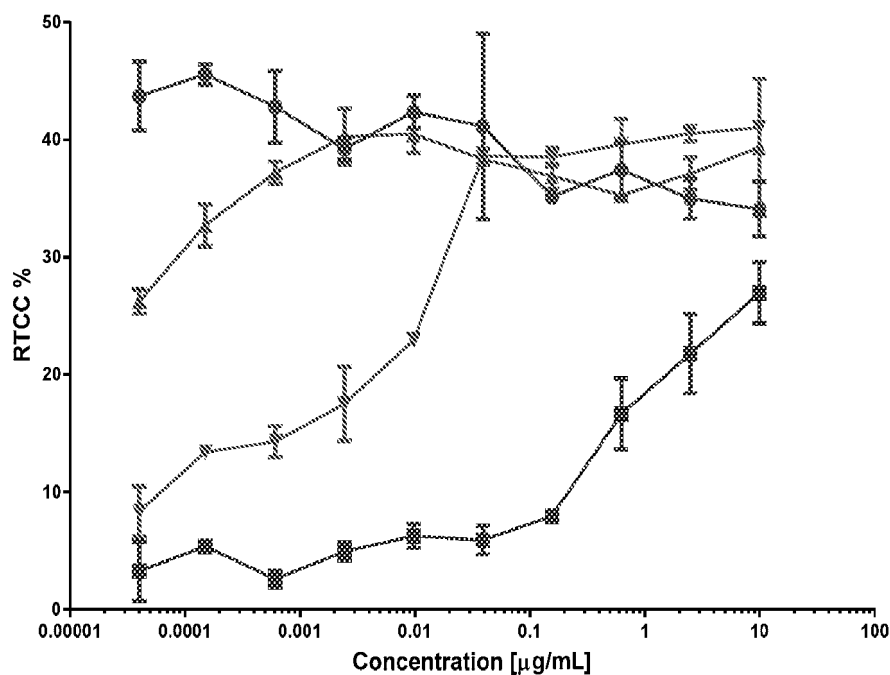
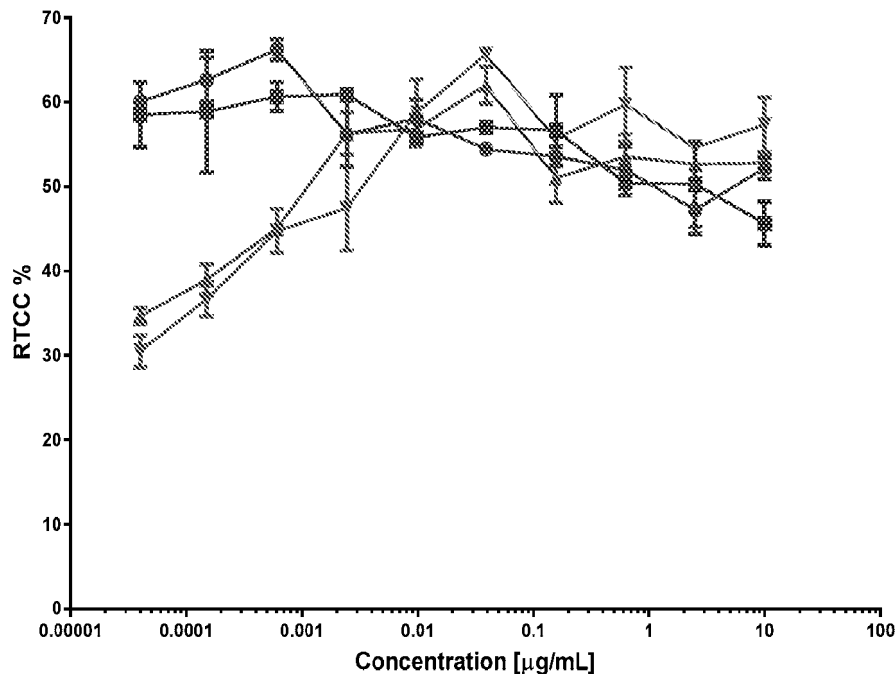


Figure 113

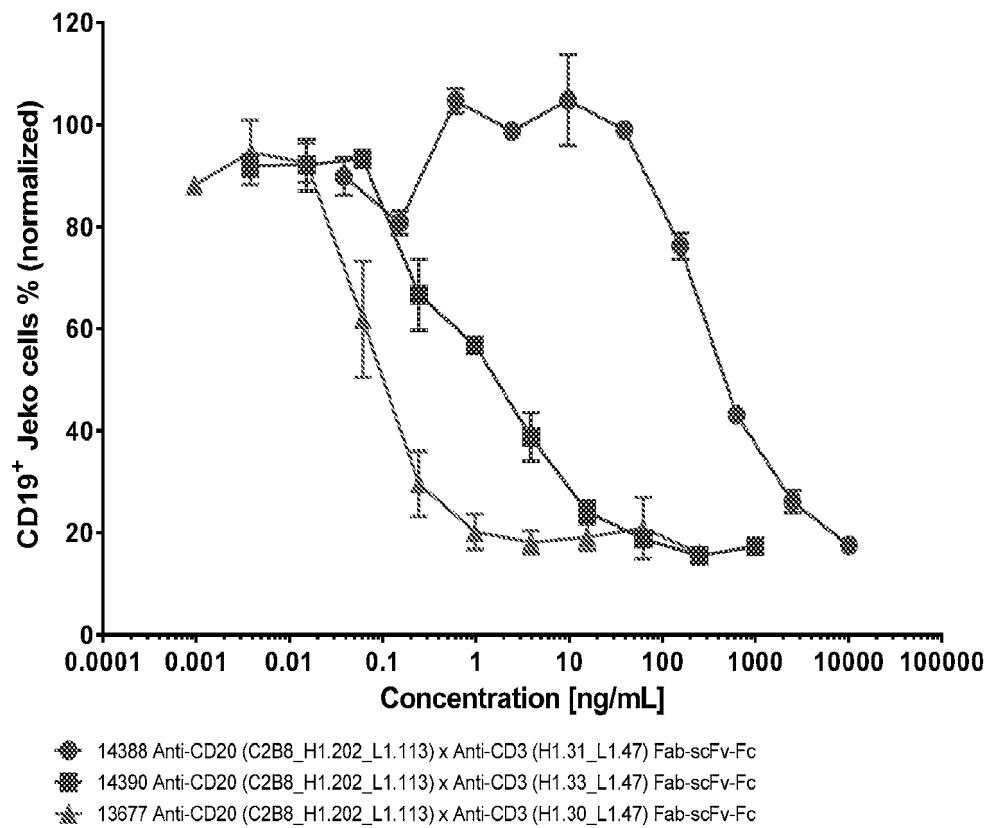


Figure 114

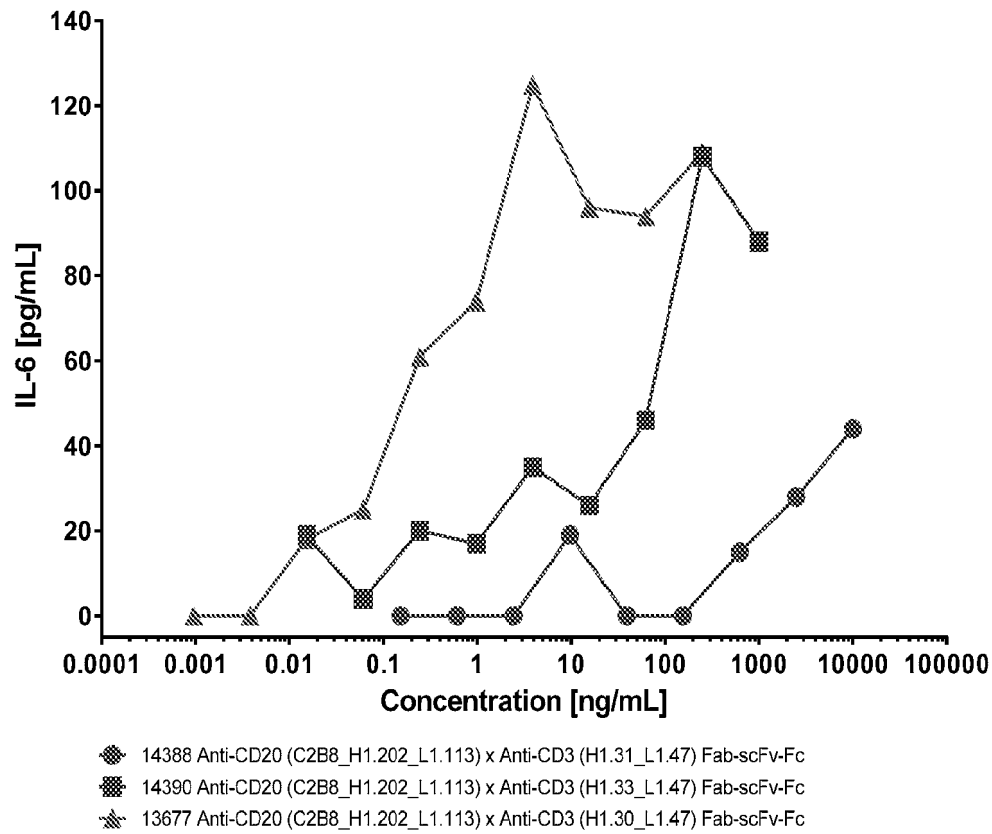


Figure 115A

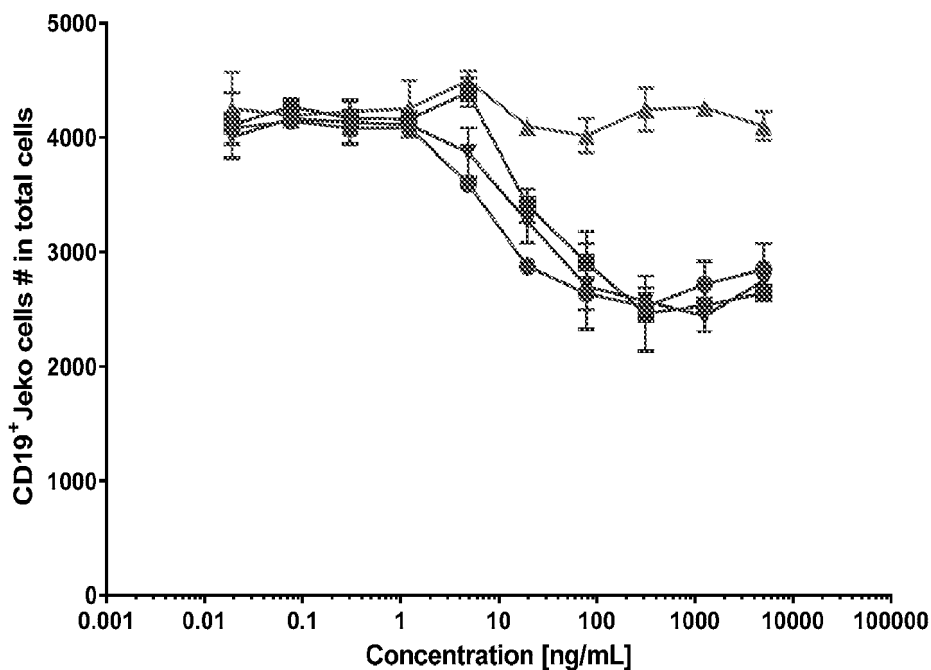
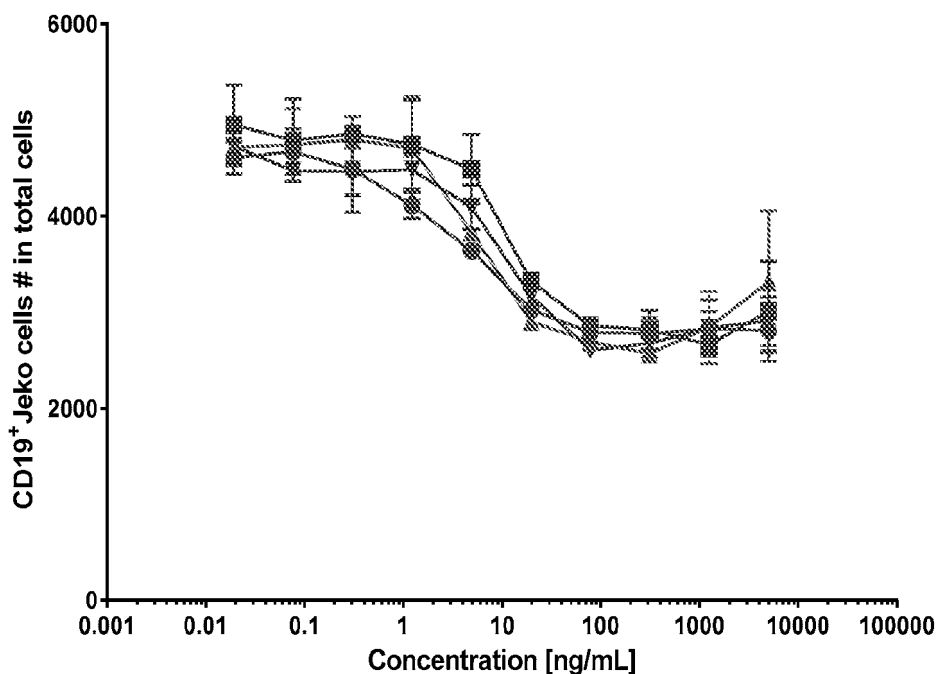


