

Figure 1

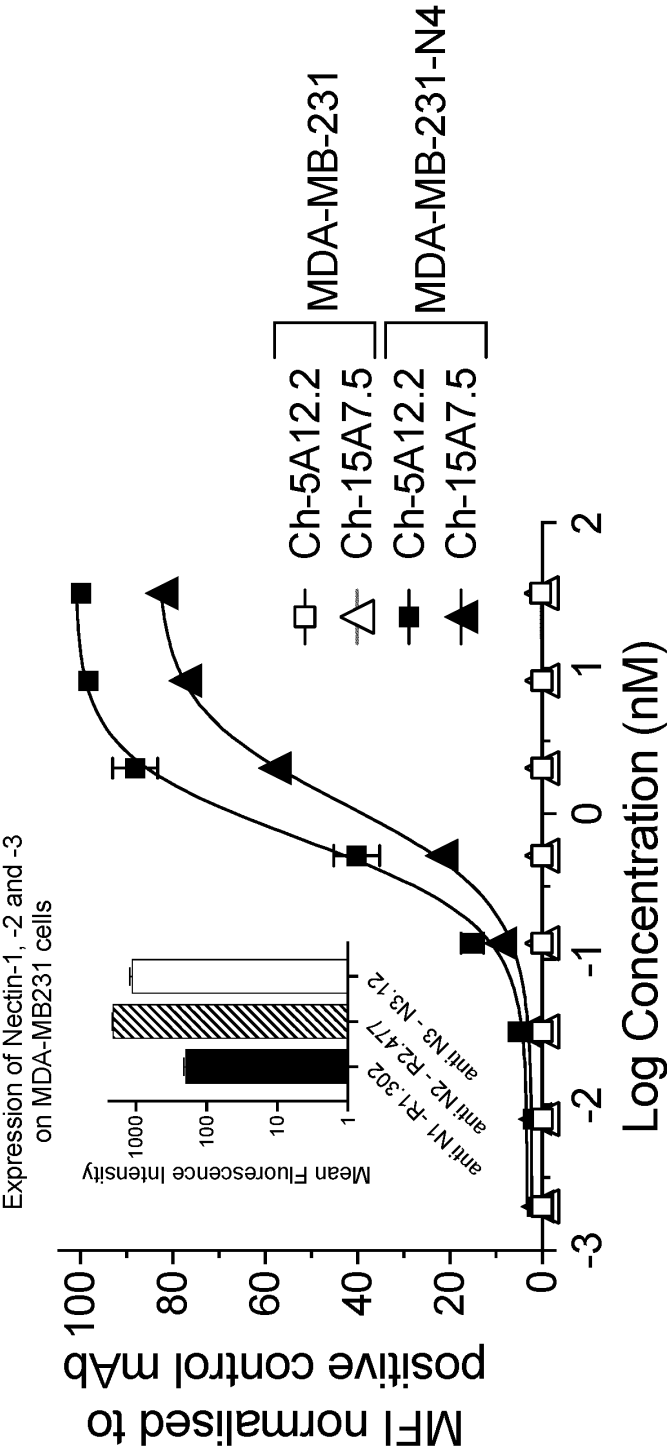


Figure 2