Figure 115B

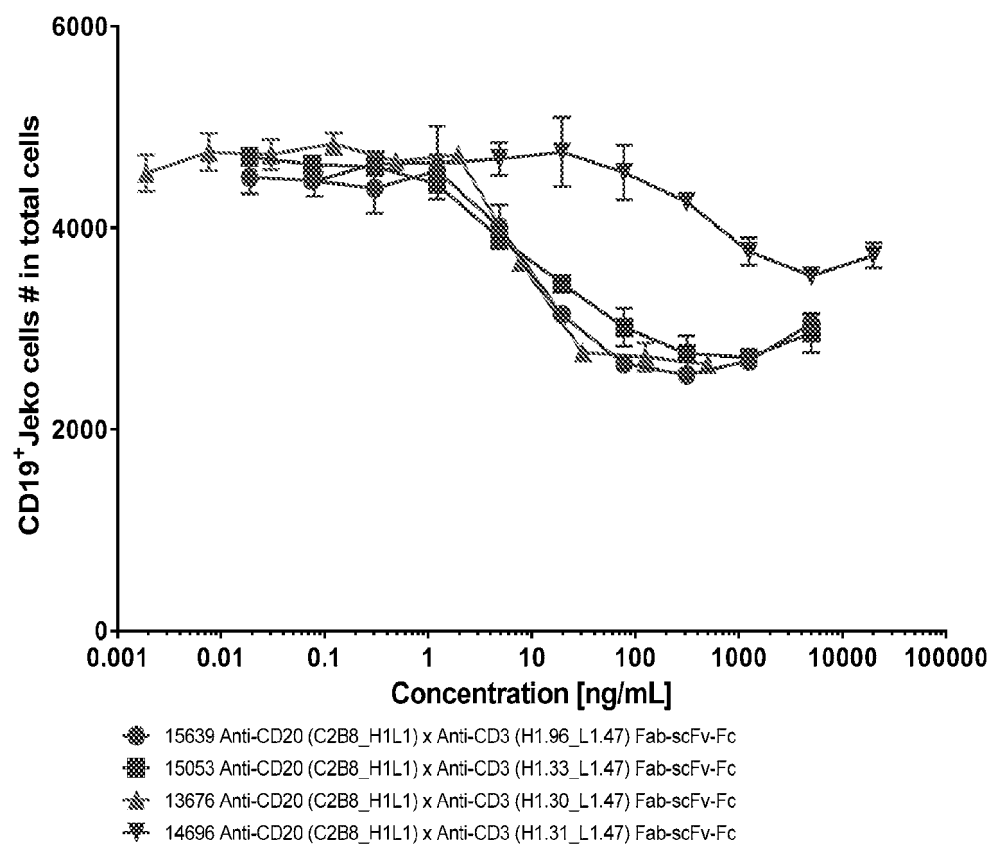


Figure 116A

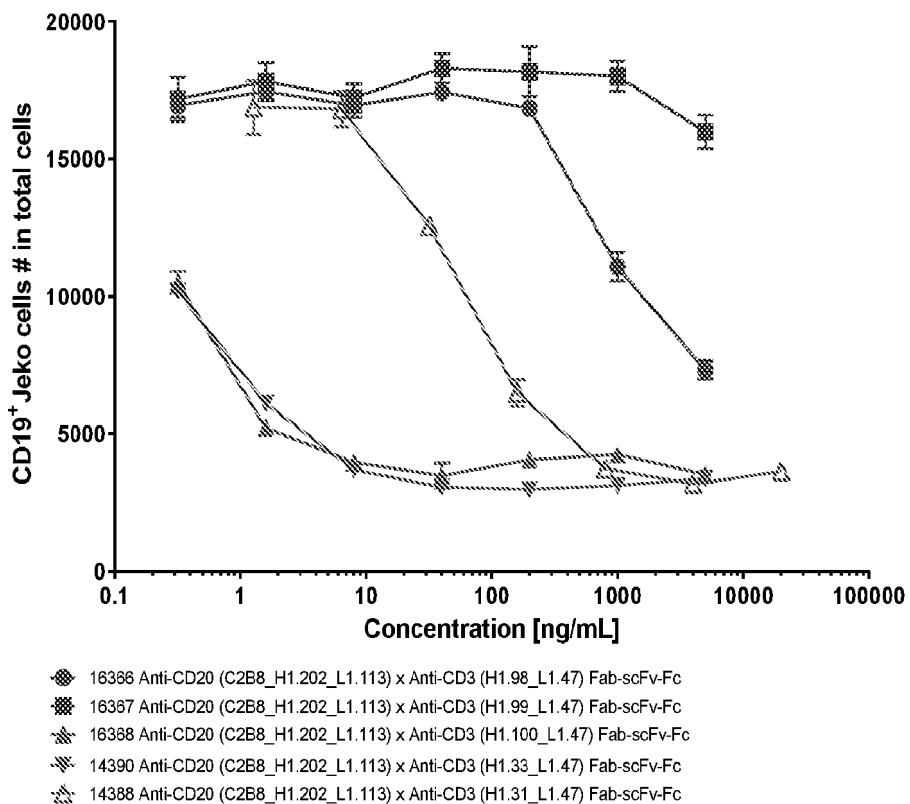
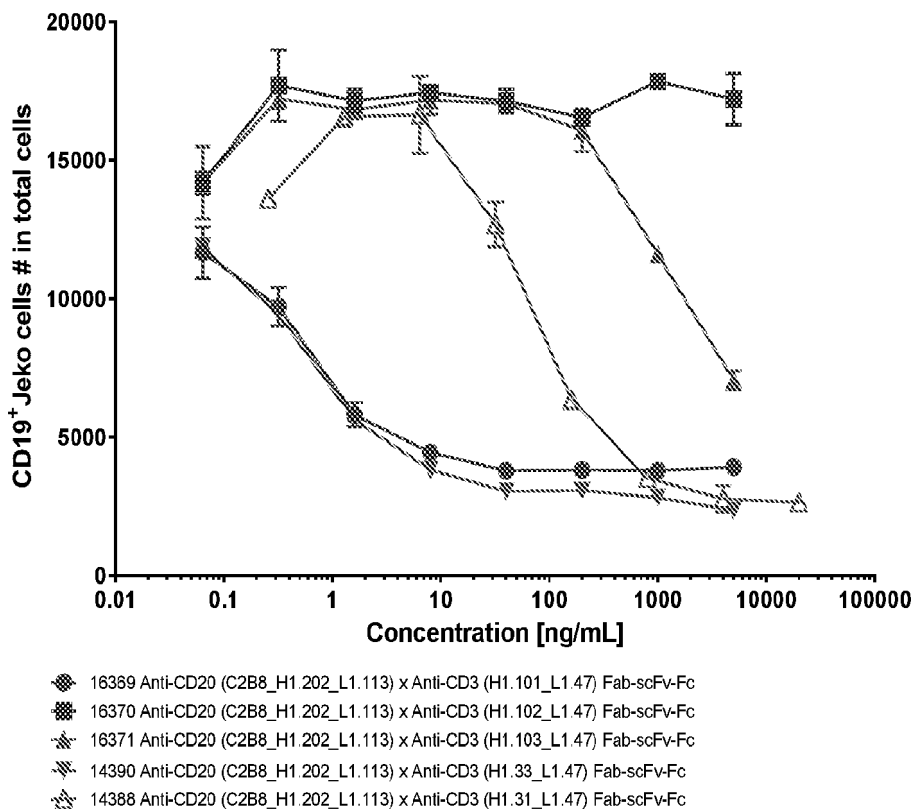
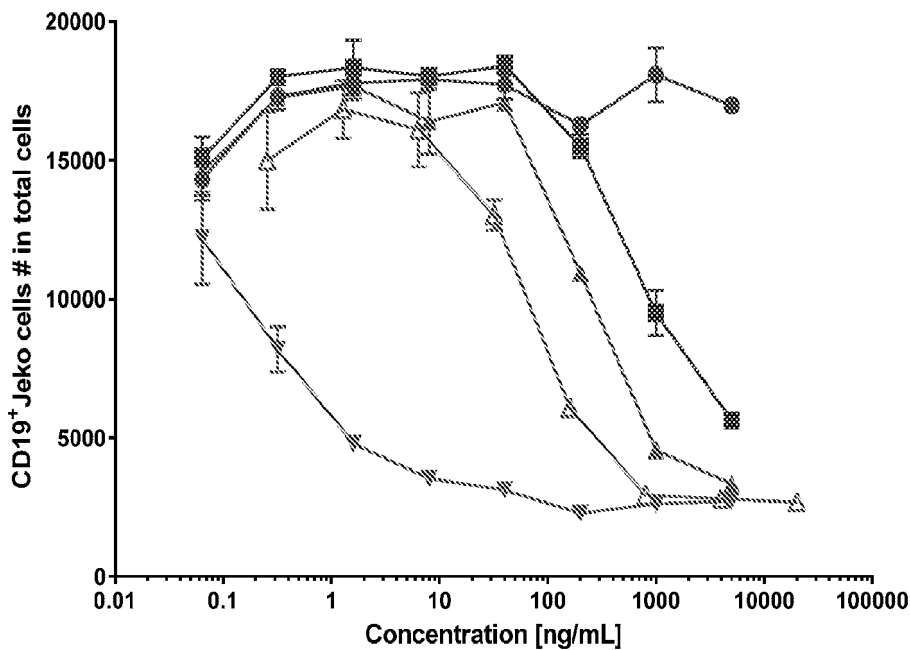
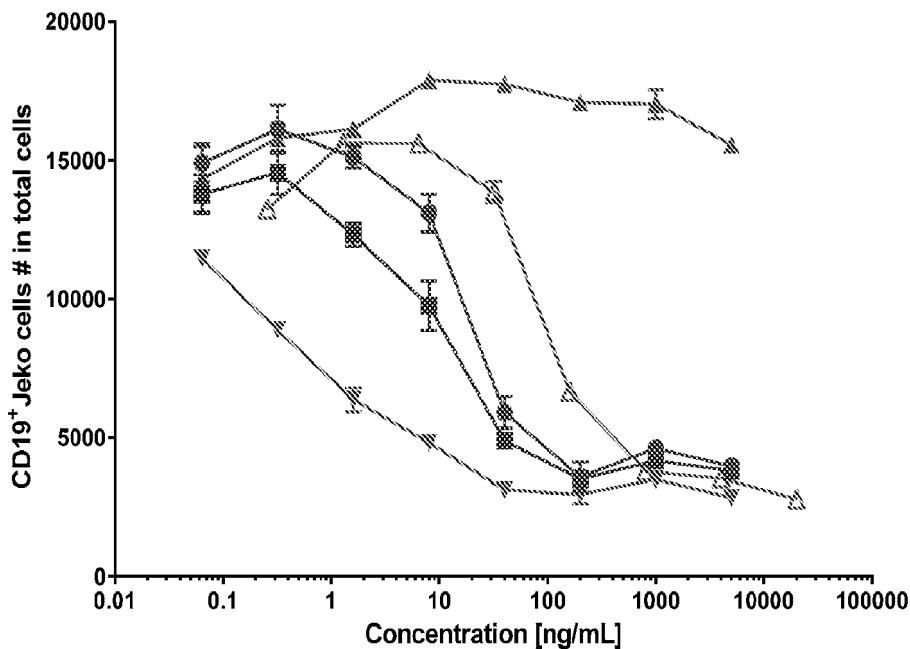


Figure 116B

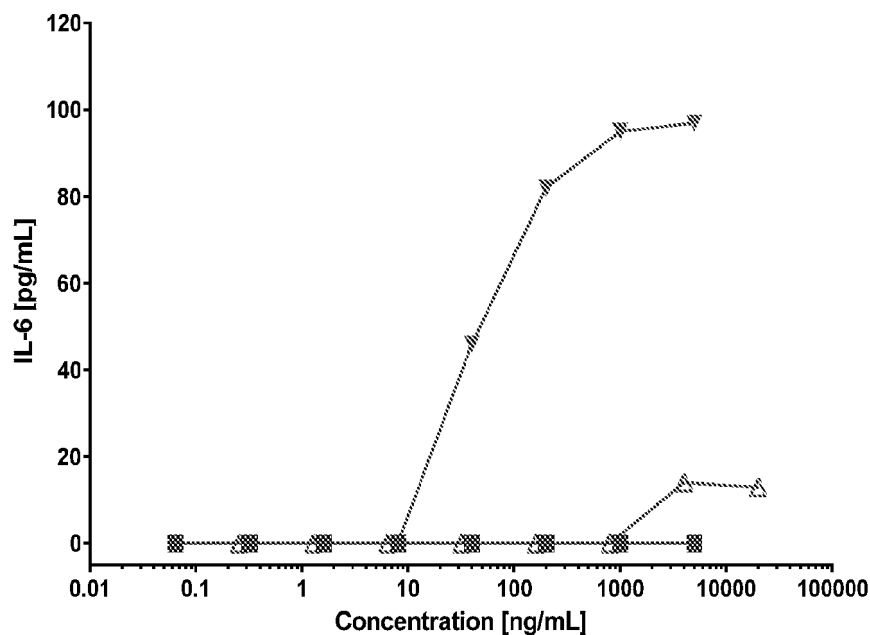


- 16372 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.104_L1.47) Fab-scFv-Fc
- 16373 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.105_L1.47) Fab-scFv-Fc
- 16374 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.106_L1.47) Fab-scFv-Fc
- 14390 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc
- 14388 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

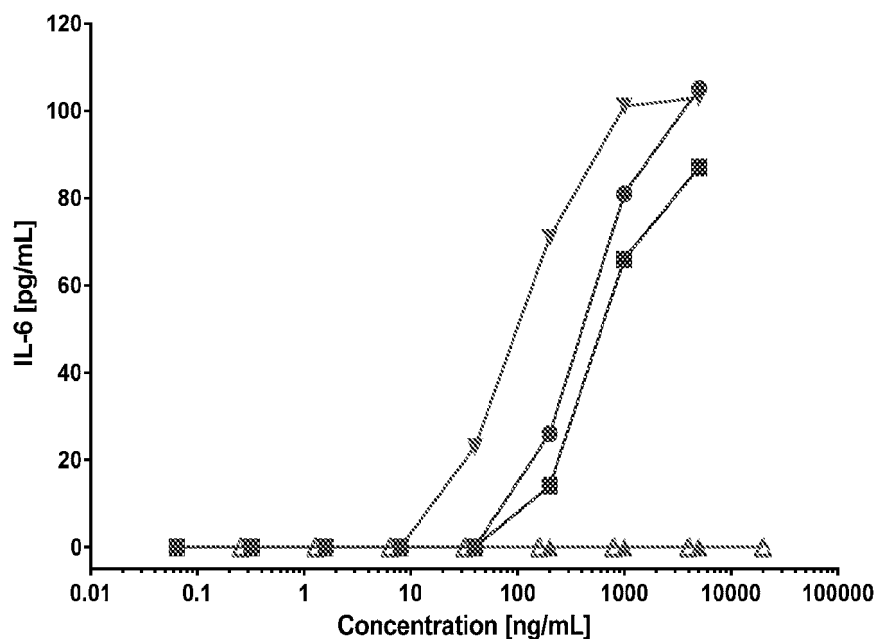


- 16375 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.107_L1.47) Fab-scFv-Fc
- 16376 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.108_L1.47) Fab-scFv-Fc
- 16377 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.109_L1.47) Fab-scFv-Fc
- 14390 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc
- 14388 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

Figure 117



- 16372 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.104_L1.47) Fab-scFv-Fc
- 16373 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.105_L1.47) Fab-scFv-Fc
- 16374 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.106_L1.47) Fab-scFv-Fc
- 14390 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc
- 14388 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc



- 16375 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.107_L1.47) Fab-scFv-Fc
- 16376 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.108_L1.47) Fab-scFv-Fc
- 16377 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.109_L1.47) Fab-scFv-Fc
- 14390 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.33_L1.47) Fab-scFv-Fc
- 14388 Anti-CD20 (C2B8_H1.202_L1.113) x Anti-CD3 (H1.31_L1.47) Fab-scFv-Fc

Figure 118

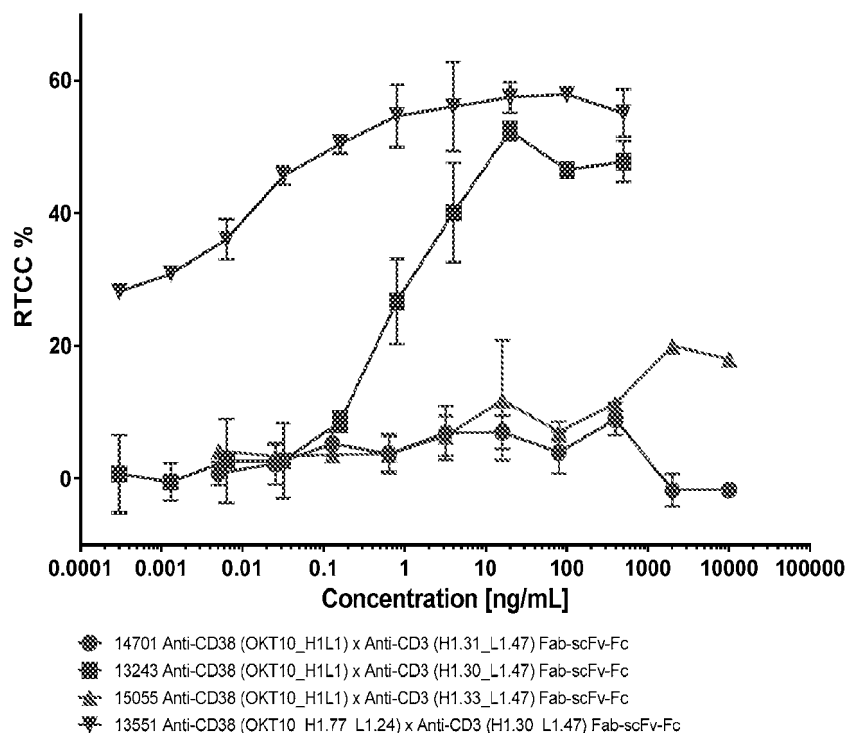
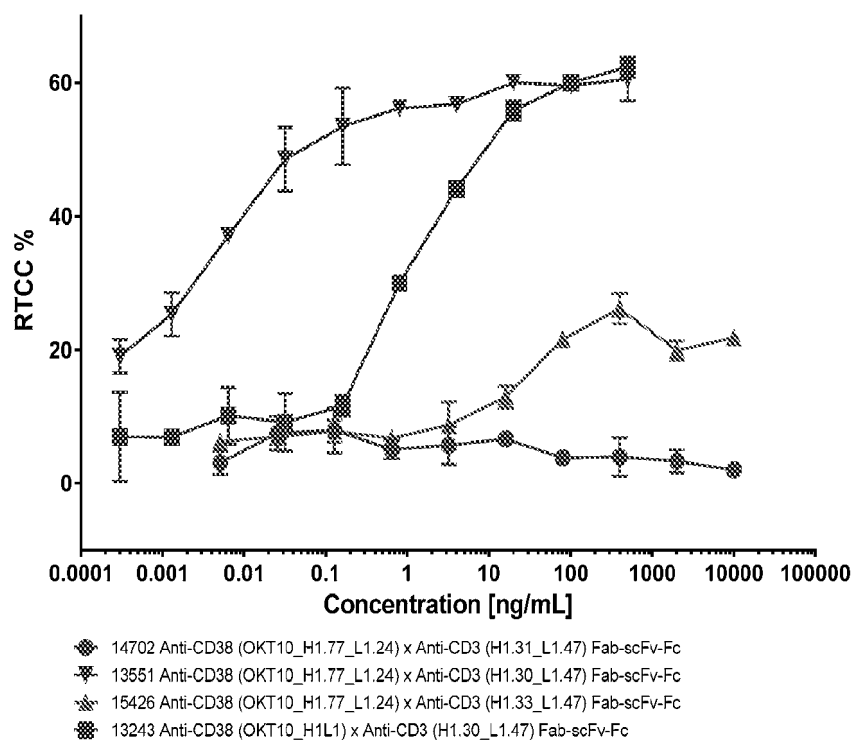


Figure 119

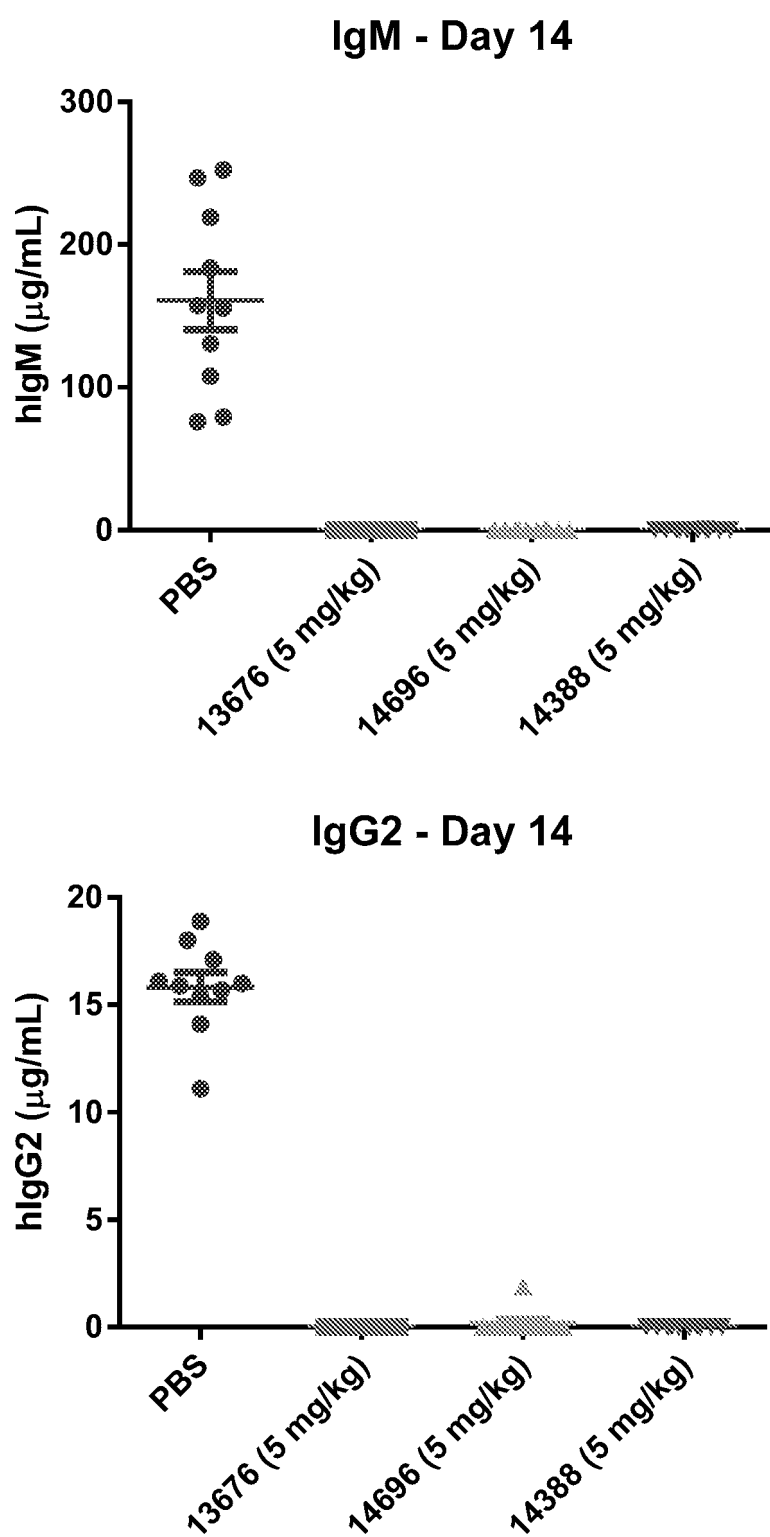


Figure 120

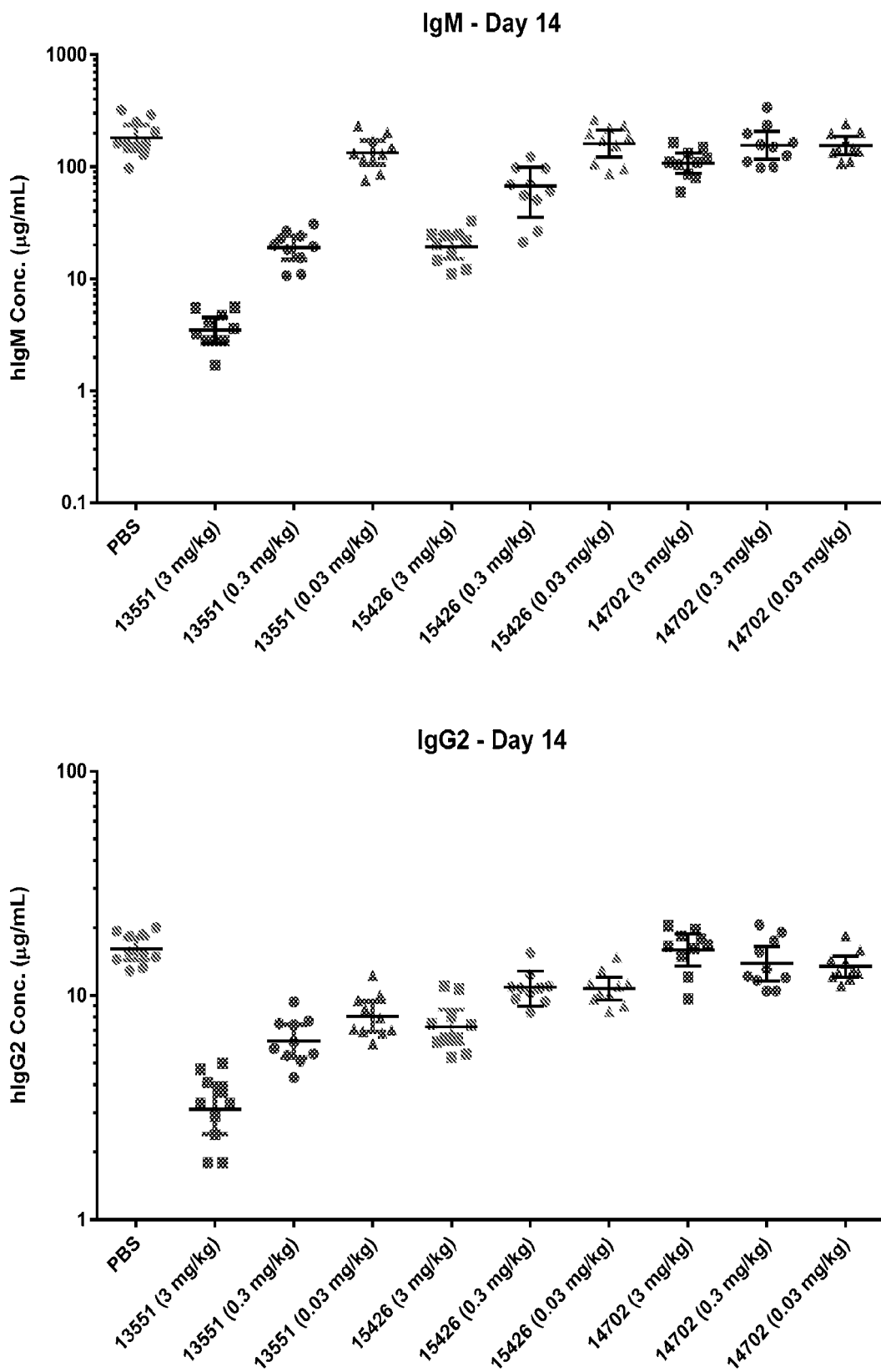


Figure 121

High CD20 C2B8_H1.202_L1.113

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSASTAYMELSSL RSEDTAVYYCARSYYMGGDWYFDVWGAGTLVTVSS	421
vhCDR1	SYNMH	422
vhCDR2	AIYPGNGATSYSQKFQG	423
vhCDR3	SYMGGDWYFDV	424
Variable light (vl) domain	QIVLTQSPSSLSASVGDRTITCRASWSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDFATYY CQQWTHNPPTFGGGTKVEIK	425
vlCDR1	RASWSVSYIH	426
vlCDR2	ATSNLAS	427
vlCDR3	QQWTHNPPT	428
scFv (including charged linker)	QVQLVQSGAEVKKPGASVKVSCKASGYTFTWVRQAPGQRLEWMGAIYPGNGATSYSQKFQGRVTITADTSASTAYMELSSL RSEDTAVYYCARSYYMGGDWYFDVWGAGTLVTVSSGKPGSGKPGSGKPGSQIVLTQSPSSLSASVGDRTITCRASW SVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLQPEDFATYYCQQWTHNPPTFGGGTKVEIK	429