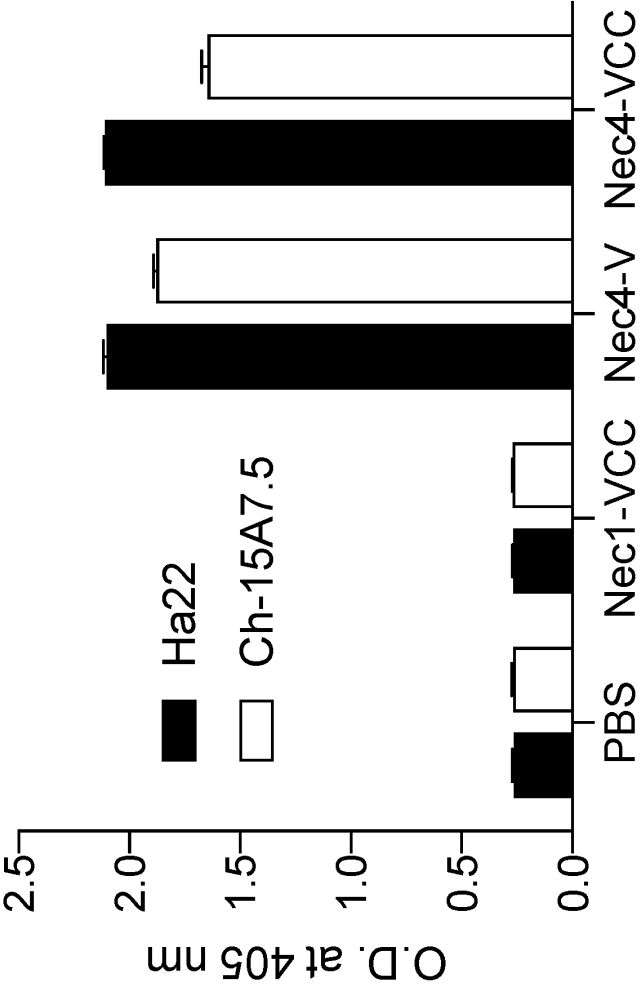


Figure 3

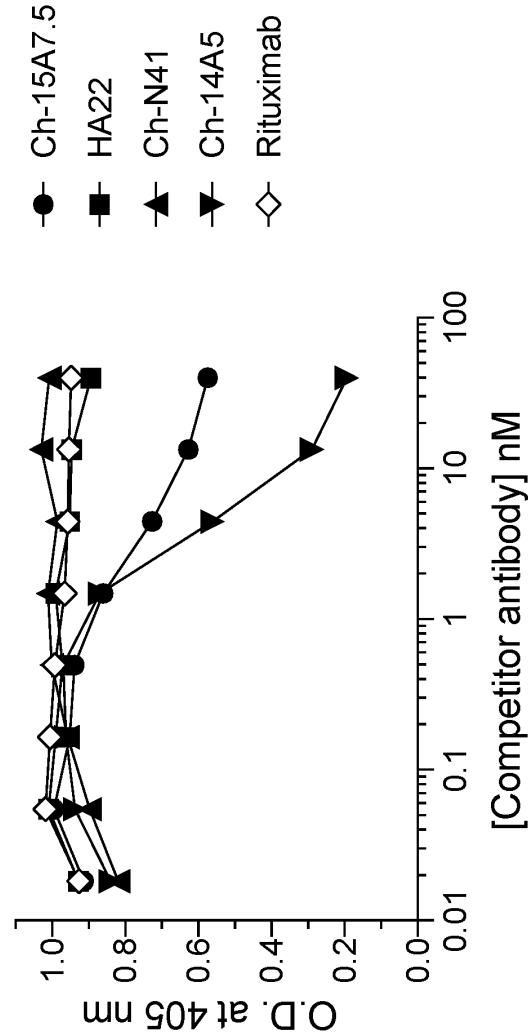


Figure 4