Figure 122

Low CD20 C2B8_H1L1

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSISTAY MELSSLRSEDTAVYYCARSTYYGGDWYFNVWGAGTLTVSS	430
vhCDR1	SYNMH	431
vhCDR2	AIYPGNGDTSYNQKFQG	432
vhCDR3	STYYGGDWYFNV	433
Variable light (vl) domain	QIVLTQSPSSLSASVGDRVTITCRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLPEDFATYYC QQWTSNPPTFGGGTKVEIK	434
vlCDR1	RASSSVSYIH	435
vlCDR2	ATSNLAS	436
vlCDR3	QQWTSNPPT	437
scFv (including charged linker)	QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYNMHWVRQAPGQGLEWMGAIYPGNGDTSYNQKFQGRVTITADKSISTAY MELSSLRSEDTAVYYCARSTYYGGDWYFNVWGAGTLTVSSGKPGSGKPGSGKPGSQIVLTQSPSSLSASVGDRVTIT CRASSSVSYIHWFQQKPGKSPKPLIYATSNLASGVPVRFSGSGSGTDYTLTISSLPEDFATYYCQQWTSNPPTFGGGTKVEIK	438

Figure 123

CD123 7G3_H1.109_L1.57

What	sequence	SEQ ID NO:
Variable heavy (vh) domain	QVQLQQSGAEVKKPGASVKVSCKASGYTFDYYMKWVKQSHGKSLEWMGDIIPSNMGATFYNQKFKGKATLTVDRSTSTAY MELSSLRSEDTAVYYCARSHLLRASWFAFYWGQGTLVTVSS	439
vhCDR1	DYYMK	440
vhCDR2	DIIPSNMGATFYNQKFKG	441
vhCDR3	SHLLRASWFAFY	442
Variable light (vl) domain	DFVMTQSPDSLAVSLGERATINCKSSQSLNTGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTLTISL QAEDVAVYYCQNDYSYPYTFGGGTKLEIK	443
vlCDR1	KSSQSLNTGNQKNYLT	444
vlCDR2	WASTRES	445
vlCDR3	QNDYSYPYT	446
scFv (including charged linker)	QVQLQQSGAEVKKPGASVKVSCKASGYTFDYYMKWVKQSHGKSLEWMGDIIPSNMGATFYNQKFKGKATLTVDRSTSTAY MELSSLRSEDTAVYYCARSHLLRASWFAFYWGQGTLVTVSSGKPGSGKPGSGDFVMTQSPDSLAVSLGERATIN CKSSQSLNTGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTLTISLQAEDVAVYYCQNDYSYPYTFG GGTKLEIK	447

Figure 124

		High CD3	High-Int #1 CD3	High-Int #2 CD3	High-Int #3 CD3	Int. CD3	Low CD3
		Anti-CD3 H1.30_L1.47	Anti-CD3 H1.32_L1.47	Anti-CD3 H1.89_L1.47	Anti-CD3 H1.90_L1.47	Anti-CD3 H1.33_L1.47	Anti-CD3 H1.31_L1.47
High CD38	OKT10 H1.77_L1.24	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F
Int CD38	OKT10 H1L1.24	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F
Low CD38	OKT10 H1L1	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F
High CD20	C2B8_H1.20 2_L1.113	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F
Low CD20	C2B8_H1L1	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F
CD123	7G3_H1.109 _L1.57	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F	A, B, C, D, E. F

Figure 125

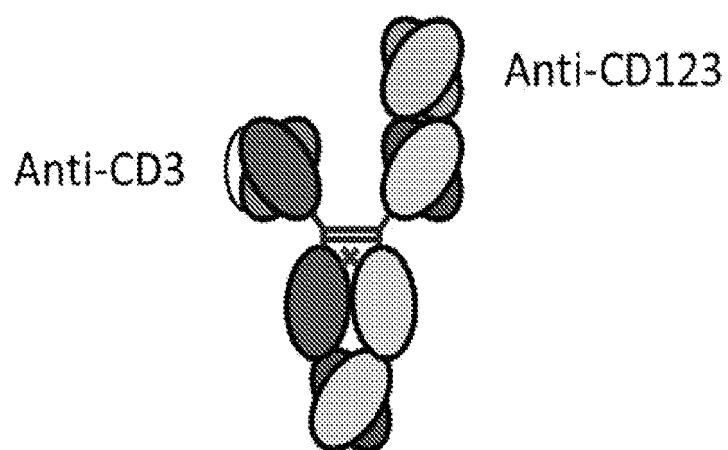
Anti-CD123 x Anti-CD3 Fab-scFv-Fc

Figure 126

<u>XENP Number</u>	<u>Variant</u>	<u>Substitution (VH)</u>	<u>Substitution (VL)</u>	<u>Fold improvement in off-rate vs. H1L1</u>	<u>T_m (°C)</u>
13760	7G3_H0L0_Fab_His	H0	L0	7.21	68.0
13761	7G3_H1L1_Fab_His	H1	L1	-----	70.0
13253	7G3_H1.1_L1_Fab_His	D31S	L1	0.88	69.5
13254	7G3_H1.2_L1_Fab_His	D31N	L1	0.95	69.5
13255	7G3_H1.3_L1_Fab_His	D31E	L1	0.83	70.0
13256	7G3_H1.4_L1_Fab_His	D31H	L1	0.81	69.5
13257	7G3_H1.5_L1_Fab_His	D31R	L1	0.47	70.0
13278	7G3_H1.26_L1_Fab_His	S56N	L1	1.12	69.5
13279	7G3_H1.27_L1_Fab_His	S56G	L1	2.05	69.5
13281	7G3_H1.29_L1_Fab_His	S56E	L1	1.32	70.0
13283	7G3_H1.31_L1_Fab_His	S56H	L1	1.43	69.5
13288	7G3_H1.36_L1_Fab_His	N59G	L1	1.69	68.5
13291	7G3_H1.39_L1_Fab_His	N59R	L1	0.45	68.0
13292	7G3_H1.40_L1_Fab_His	N59Y	L1	0.64	68.5
13294	7G3_H1.42_L1_Fab_His	T101A	L1	3.30	71.5
13318	7G3_H1.62_L1_Fab_His	L109Y	L1	1.38	69.0
13331	7G3_H1.75_L1_Fab_His	A111Q	L1	1.00	70.0
13735	7G3_H1.86_L1_Fab_His	Q69K R71K V72A M74L	L1	4.61	68.5
13736	7G3_H1.87_L1_Fab_His	K12V	L1	0.94	68.5
13737	7G3_H1.88_L1_Fab_His	P43H	L1	0.96	70.0
13738	7G3_H1.89_L1_Fab_His	M50I	L1	1.29	70.0
13740	7G3_H1.91_L1_Fab_His	E86H	L1	1.04	70.0
13741	7G3_H1.92_L1_Fab_His	R91T	L1	1.89	70.0
13742	7G3_H1.93_L1_Fab_His	Q1E V5Q A9P V11L K12V	L1	1.04	72.5
13743	7G3_H1.94_L1_Fab_His	R40K A42S P43H Q45K	L1	0.65	72.0
13744	7G3_H1.95_L1_Fab_His	V5Q	L1	1.24	69.0
13344	7G3_H1_L1.3_Fab_His	H1	N31S	2.77	68.5
13347	7G3_H1_L1.6_Fab_His	H1	N31Q	2.15	67.0
13854	7G3_H1_L1.56_Fab_His	H1	S32A	0.68	70.0
13855	7G3_H1_L1.57_Fab_His	H1	S32T	0.84	70.5
13349	7G3_H1_L1.8_Fab_His	H1	S32Q	N.D.	70.5
13350	7G3_H1_L1.9_Fab_His	H1	S32V	0.98	70.5
13351	7G3_H1_L1.10_Fab_His	H1	S32E	0.98	70.8
13352	7G3_H1_L1.11_Fab_His	H1	S32K	1.00	70.5
13353	7G3_H1_L1.12_Fab_His	H1	S32Y	0.86	69.5

Figure 127

XENP Number	Variant	Substitution (VH)	Substitution (VL)	k_{on} ($M^{-1}s^{-1}$)	k_{off} (s^{-1})	K_A (1/M)	K_D (M)	T_m ($^{\circ}C$)
13760	7G3_H0L0_Fab_His	H0	L0	6.74E+05	1.08E-04	6.25E+09	1.60E-10	68.0
13761	7G3_H1L1_Fab_His	H1	L1	3.95E+05	8.20E-04	4.81E+08	2.08E-09	70.0
13961	7G3_H1.107_L1_Fab_His	H1 - V5Q R40K A42S P43H Q45K Q69K R71K V72A M74L T101A	L1	6.00E+05	8.84E-05	6.79E+09	1.47E-10	71.0
13963	7G3_H1.109_L1_Fab_His	H1 - V5Q R40K A42S P43H Q45K Q69K R71K V72A M74L T101A	L1	7.45E+05	5.53E-05	1.35E+10	7.42E-11	73.0
13965	7G3_H1.107_L1.57_Fab_His	H1 - V5Q Q69K R71K V72A M74L T101A	S32T	6.12E+05	3.82E-05	1.60E+10	6.24E-11	71.5
13967	7G3_H1.109_L1.57_Fab_His	H1 - V5Q R40K A42S P43H Q45K Q69K R71K V72A M74L T101A	S32T	6.55E+05	6.25E-05	1.05E+10	9.54E-11	73.5

Figure 128

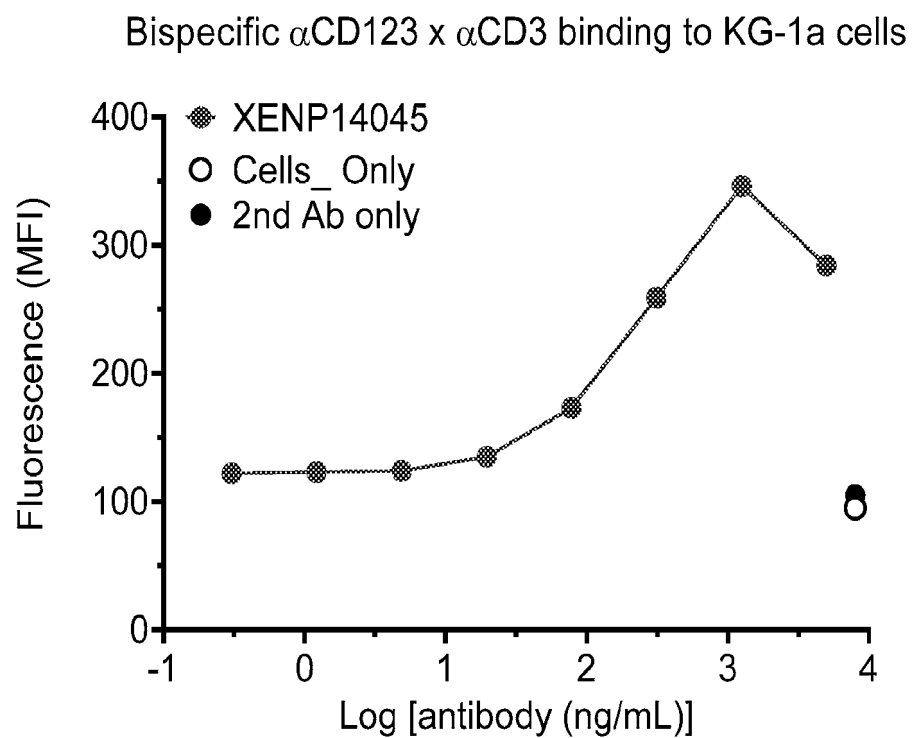


Figure 129

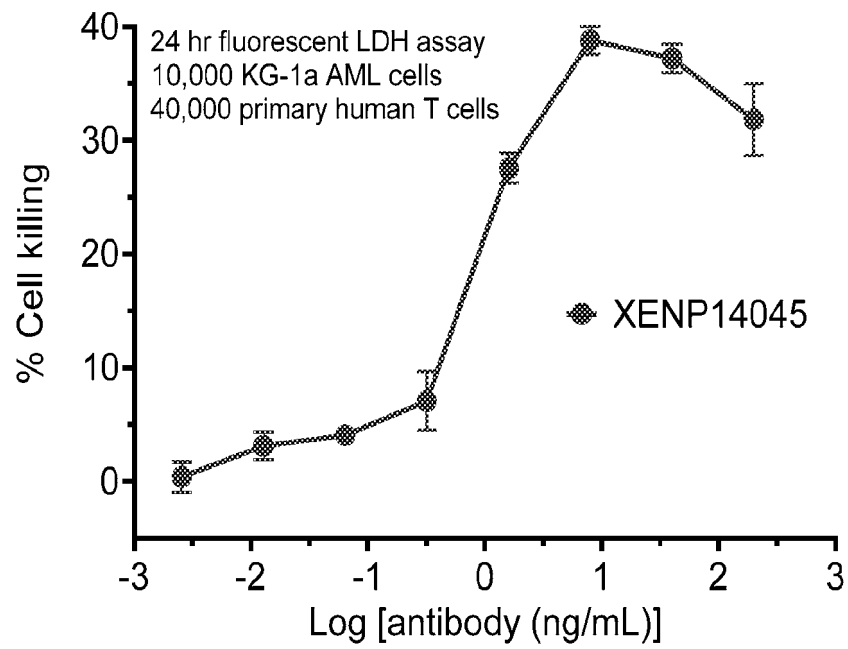


Figure 130

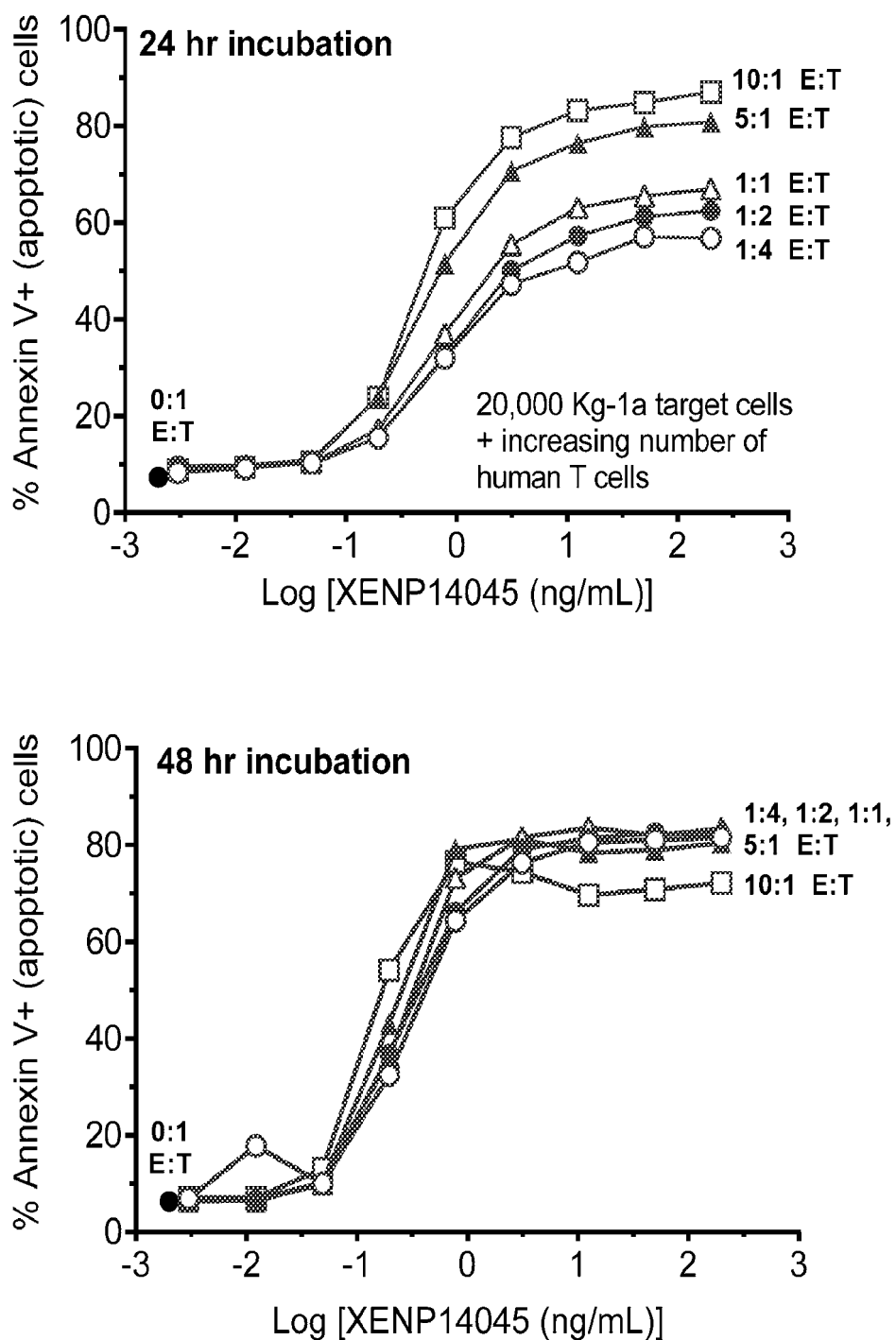


Figure 131

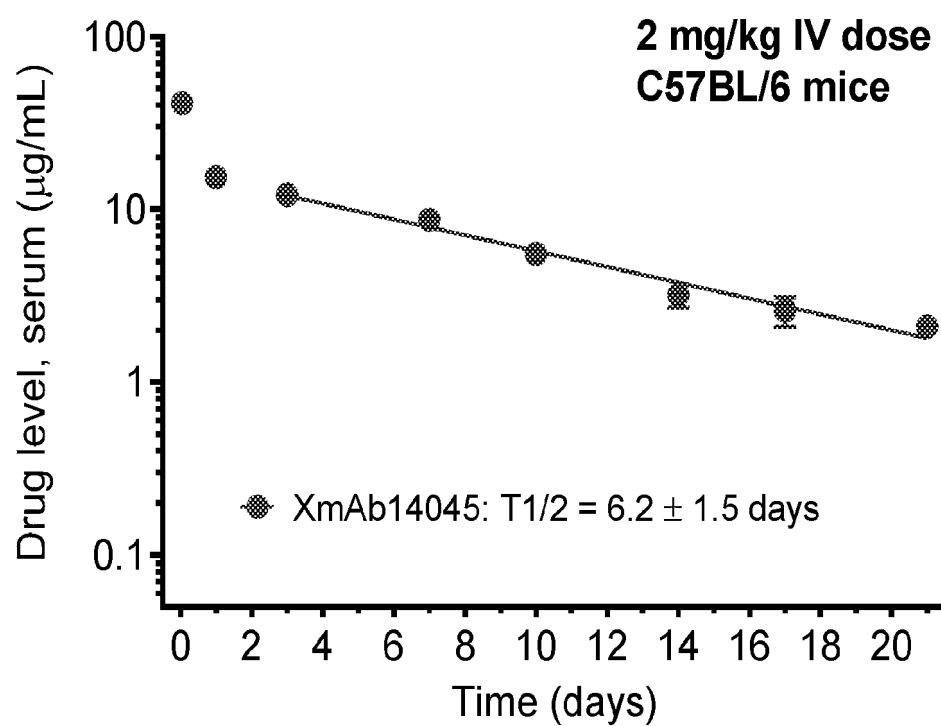


Figure 132

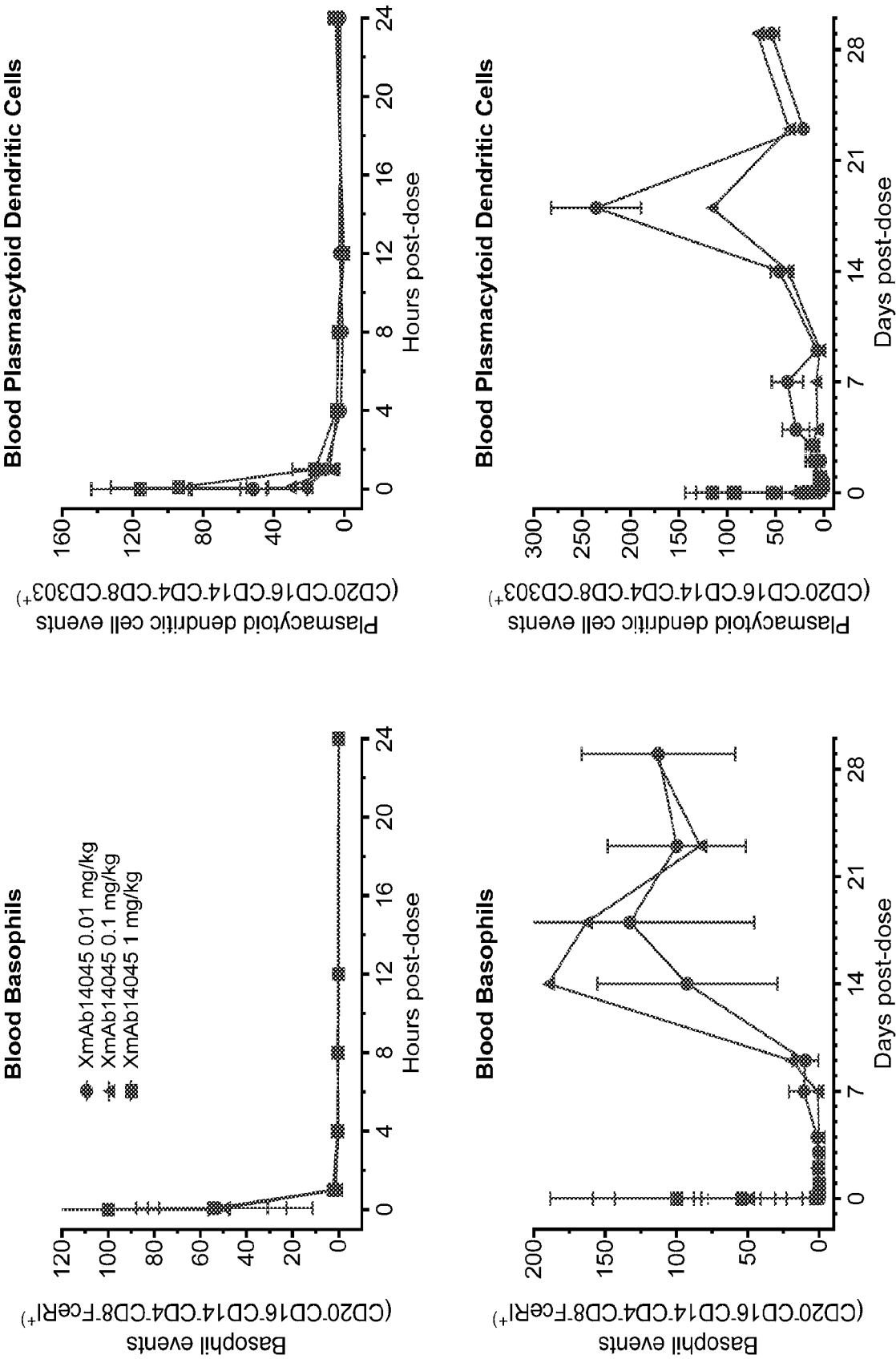


Figure 133

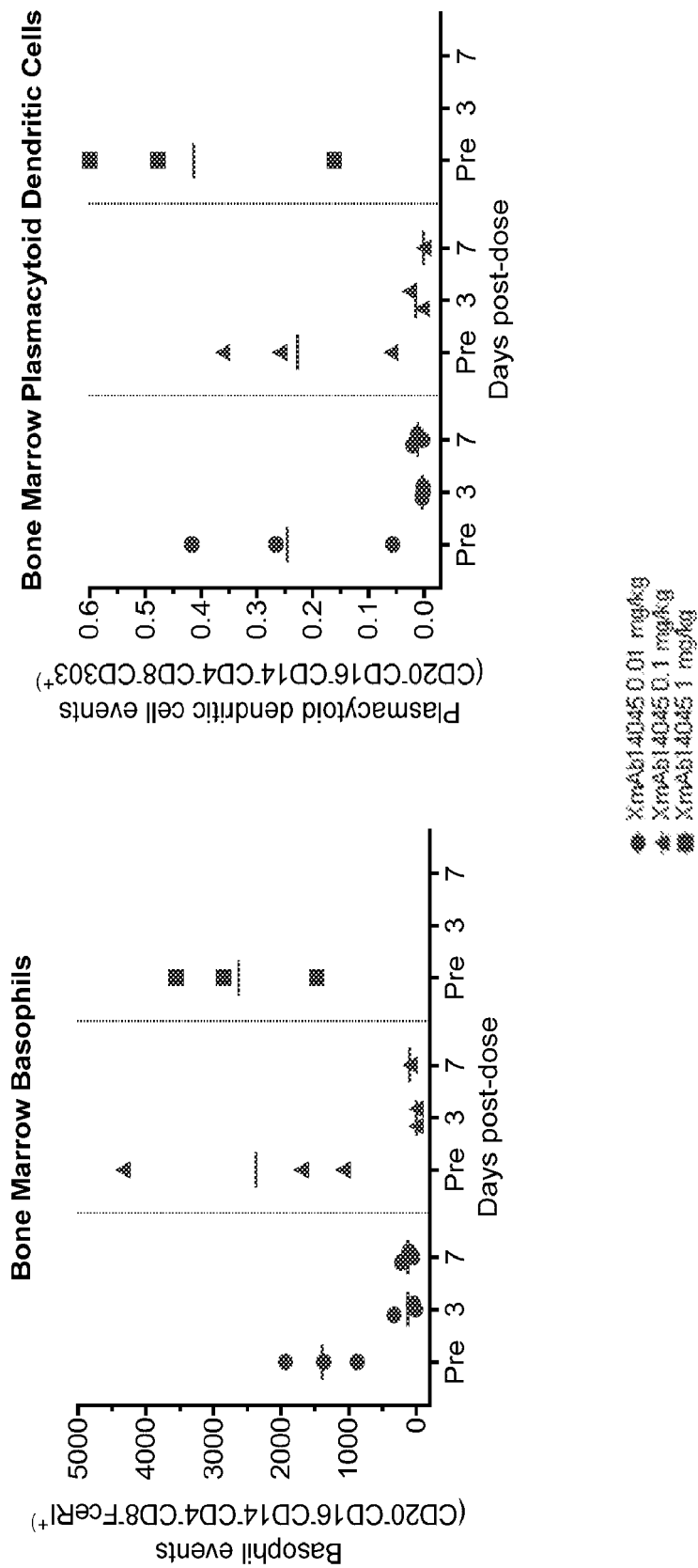


Figure 134

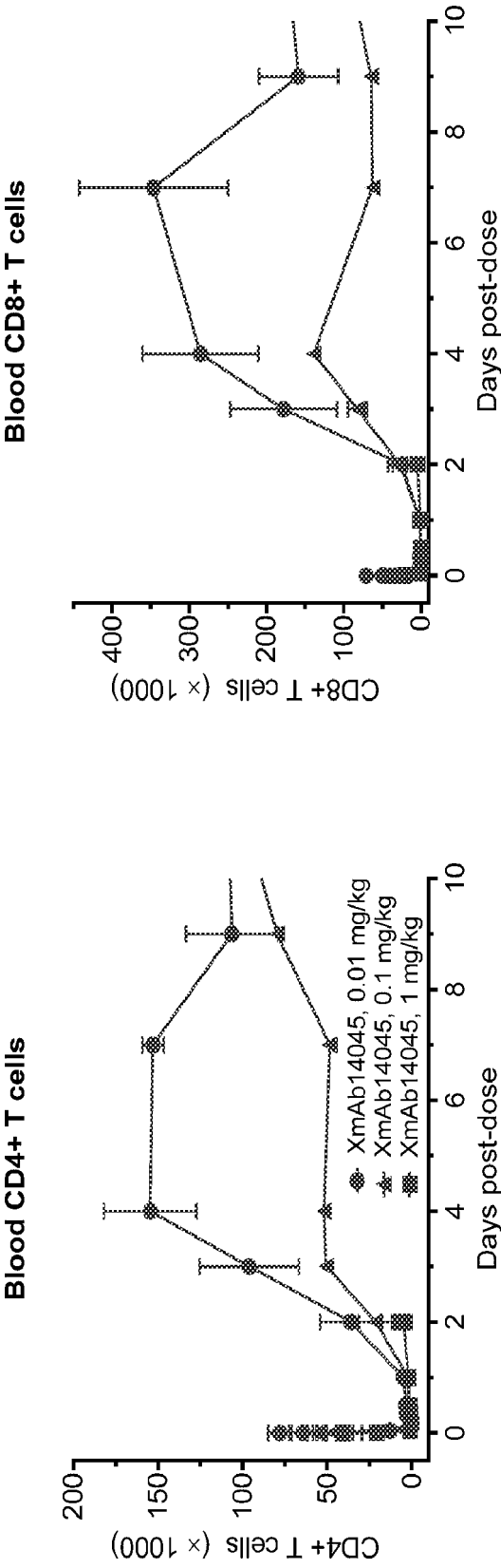


Figure 135

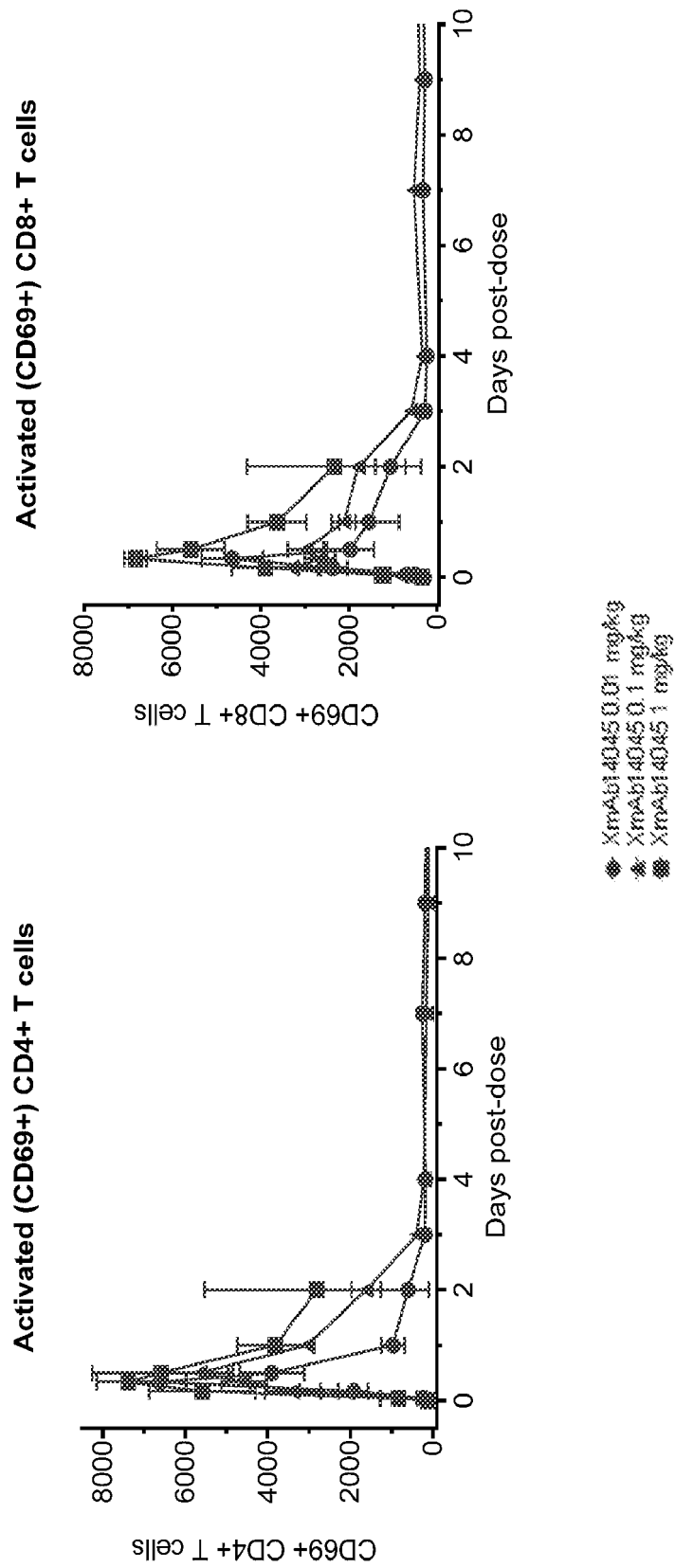


Figure 136AXENP13760 7G3 HOLO Fab His Heavy chain

EVQLQQSGPELVKPGASVKMSCKASGYTFTDYYMKWVKQSHGKSLEWIGDIIPSNGATFYNQKFQKATLTVDSSST
 AYMHLNSLTSEDSAVYYCTRSHLLRASWFAYWGQGLTVSAASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
 TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:453)

XENP13760 7G3 HOLO Fab His Light chain

DFVMTQSPSSLTVTAGEKVTMSCKSSQSLNLSGNQKNYLTWYLQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTL
 LTISVQAEDLAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDN
 ALQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:454)

XENP13761 7G3 H1L1 Fab His Heavy chain

QVQLVQSGAEVKKPGASVKVSKASGYTFTDYYMKWVRQAPGQSLEWMGDIIPSNGATFYNQKFQGRVTMTVDRS
 TSTAYMELSSLRSEDAVYYCTRSHLLRASWFAYWGQGLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPE
 PVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:455)

XENP13761 7G3 H1L1 Fab His Light chain

DFVMTQSPDSLAVSLGERATINCKSSQSLNLSGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTL
 TISSLQAEDVAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNA
 LQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:456)

XENP13961 7G3 H1.107 L1 Fab His Heavy chain

QVQLQQSGAEVKKPGASVKVSKASGYTFTDYYMKWVRQAPGQSLEWMGDIIPSNGATFYNQKFQKATLTVDIRST
 STAYMELSSLRSEDAVYYCARSHLLRASWFAYWGQGLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEP
 VTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:457)

XENP13961 7G3 H1.107 L1 Fab His Light chain

DFVMTQSPDSLAVSLGERATINCKSSQSLNLSGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTL
 TISSLQAEDVAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNA
 LQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:458)

XENP13963 7G3 H1.109 L1 Fab His Heavy chain

QVQLQQSGAEVKKPGASVKVSKASGYTFTDYYMKWVKQSHGKSLEWIGDIIPSNGATFYNQKFQKATLTVDIRSTS
 TAYMELSSLRSEDAVYYCARSHLLRASWFAYWGQGLTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
 TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:459)

XENP13963 7G3 H1.109 L1 Fab His Light chain

DFVMTQSPDSLAVSLGERATINCKSSQSLNLSGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFTL
 TISSLQAEDVAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNA
 LQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:460)

Figure 136BXENP13965 7G3 H1.107 L1.57 Fab His Heavy chain

QVQLQQSGAEVKKPGASVKVSCASGYTFTDYMKWVRQAPGQSLEWMGDIIPSN~~GATFYNQKFKGKATLTVDRST~~
 STAYMELSSLRSEDAVYYCARSHLLRASWFAYWGQGLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEP
 VTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:461)

XENP13965 7G3 H1.107 L1.57 Fab His Light chain

DFVMTQSPDSLAVSLGERATINCKSSQSLNLTGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFT
 LTISSLQAEDVAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDN
 ALQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:462)

XENP13967 7G3 H1.109 L1.57 Fab His Heavy chain

QVQLQQSGAEVKKPGASVKVSCASGYTFTDYMKWVKQSHGKSLEWMGDIIPSN~~GATFYNQKFKGKATLTVDRSTS~~
 TAYMELSSLRSEDAVYYCARSHLLRASWFAYWGQGLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
 TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCGSHHHHHH
 (SEQ ID NO:463)

XENP13967 7G3 H1.109 L1.57 Fab His Light chain

DFVMTQSPDSLAVSLGERATINCKSSQSLNLTGNQKNYLTWYQQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFT
 LTISSLQAEDVAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDN
 ALQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:464)

XENP13928 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD123 Fab-Fc (7G3 H0))

EVQLQQSGPELVKPGASVKMSCKASGYTFTDYMKWVKQSHGKSLEWIGDIIPSN~~GATFYNQKFKGKATLTVDRSSST~~
 AYMHLNSLTSEDAVYYCTRSHLLRASWFAYWGQGLTVTVSAASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
 TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPV
 AGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDW
 LNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDQGPNENYK
 TTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFCFSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO:465)

XENP13928 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3 scFv-Fc (α CD3 H1.30 L1.47))

EVQLVESGGGLVQPGGSLRLSCAASGFTFTSYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
 NTLYLQMNSLR~~AEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS~~
 LTVSPGGTVTLTGSSTGAVTTSNYANWVQQKPGKSPRGLIGGTNKRAPGVPARFSGLLGGKAALTISGAQPEDEAD
 YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
 KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTL
 PPSREQMTKNQV~~KLTVKGFYPSDIAVEWESNGQPNENYKTTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVM~~
 HEALHNHYTQKSLSLSPGK (SEQ ID NO:466)

XENP13928 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD123 LC (7G3 L0))

DFVMTQSPSSLTVTAGEKVTMSCKSSQSLNLTGNQKNYLTWY~~LQKPGQPPKLLIYWASTRESGVPDRFTGSGSGTDFT~~
 LTISVQAEDLAVYYCQNDYSYPYTFGGGTKEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDN
 ALQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC (SEQ ID NO:467)

Figure 136C

XENP14045 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Heavy Chain 1 (Anti-CD123 Fab-Fc (7G3 H1.109))