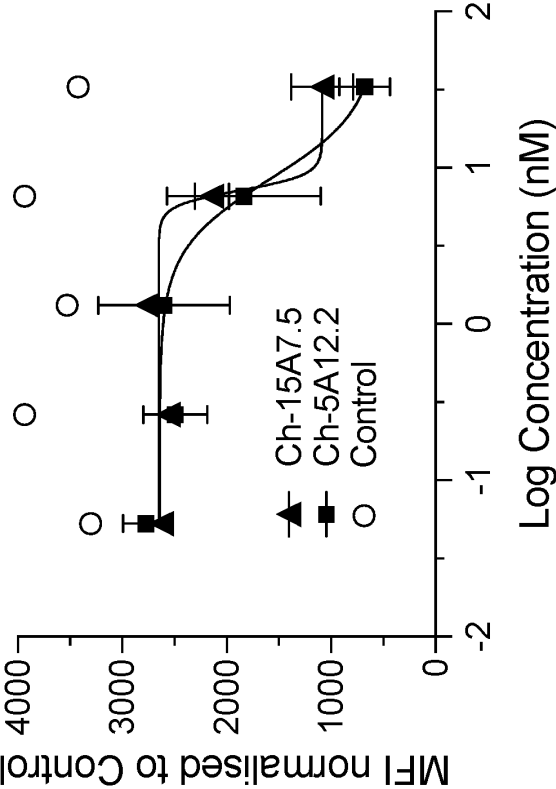


Figure 5

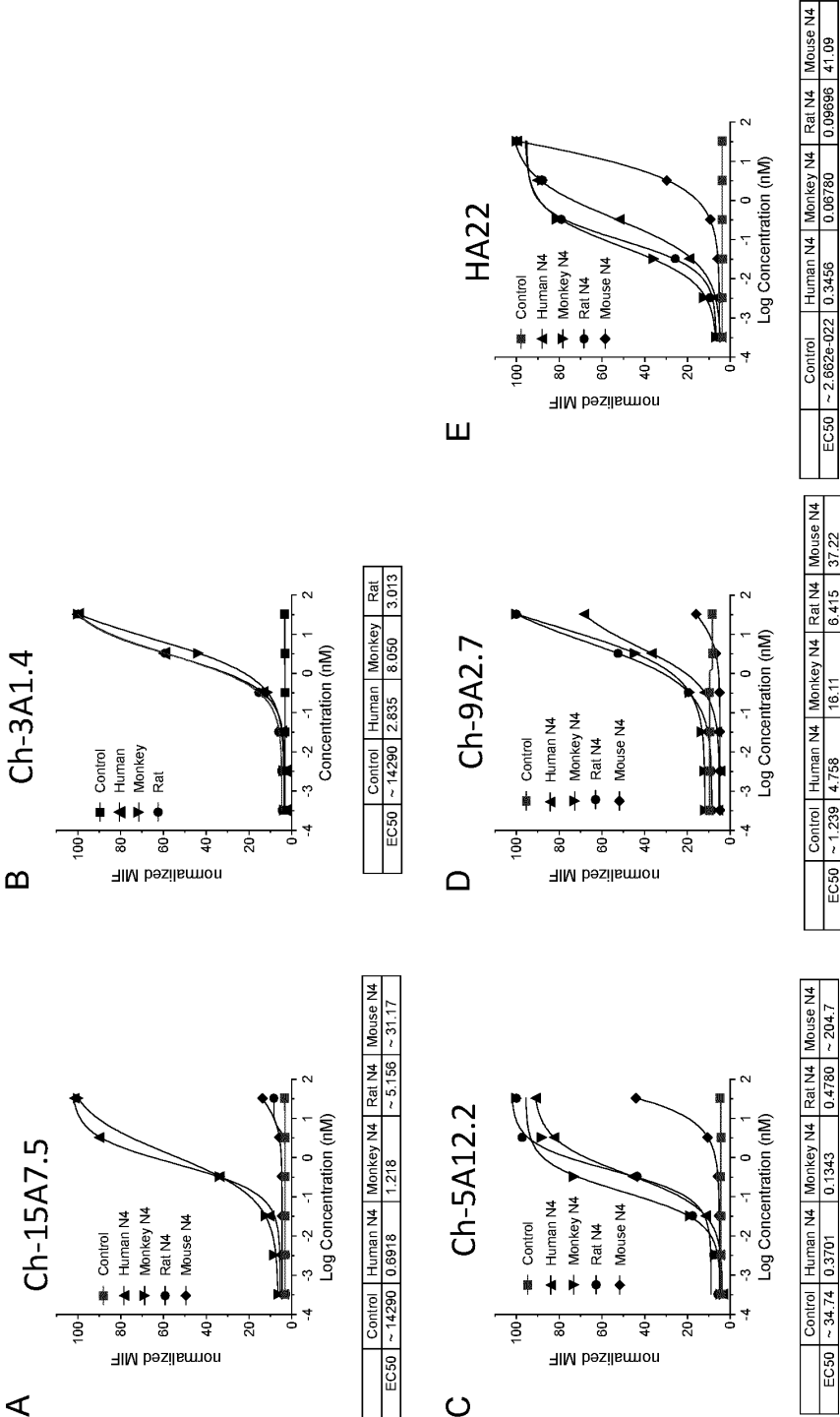


Figure 6

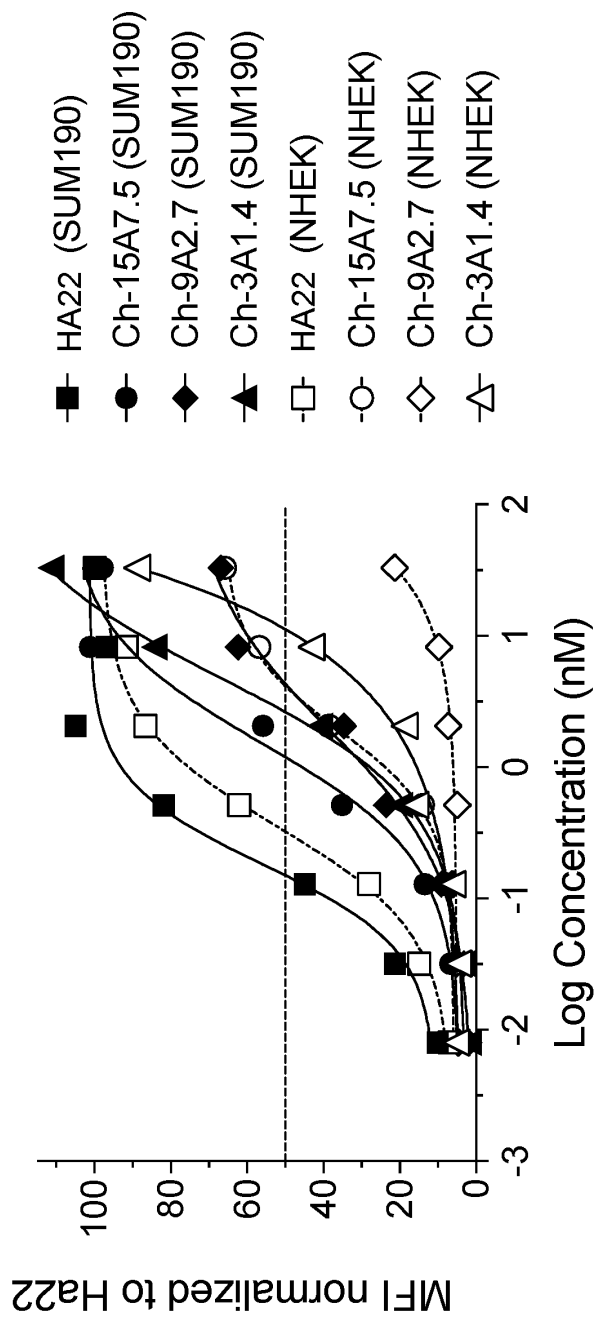


Figure 7