QVQLQQSGAEVKKPGASVKVSCASGYTFDYYMKWVKQSHGKSLEWMGDIIPSN~~G~~ATFYNQKF~~G~~KATLTVD~~R~~STS
TAYMELSSLRSEDTAVYYCARSHLLRASWFAYWGQGLTVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPV
TVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPS~~S~~SLGTQTYICNVNHKPSDTKVDKKEPKSCDKTHTCPPCPAPPV
AGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTVLHQDW
LNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVSGFYPSDIAVEWESDGGQPENNYK
TTPPVLDSDGSFFLYSKLTVDKSRWEQGDVFC~~S~~SVMHEALHNHYTQKSLSLSPGK (SEQ ID NO:468)

XENP14045 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Heavy Chain 2 (Anti-CD3 scFv-Fc (α CD3 H1.30 L1.47))

EVQLVESGGGLVQPGGSLRLSCAASGFTFSTYAMNWVRQAPGKGLEWVGRIRSKYNNYATYYADSVKGRFTISRDDSK
NTLYLQMNSLRAEDTAVYYCVRHGNFGDSYVSWFAYWGQGLTVTVSSGKPGSGKPGSGKPGSGKPGSQAVVTQEPS
LTVSPGGTVTLTCSSTGAVTTSNYANWVQKPGKSPRGLIGGTNKRAPGVPARFSGSLLGGKAALTISGAQPEDEAD
YYCALWYSNHWVFGGGTKLTVLEPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEV
KFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYCKVSNKALPAPIEKTISKAKGQPREPQVYTL
PPSREQMTKNQVKLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFC~~S~~SVM
HEALHNHYTQKSLSLSPGK (SEQ ID NO:469)

XENP14045 Anti-CD123 x Anti-CD3 Fab-scFv-Fc Light Chain (Anti-CD123 LC (7G3 L1.57))

DFVMTQSPDSLAVSLGERATINCKSSQ~~S~~LLNTGNQKNYLTWYQQKPGQP~~P~~KLLIYWASTRESGV~~P~~DRFTGSGSGTDFT
LTIS~~S~~LQAEDVAVYYCQNDYSYPYTFGGG~~T~~KLEIKRTVAAPSVFIFPPSDEQLKSGTASV~~V~~CLLNNFY~~P~~REAKVQWKVDN
ALQSGNSQESVTEQDSKDYSLSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC (SEQ ID NO:470)

Figure 137

Pool	DNA (%)			Heterodimer (%)
	Light chain	HC1 (Fab-Fc)	HC2 (scFv-Fc)	
A	50.0	25.0	25.0	23.3
B	44.4	22.2	33.3	84.9
C	40.0	20.0	40.0	72.2
D	36.4	18.2	45.5	66.6
E	37.5	25.0	37.5	54.1
F	42.9	28.6	28.6	83.8

Condition	Heterodimer (%)
F2-01	96.9
F2-02	93.7
F2-04	92.8
F2-05	86.0
F2-07	100.0
F2-11	95.4
F2-13	94.8
F2-14	85.8
F2-15	85.8
F2-16	100.0
F2-21	82.0
F2-27	47.6

Figure 138

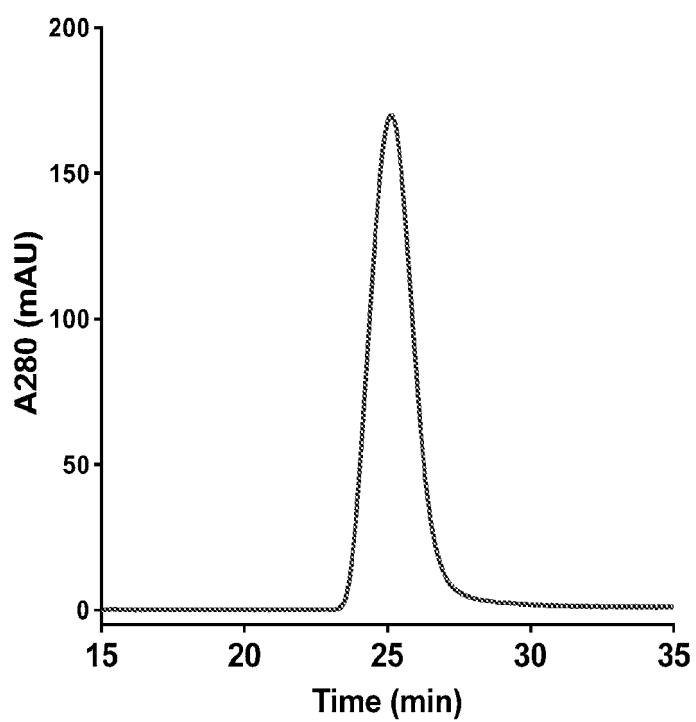
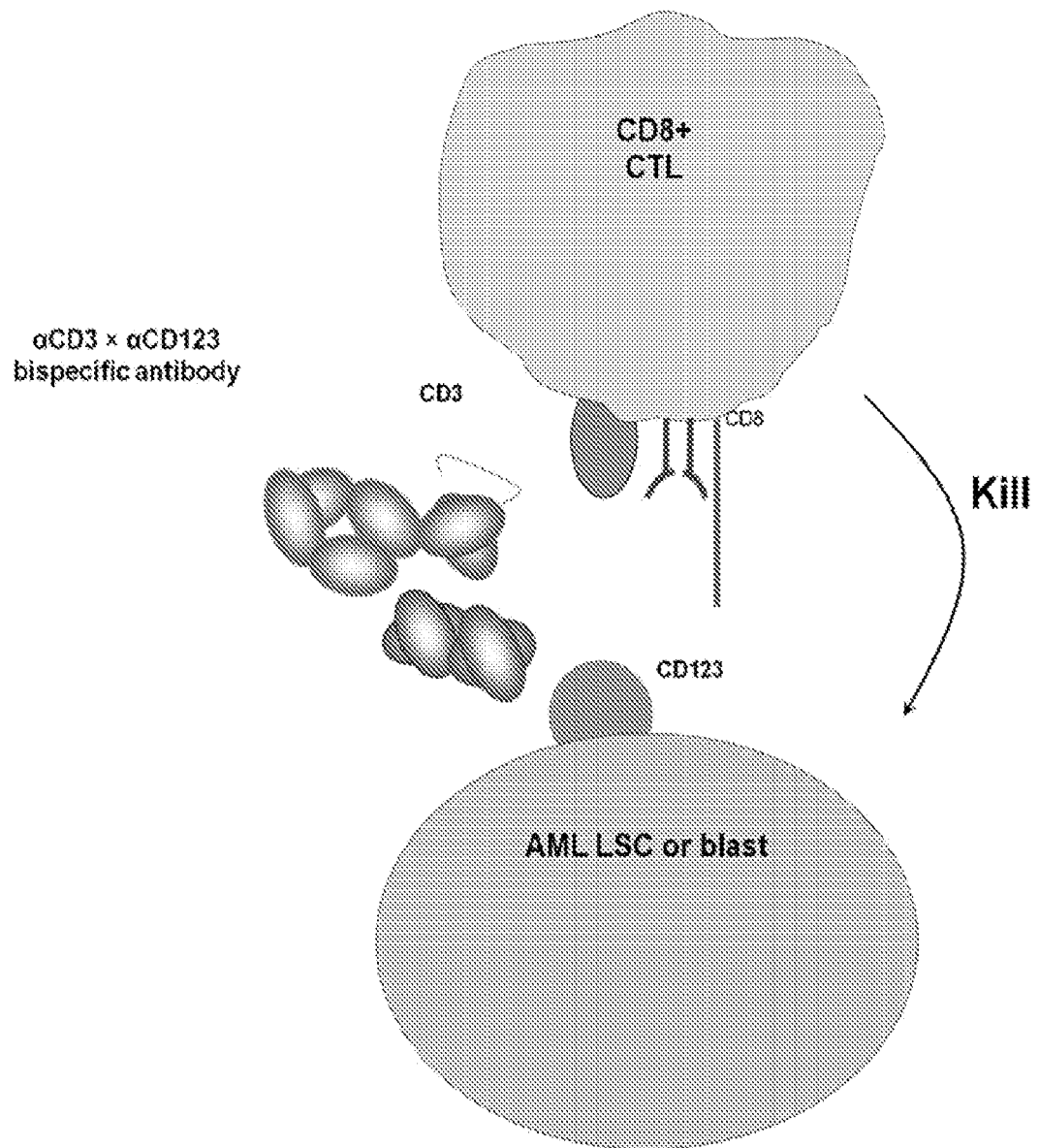