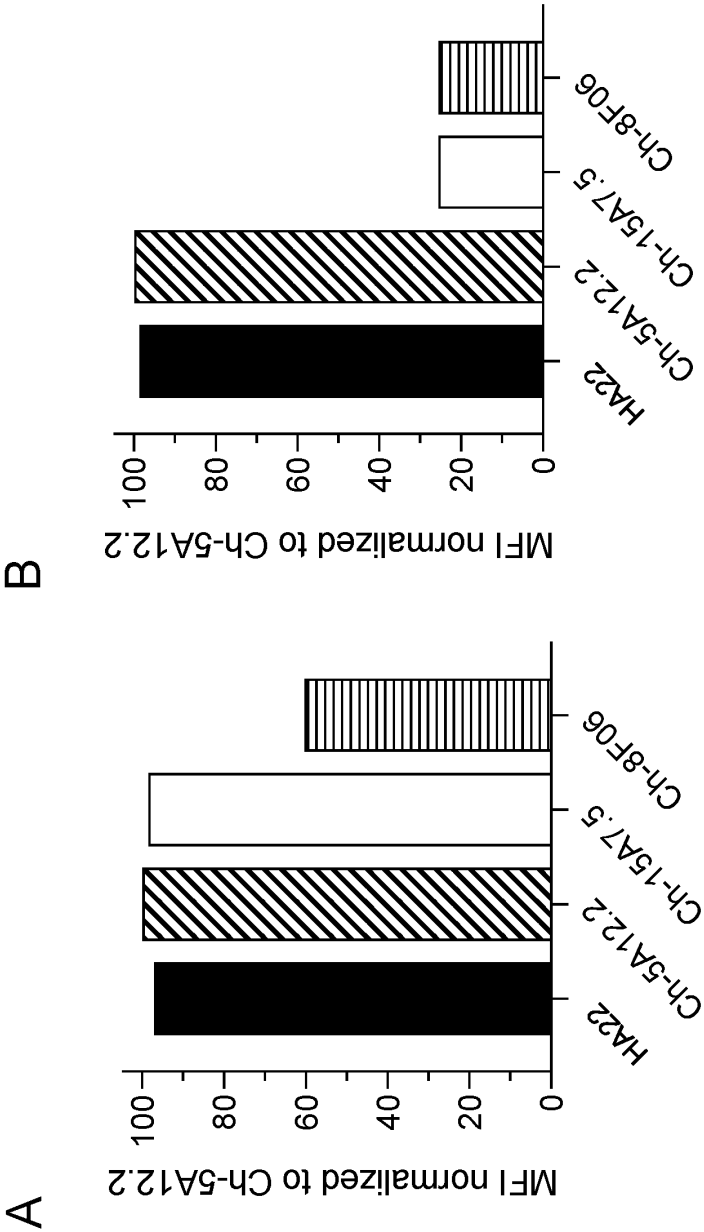


Figure 8

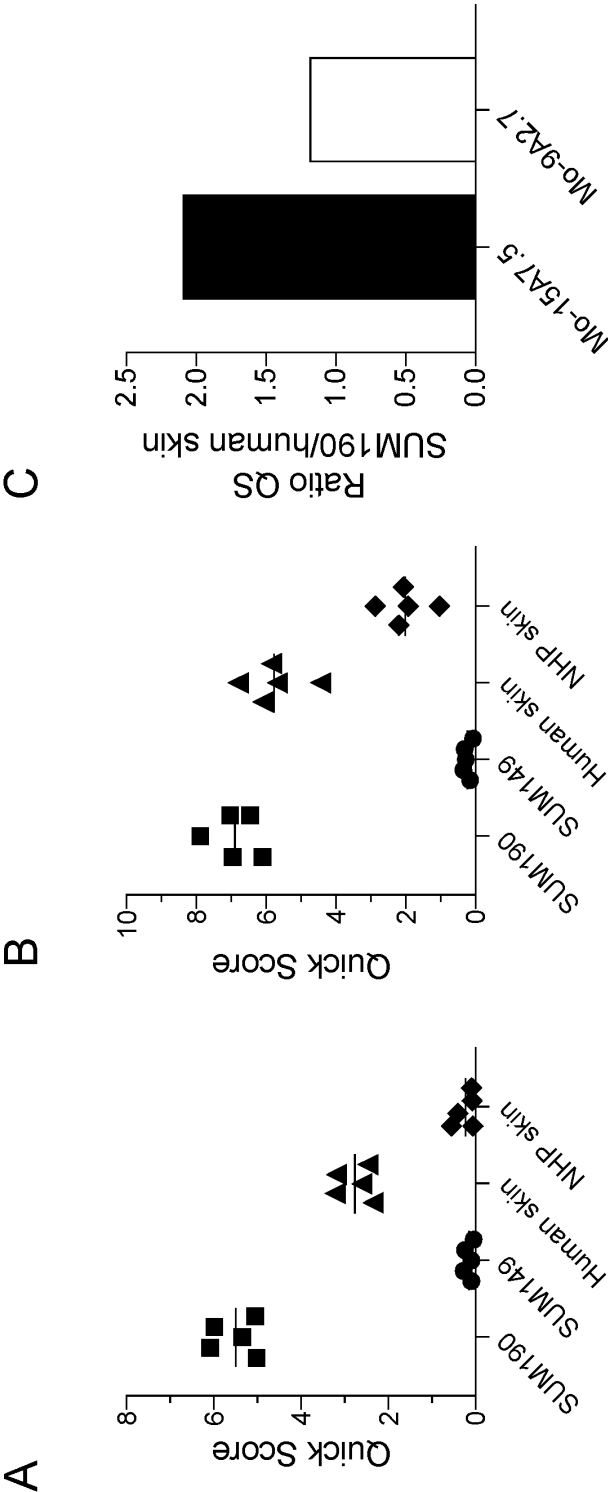