Figure 139

T cell killing of CD123+ cells



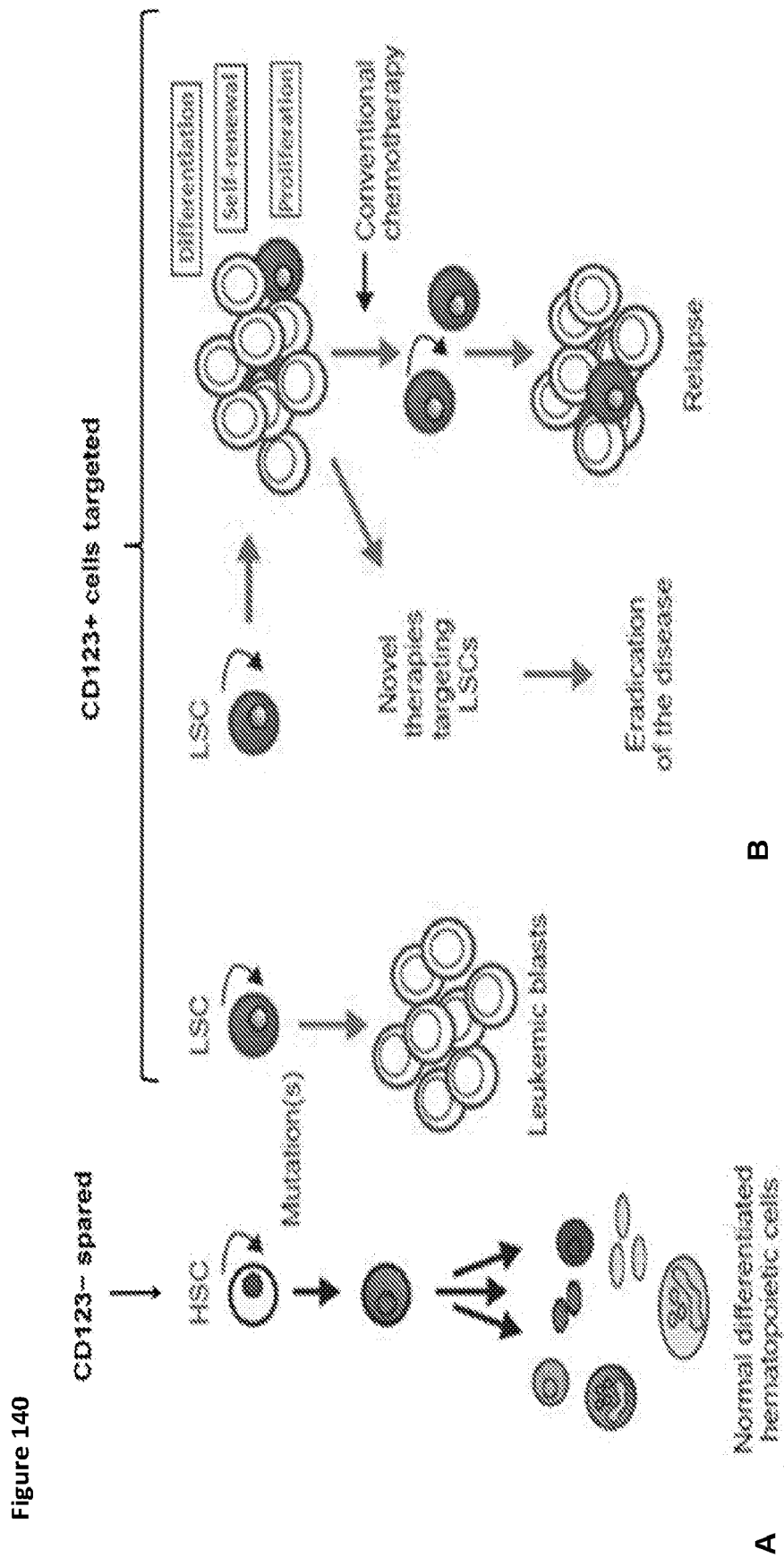


Figure 141

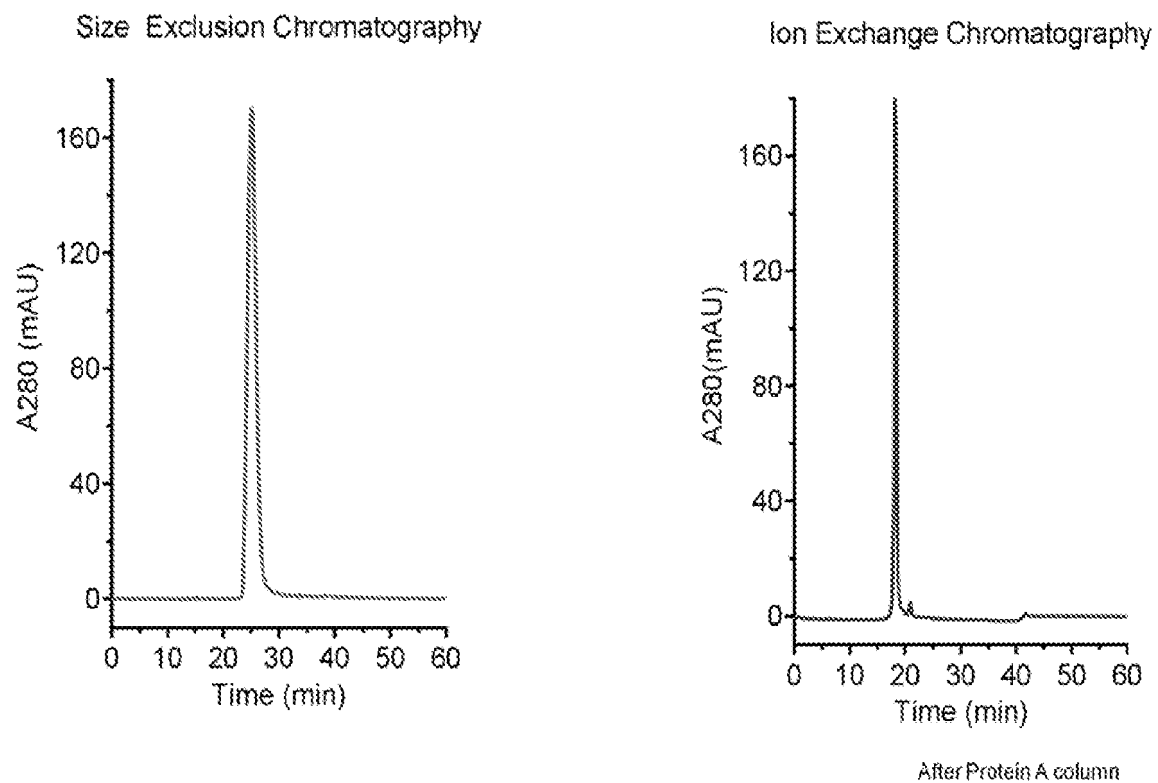
**Efficient bispecific
production**

Figure 142

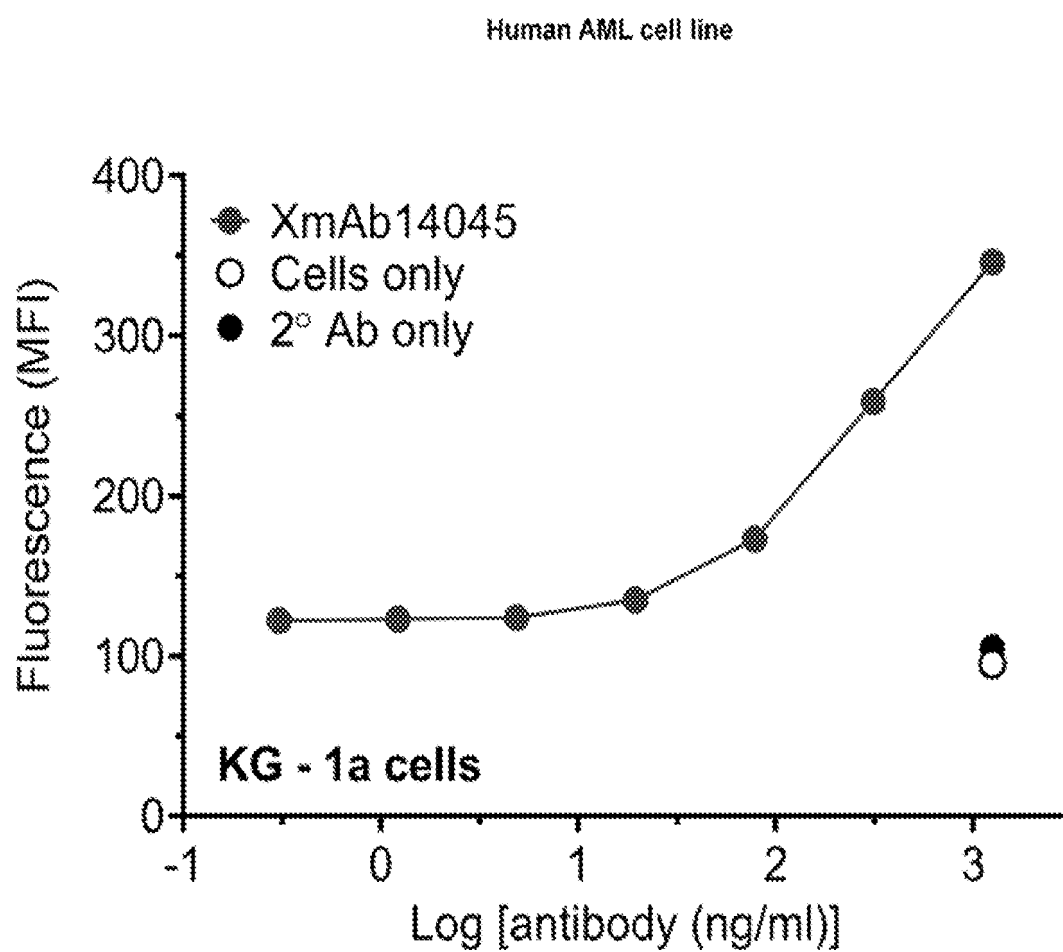


Figure 143

CD123 crossreactive with primate

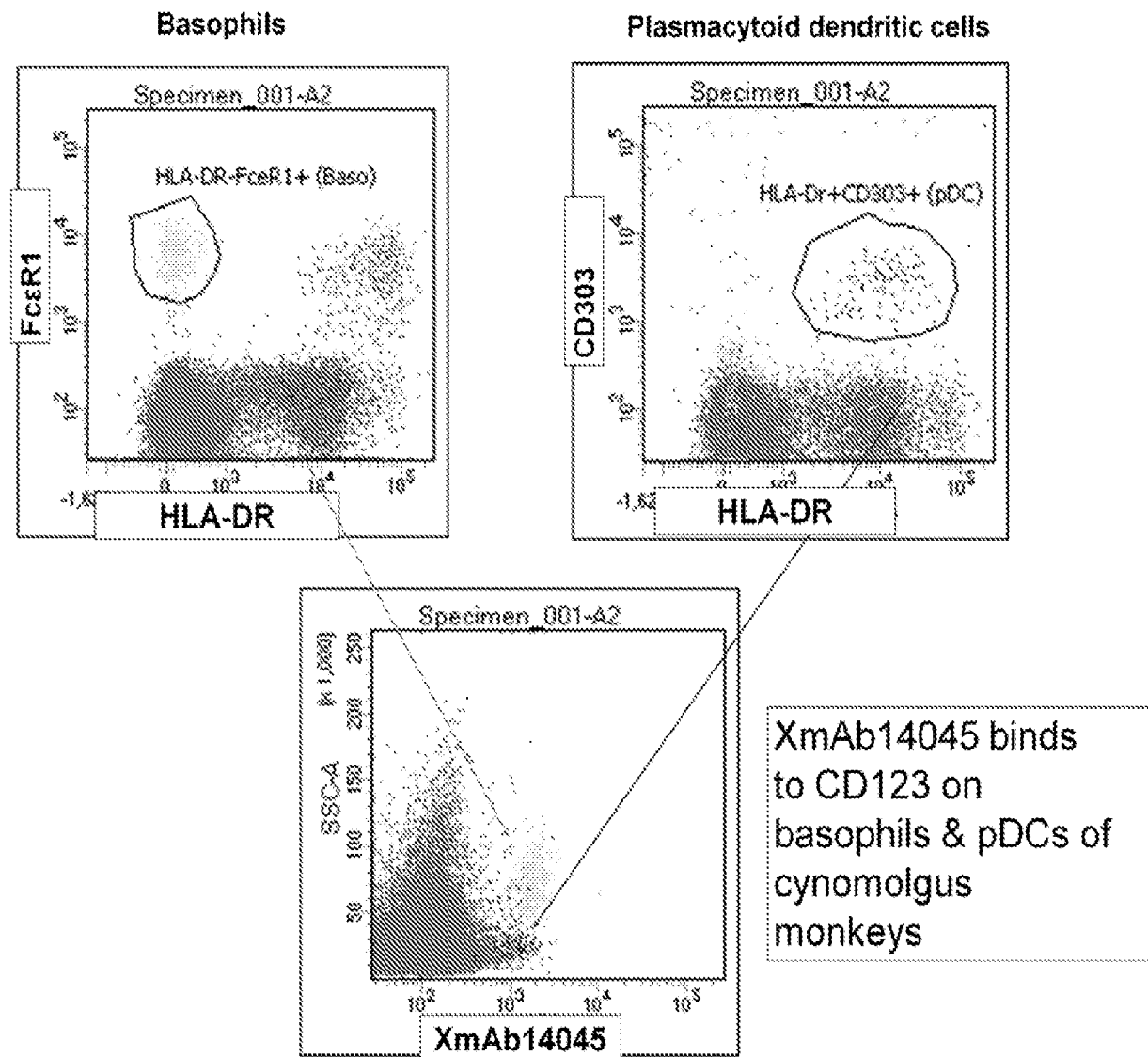


Figure 144

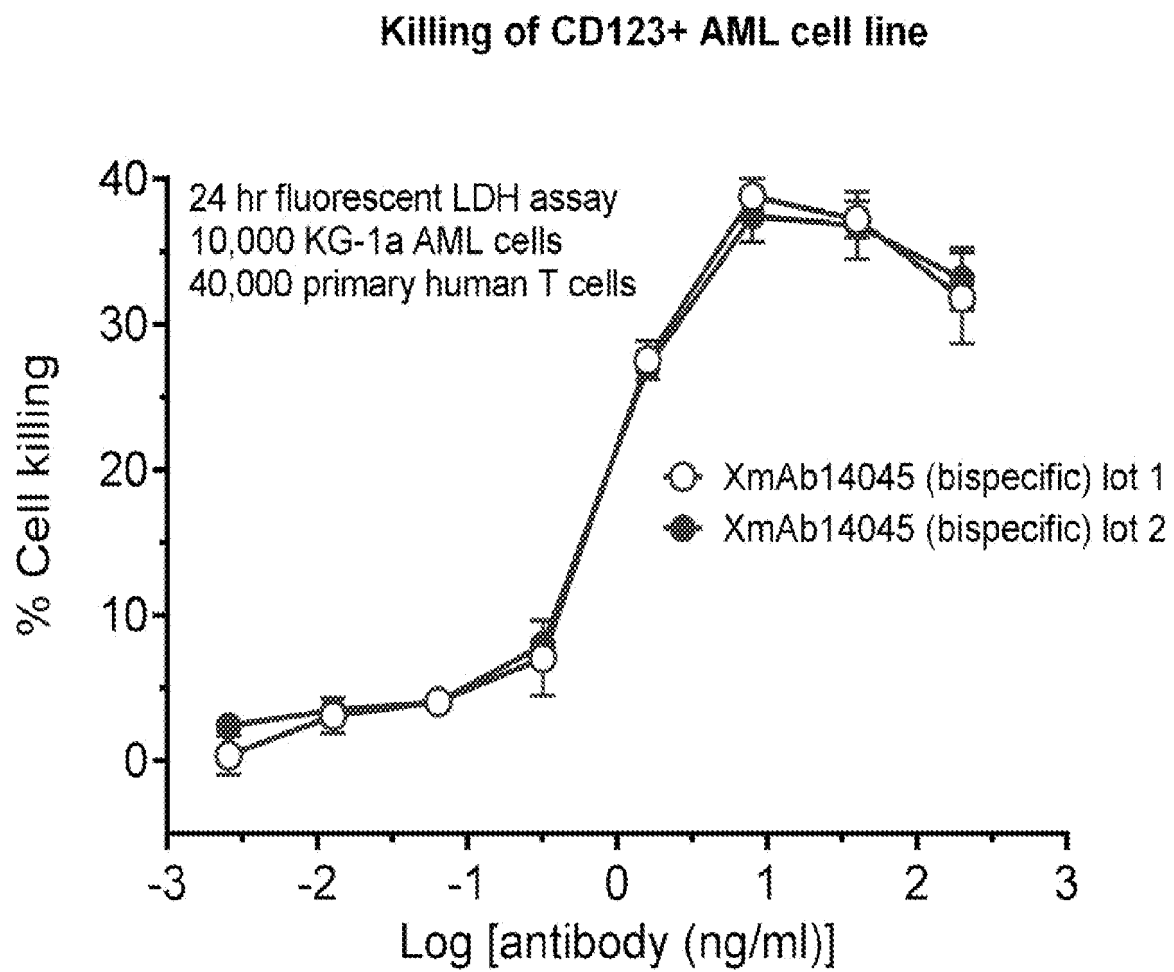


Figure 145

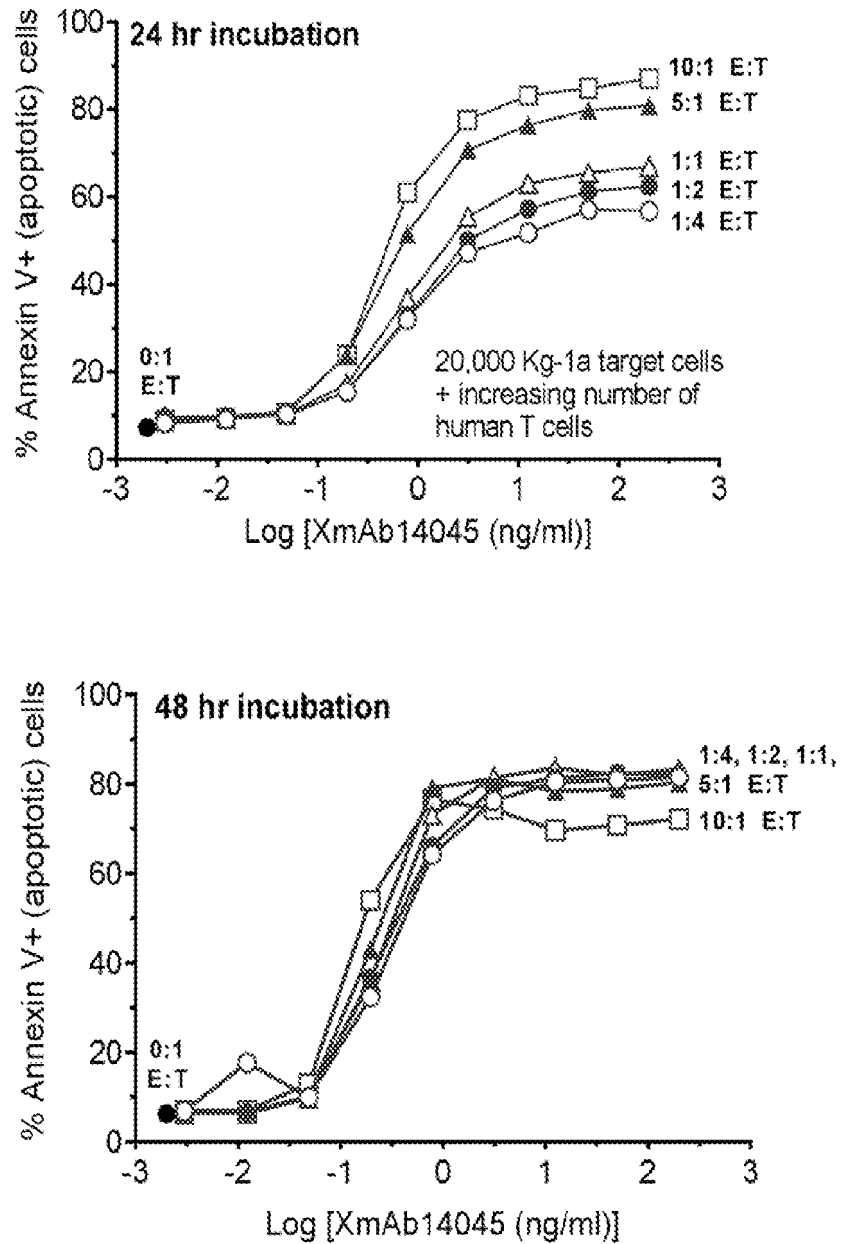
T cells are serial killers

Figure 146

Fc-containing bispecifics have long half-lives in mice

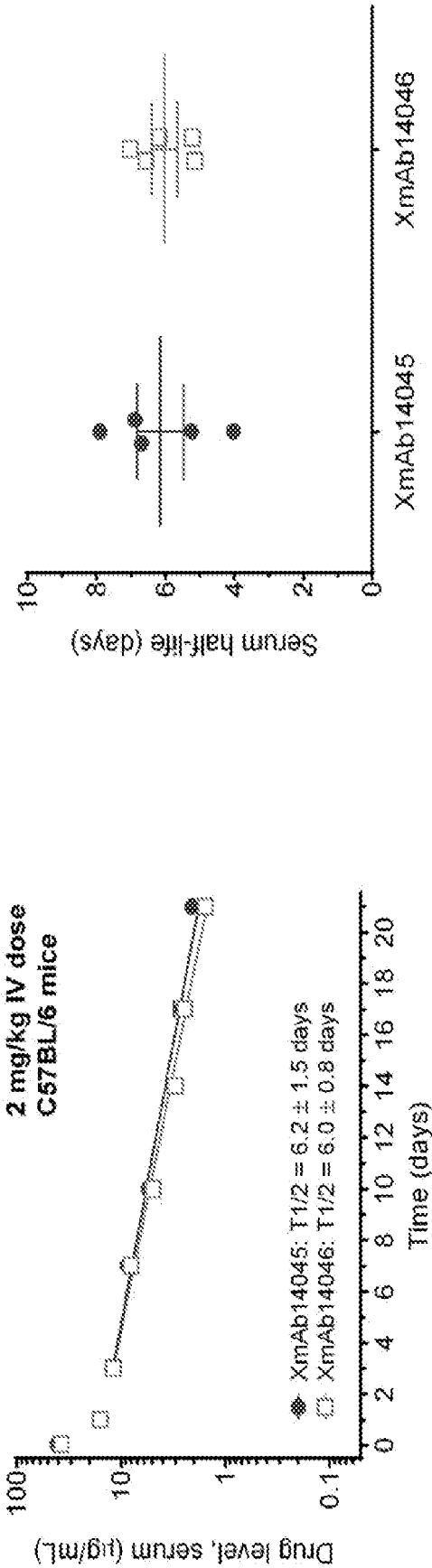


Figure 147

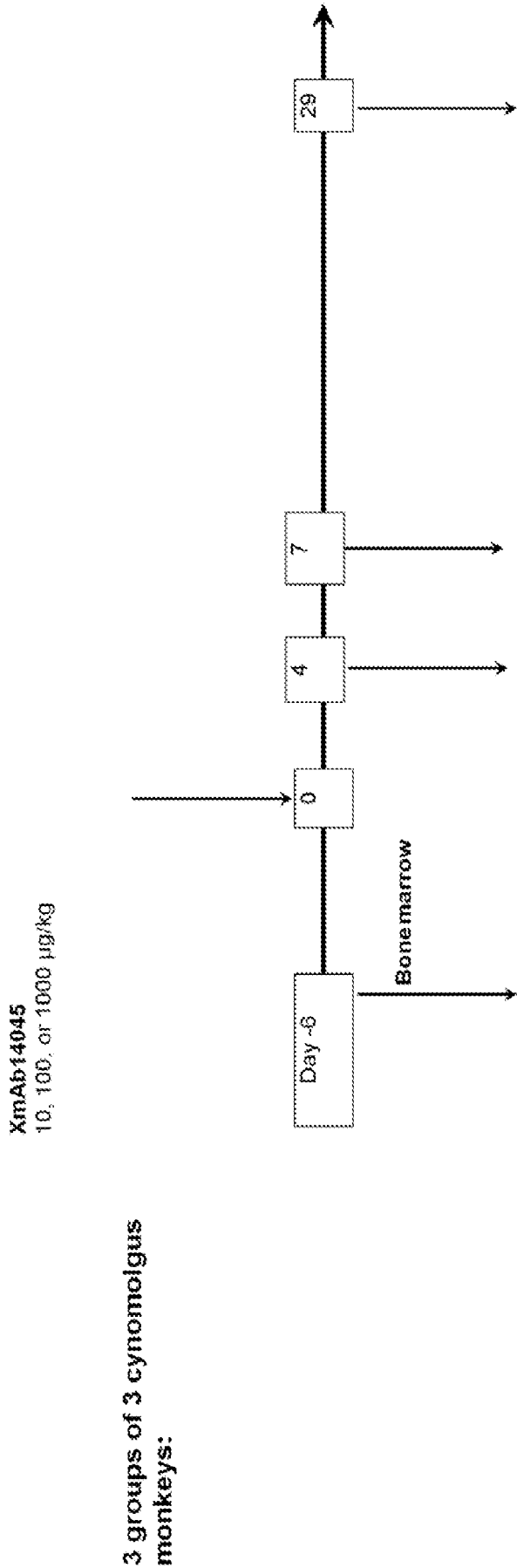
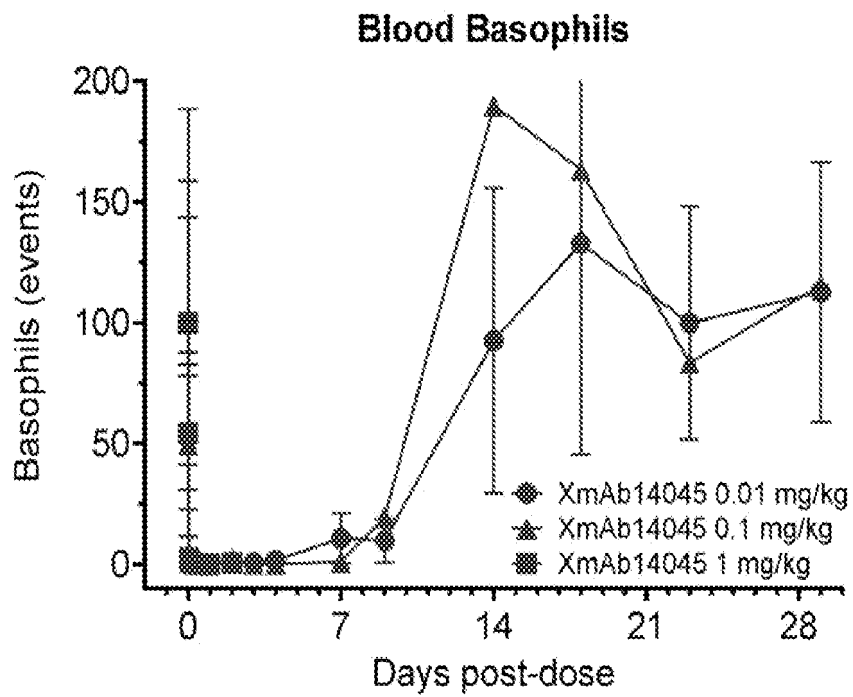


Figure 148



Basophil gate, flow cytometry: CD20⁻ CD16⁻ CD14⁻ CD4⁻ CD8⁻ FcεRI⁺

Figure 149

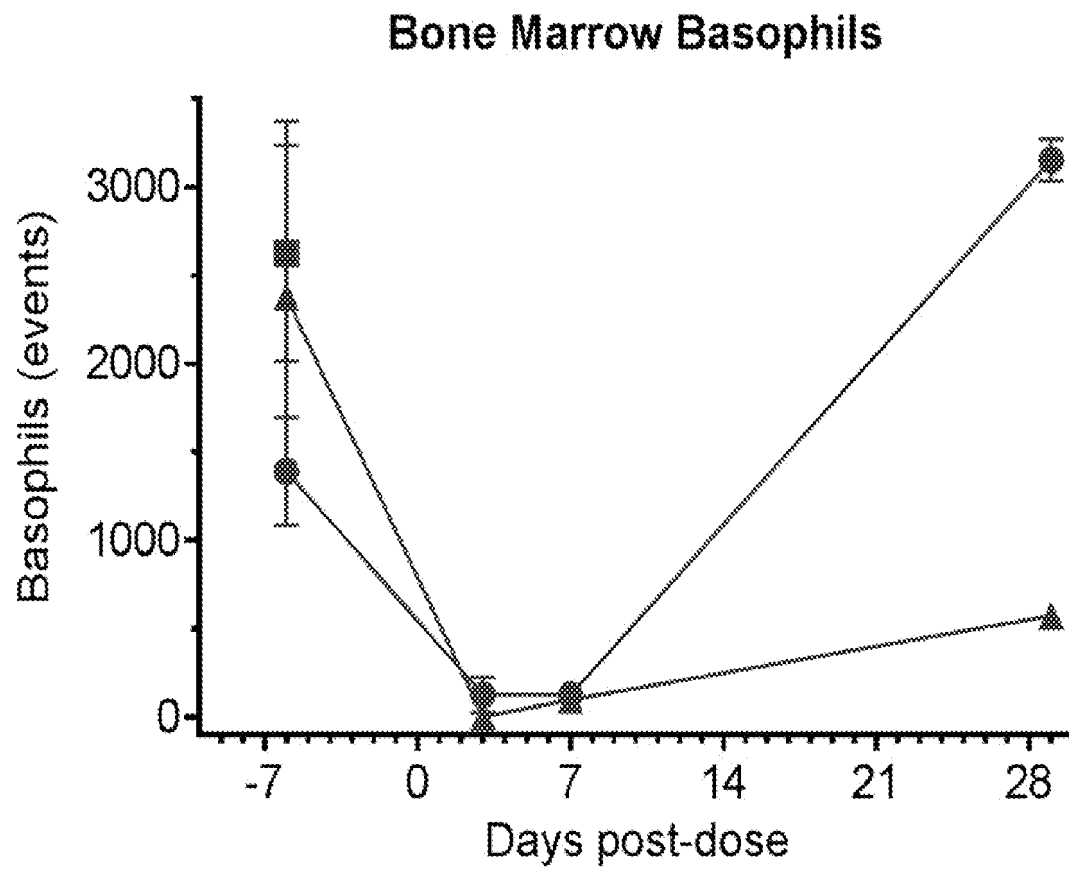


Figure 150

Repeat low dose of XmAb14045 depletes CD123+ cells in monkeys

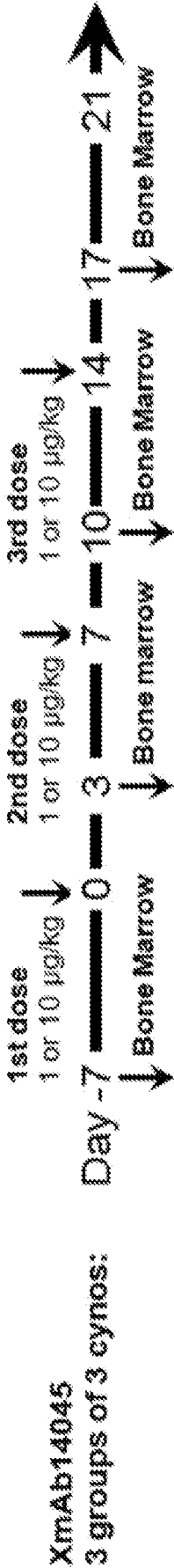
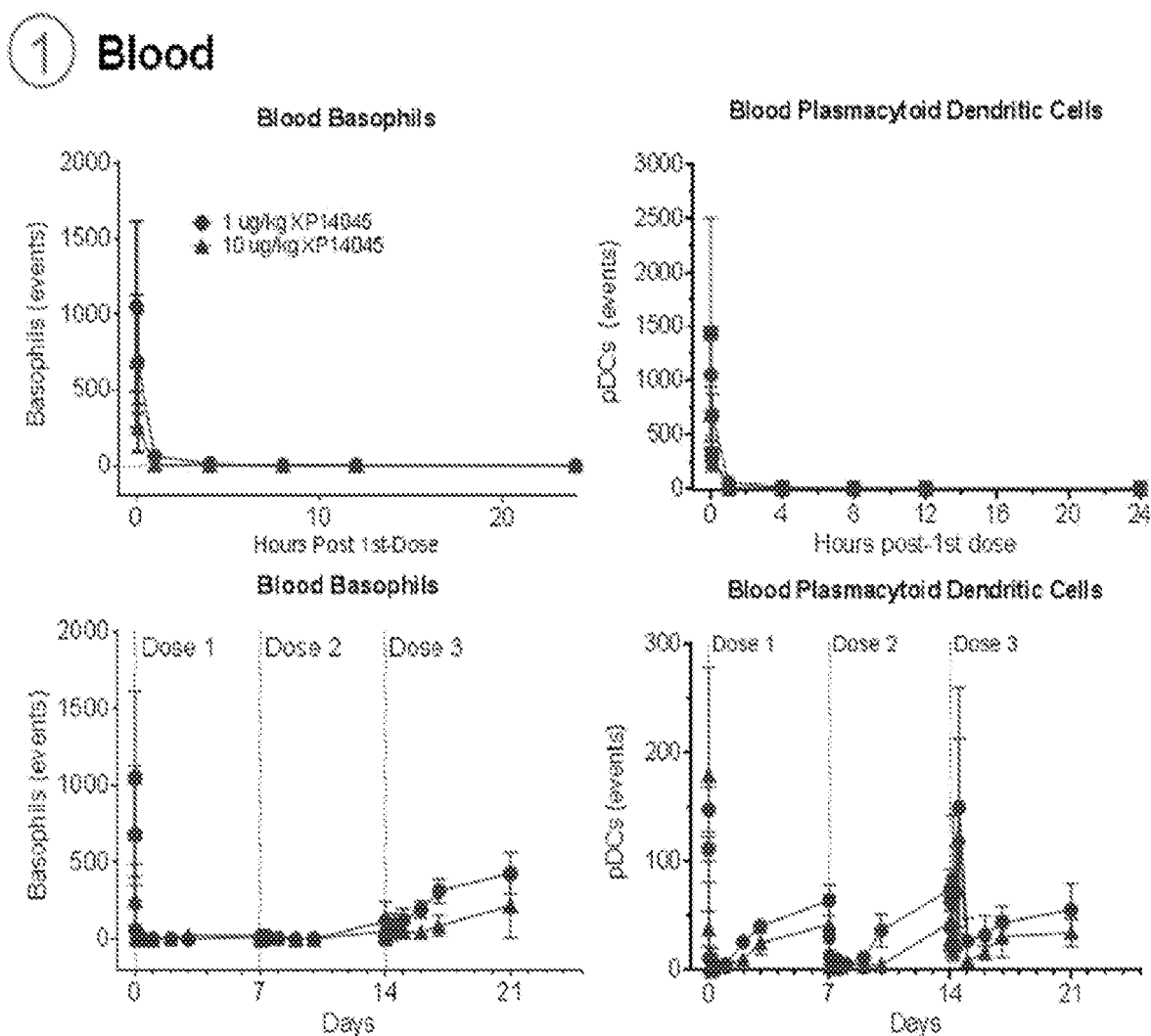


Figure 151



Basophil gate, flow cytometry: CD20⁻ CD16⁻ CD14⁻ CD4⁻ CD8⁻ FcεRI⁺

Plasmacytoid dendritic cell gate, flow cytometry: CD20⁻ CD16⁻ CD14⁻ CD4⁻ CD8⁻ CD303⁺

Figure 152

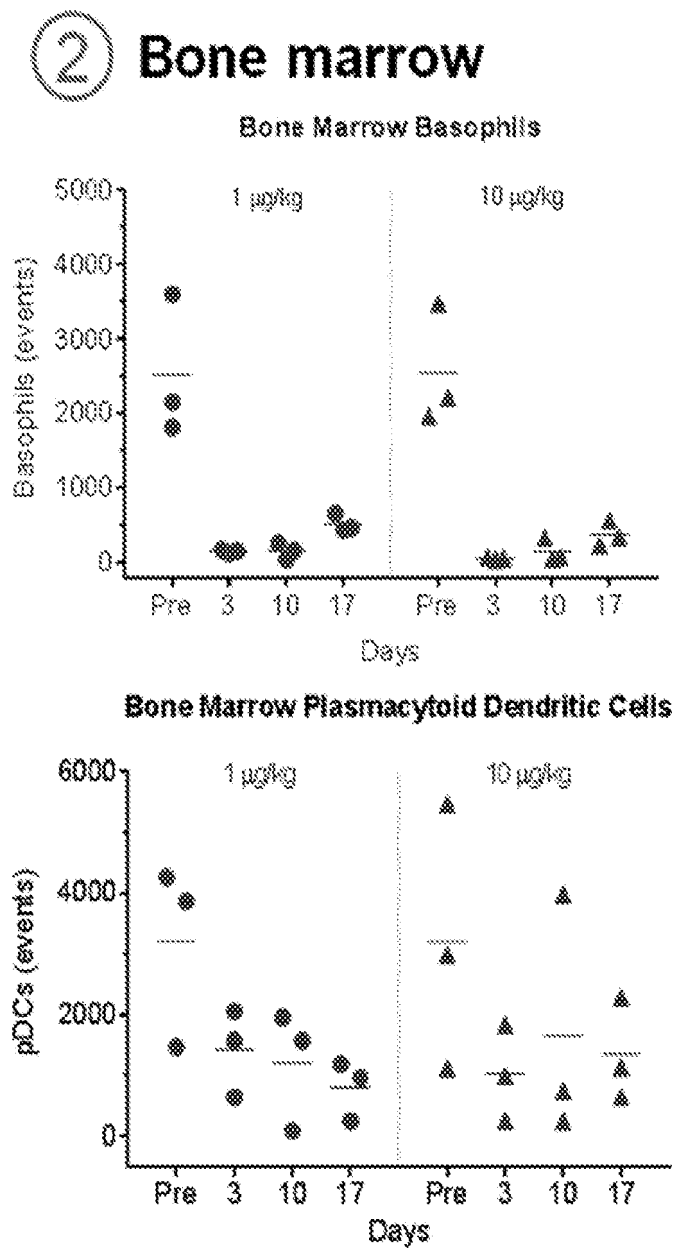


Figure 153

① T cell redistribution

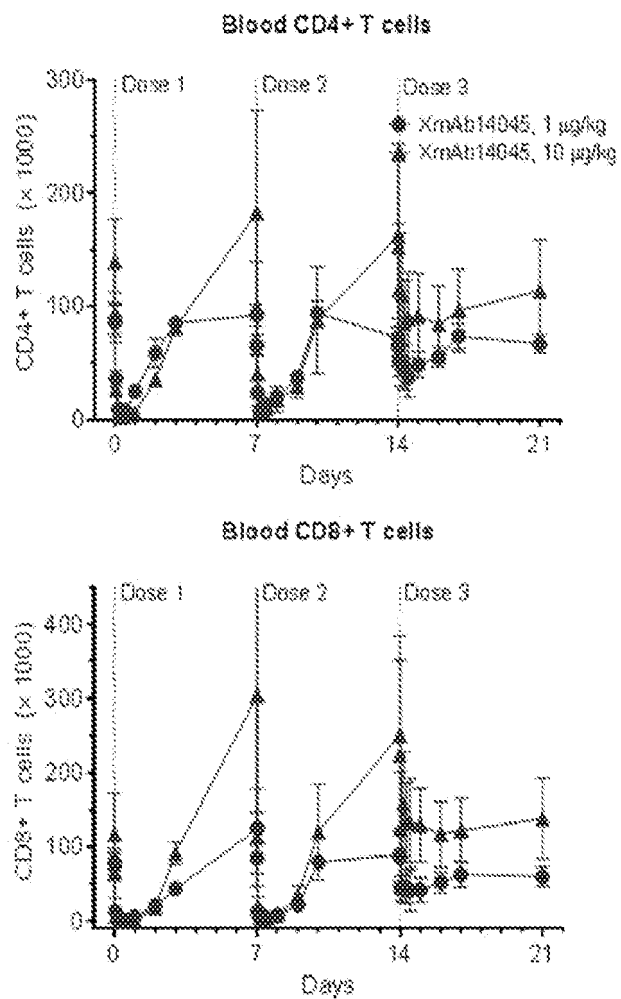


Figure 154

② T cell activation

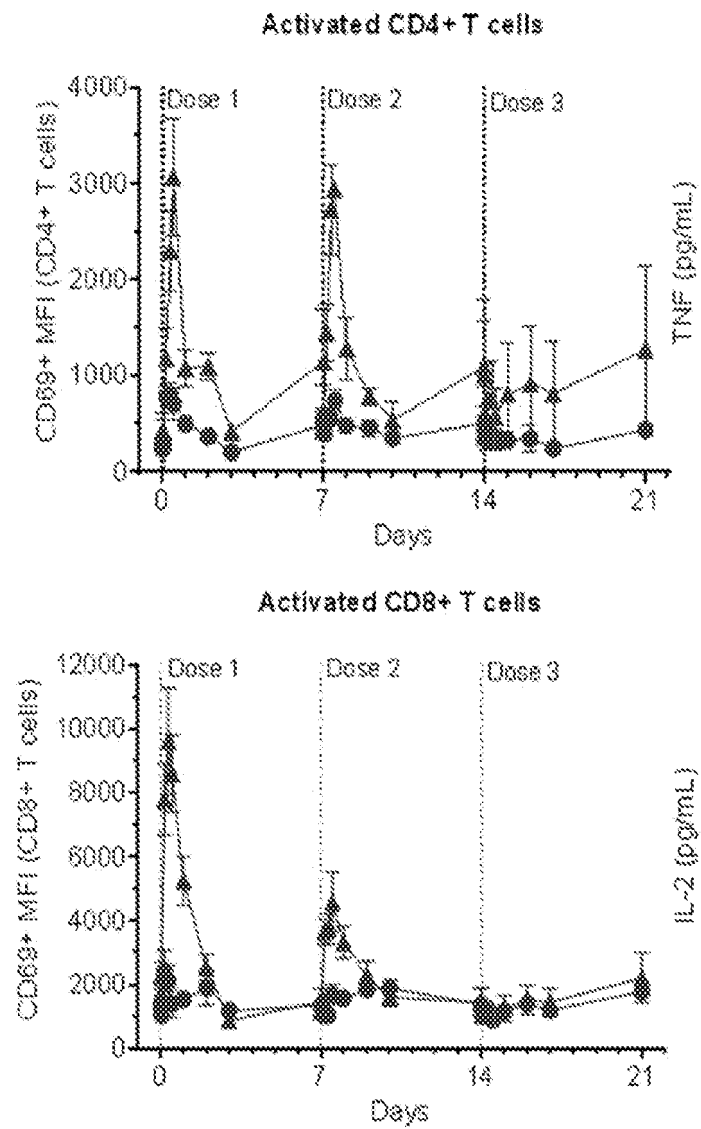


Figure 155

③ Cytokine release

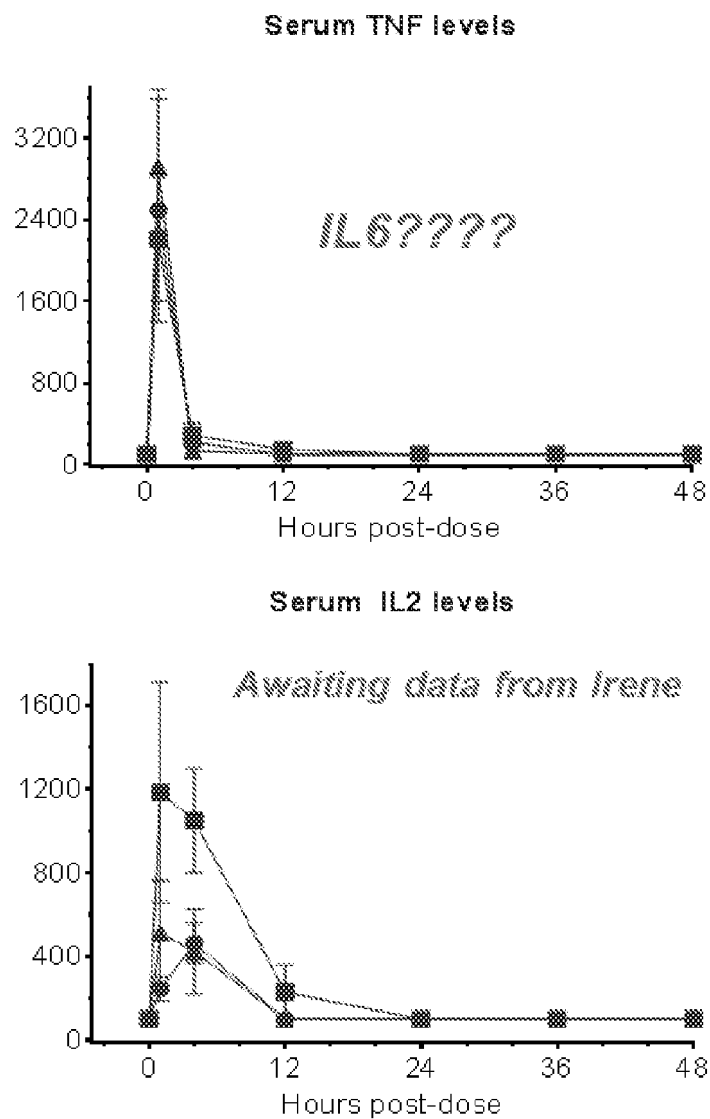


Fig. 156A

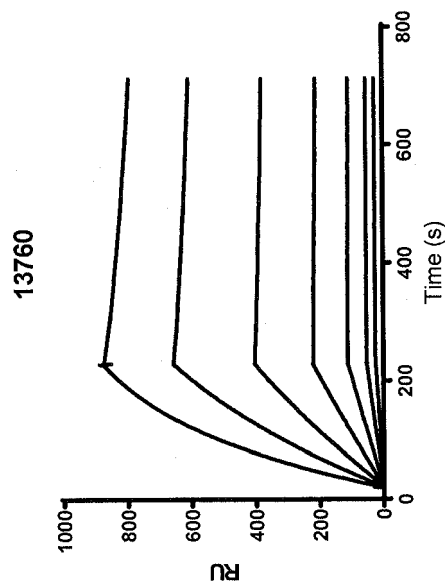


Fig. 156B

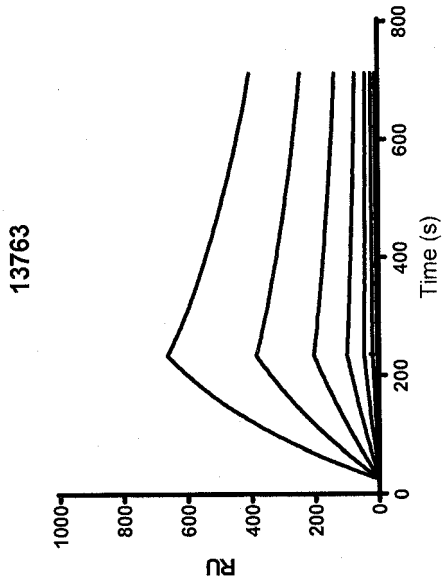


Fig. 156C

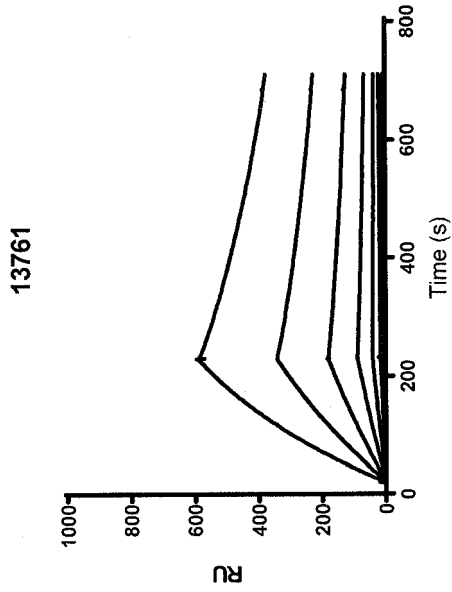
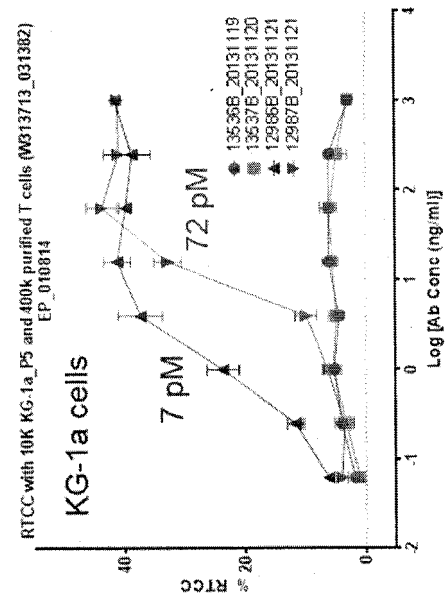