Figure 9

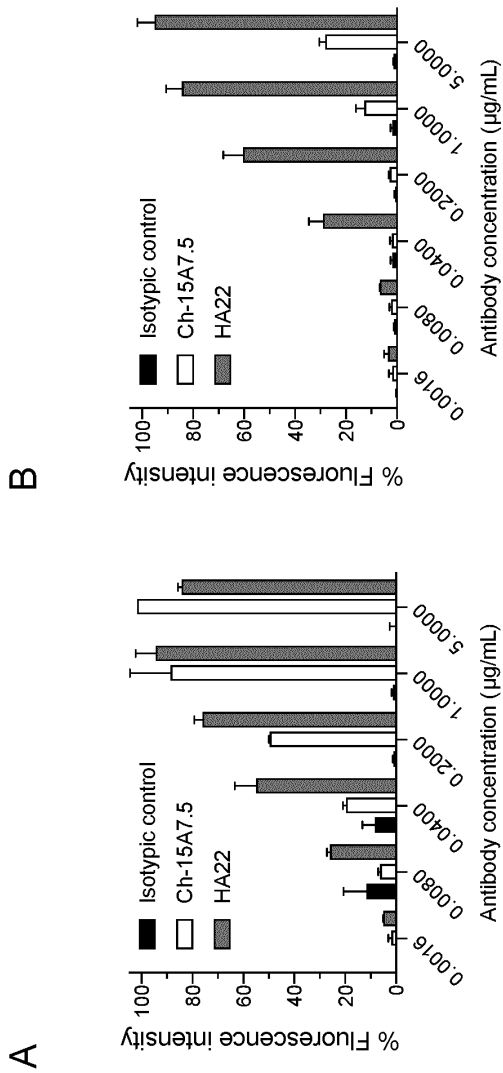


Figure 10

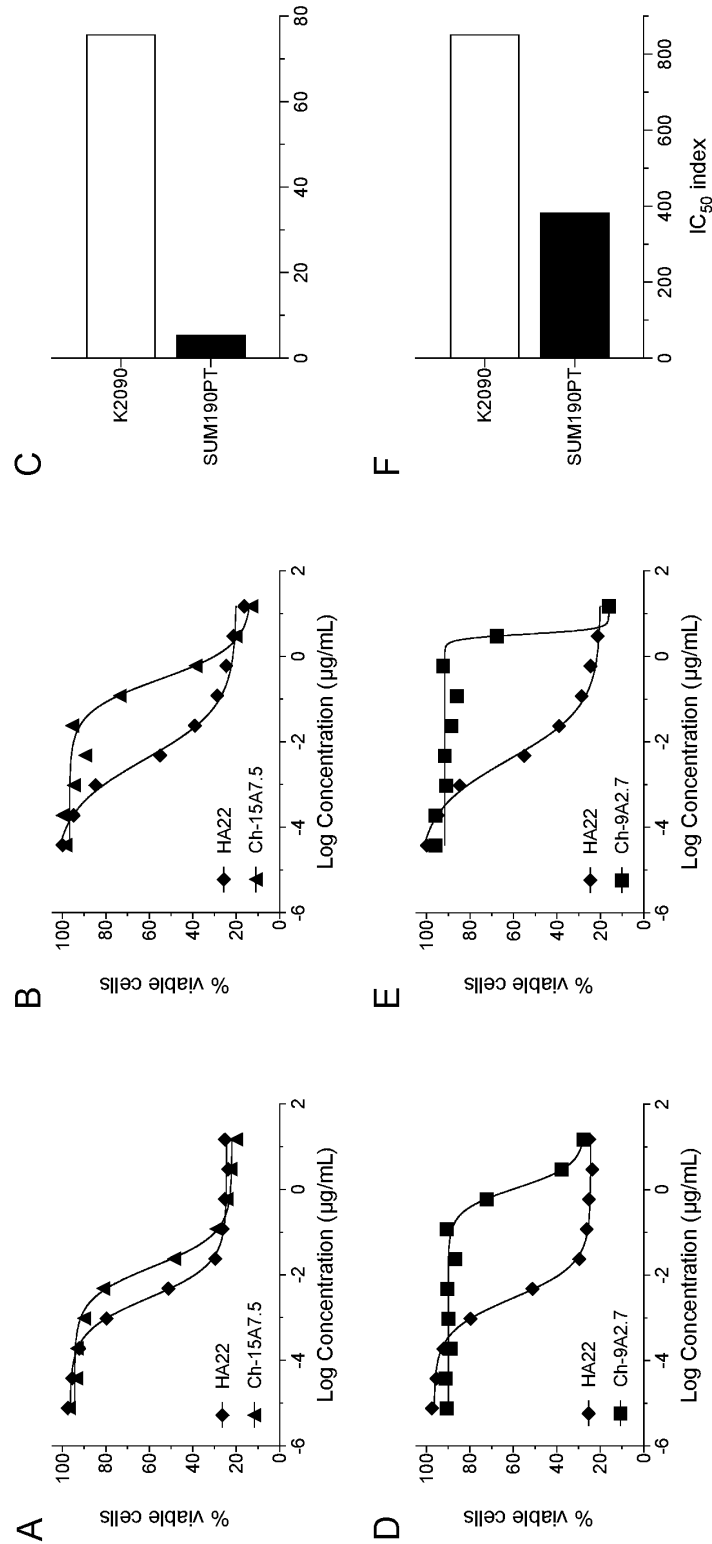


Figure 11

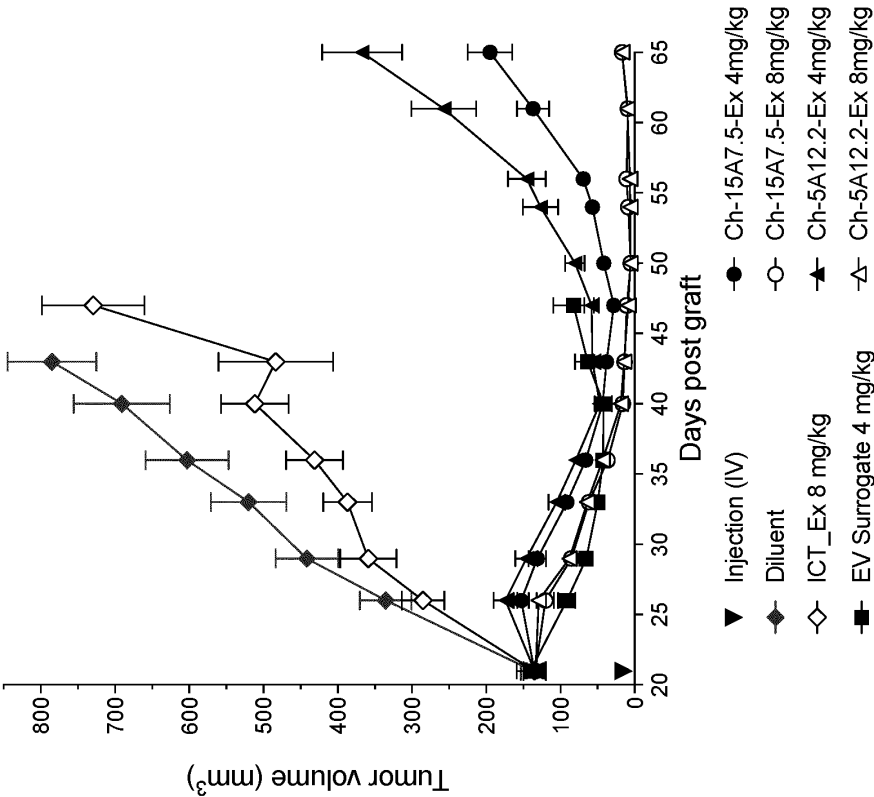