Fig. 156D

Figure 157

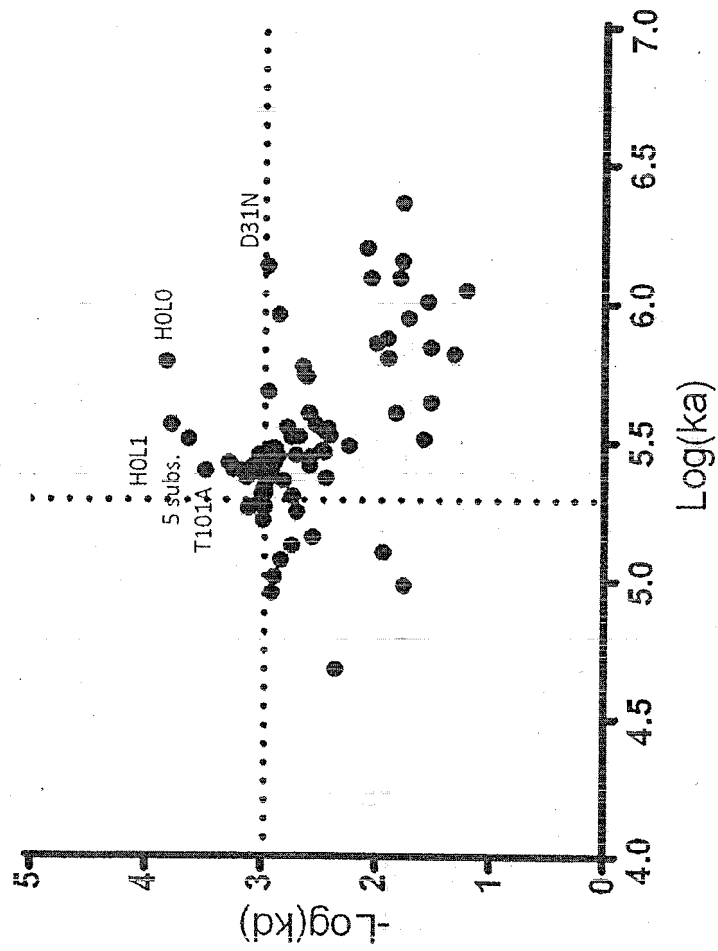


Fig. 158B

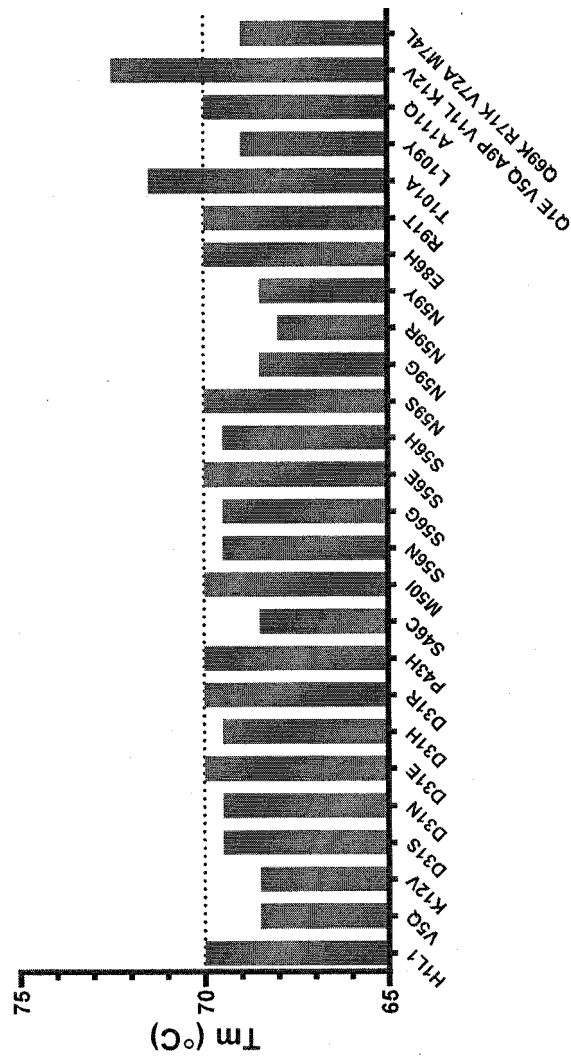


Fig. 158A

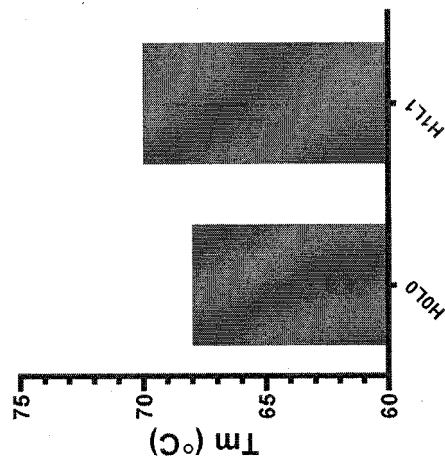


Figure 159A

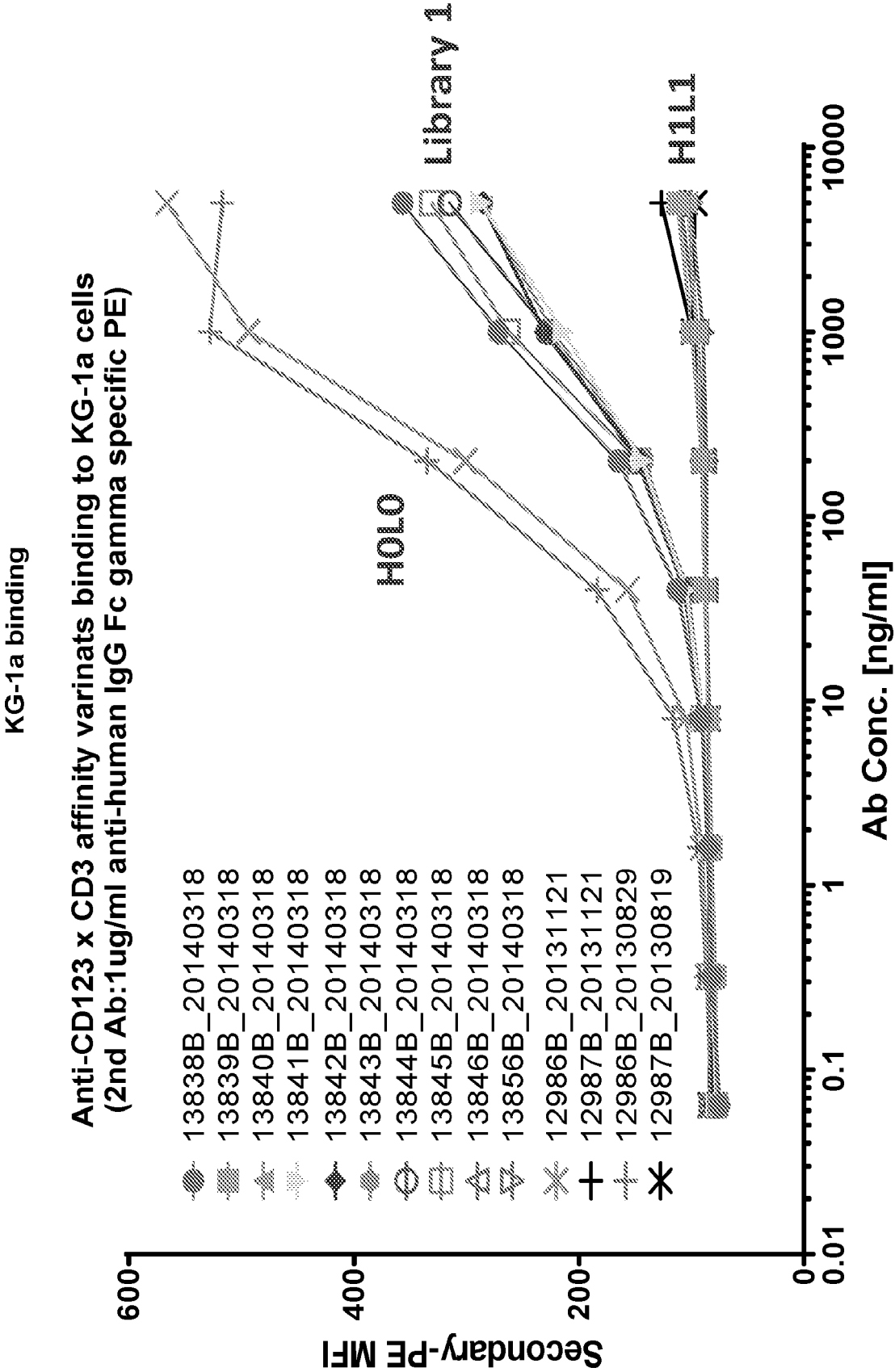


Figure 159B

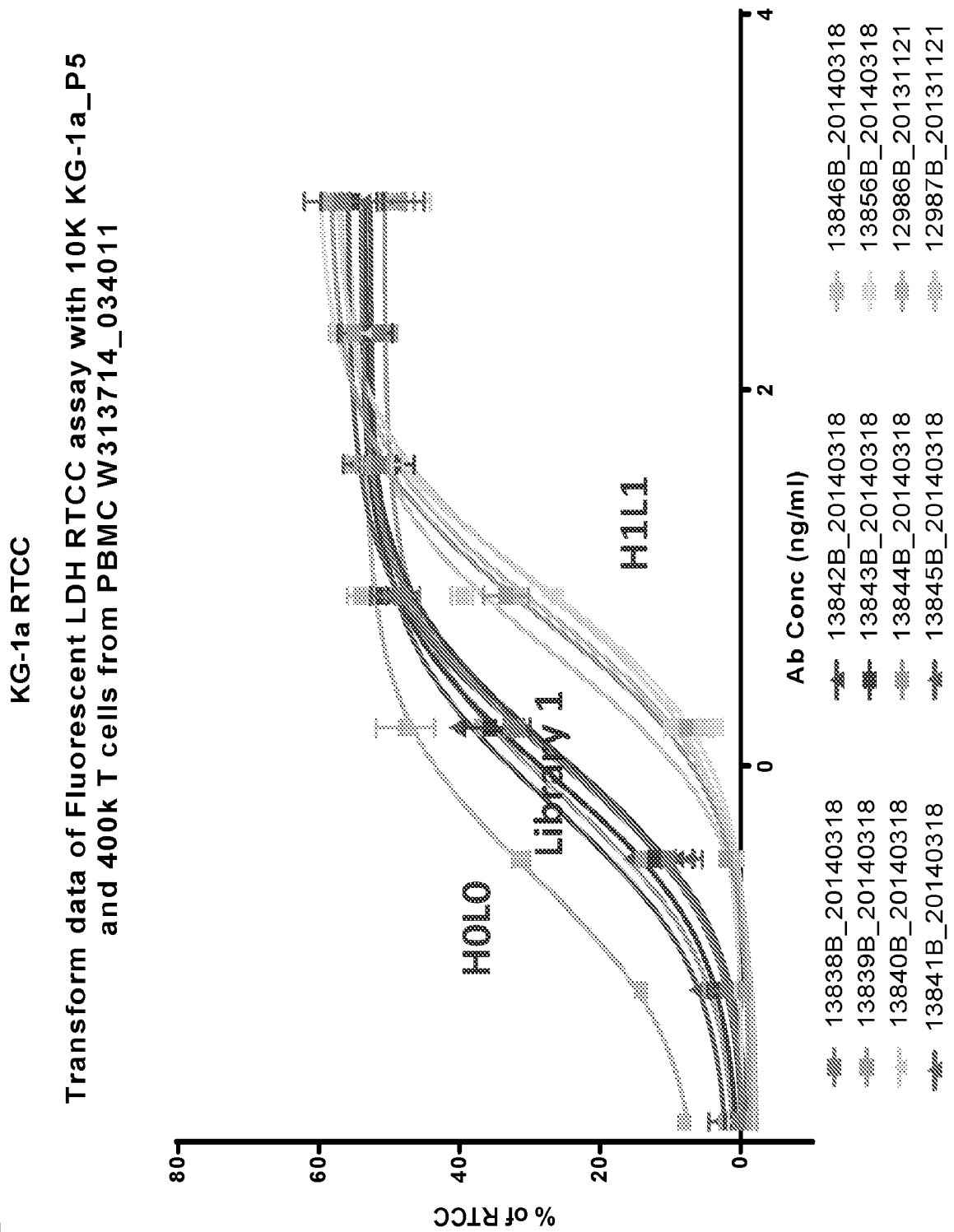


Fig. 160A

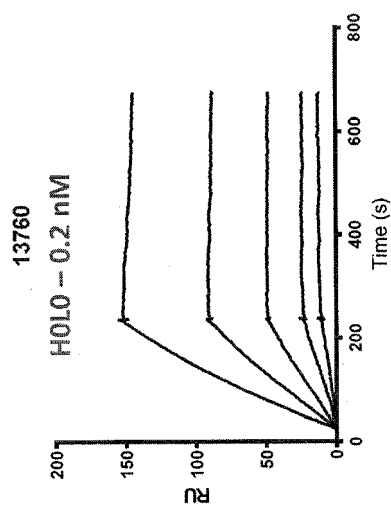


Fig. 160B

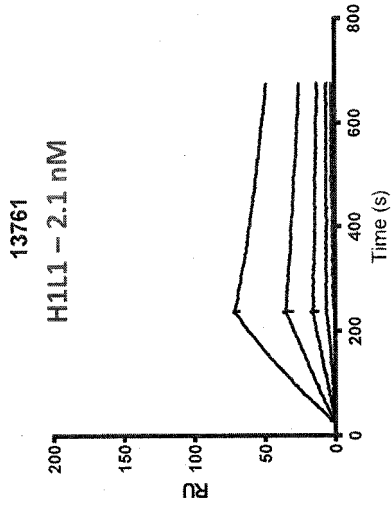


Fig. 160C

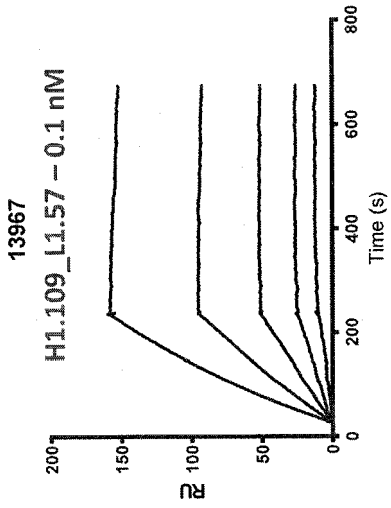


Fig. 160D

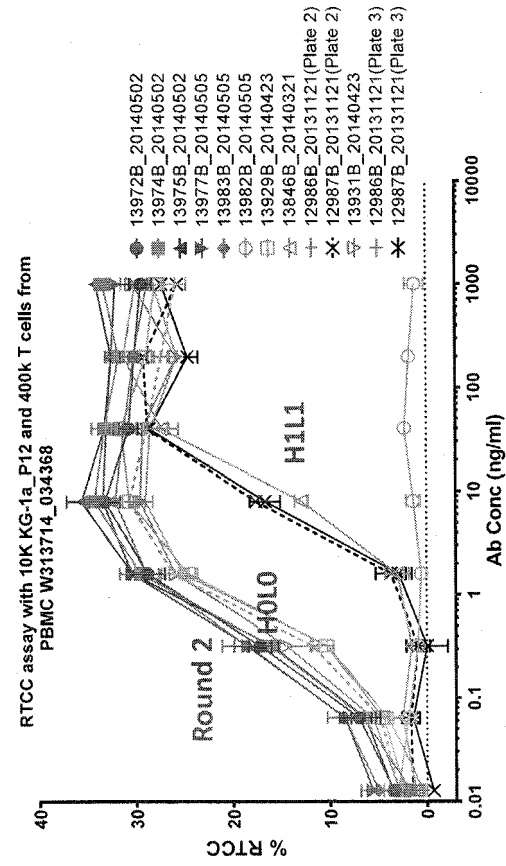


Fig. 160E

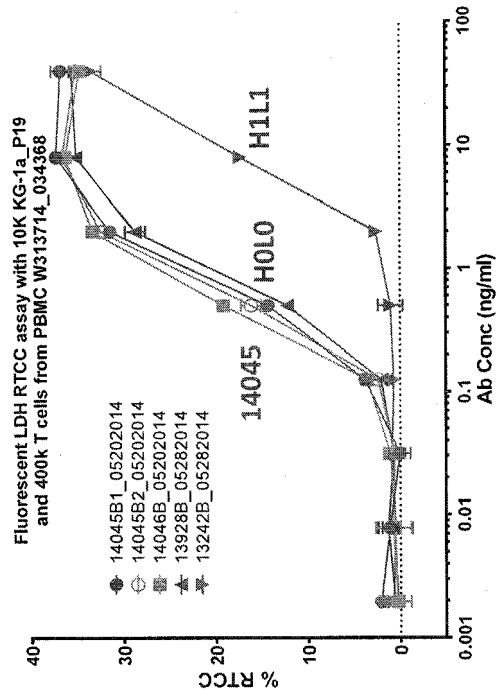


Fig. 161

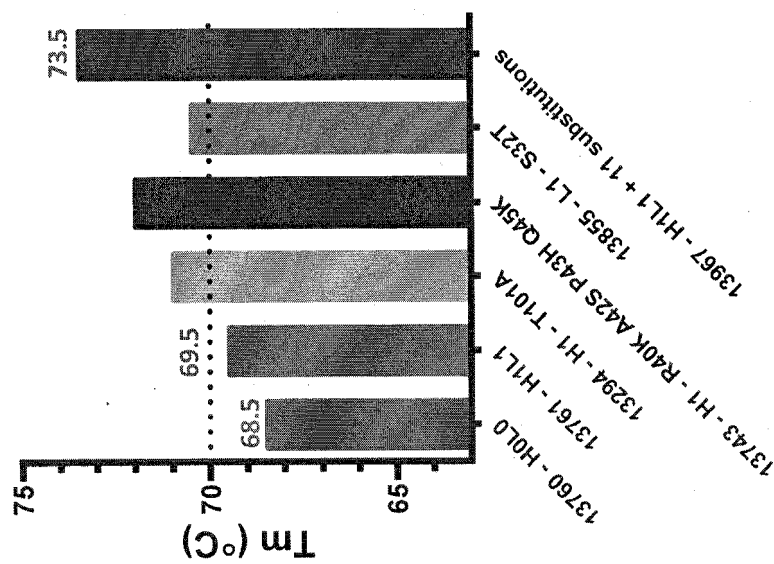


Figure 162A

Bottle opener backbone 1

Fab side heavy chain (SEQ ID NO:471)

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTV
LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVS
GFYPSDIAVEWESDGGPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEAL
HNHYTQKSLSLSPGK

scFv heavy chain (SEQ ID NO:472)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYV
DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK
GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDG
SFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGK

constant light chain (SEQ ID NO:473)

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNFFYPREAKVQWKVDNALQSGNSQESVTEQDSK
DSTYLSSTLTLSKADYEKHKVYACEVTHQGLSPVTKSFNRGEC

Figure 162B

Bottle opener backbone 2

Fab side heavy chain (SEQ ID NO:474 [same as backbone 1])

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTV
LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVS
GFYPSDIAVEWESDGGPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDFVSCSVMHEAL
HNHYTQKSLSLSPGK

scFv heavy chain (SEQ ID NO:475)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYV
DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK
GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDG
SFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGK

constant light chain (SEQ ID NO:476 [same as backbone 1])

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNFFYPREAKVQWKVDNALQSGNSQESVTEQDSK
DSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 162C

Bottle opener backbone 3

Fab side heavy chain (SEQ ID NO:477)

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTV
LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCEVS
GFYPSDIAVEWESDGGQPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWEQGDVFSCSVMHEAL
HNHYTQKSLSLSPGK

scFv heavy chain (SEQ ID NO:478)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYV
DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK
GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDSDG
SFFLYSKLTVDKSRWQQGNVVFSCSVMHEALHNHYTQKSLSLSPGK

constant light chain (SEQ ID NO:479 [same as backbone 1])

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSK
DSTYLSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 162D

Bottle opener backbone 4

Fab side heavy chain (SEQ ID NO:480)

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTV
LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTENEVSLTCLVKS
GFYPSDIAVEWESDQGPNENYKTTTPVLDSDGSFFLYSKLEVDKSRWEQQDVFSCSVMHEAL
HNHYTQKSLSLSPGK

scFv heavy chain (SEQ ID NO:481)

EPKSSDKTHTCPPCPAPPVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYV
DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAK
GQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTTPVLDKGS
FFLYSKLTVDKSRWQQGNVFCFSVMHEALHNHYTQKSLSLSPGK

constant light chain (SEQ ID NO:482 [same as backbone 1])

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSK
DSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC

Figure 163

mAb-scFv backbone 1

monomer 1 (Fab-scFv side) (SEQ ID NO:483)

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSCDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEEYNSTYRVVSVLTV
LHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCDVS
GFYPSDIAVEWESDQGPNENYKTTTPVLDSDGSFFLYSKLTVDKSRWEQQGVFSCSVMHEAL
HNHYTQKSLSLSPGK

monomer 2 (Fab side) (SEQ ID NO:484)

ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYS
LSSVVTVPSSSLGTQTYICNVNHKPSDTKVDKKVEPKSSDKTHTCPPCPAPPVAGPSVFLFPPK
PKDTLMISRTPEVTCVVVDVKHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLT
VLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREQMTKNQVKLTCLV
KGFYPSDIAVEWESNGQPNENYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEA
LHNHYTQKSLSLSPGK

constant light chain (SEQ ID NO:485 [same as backbone 1])

RTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGNSQESVTEQDSK
DSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC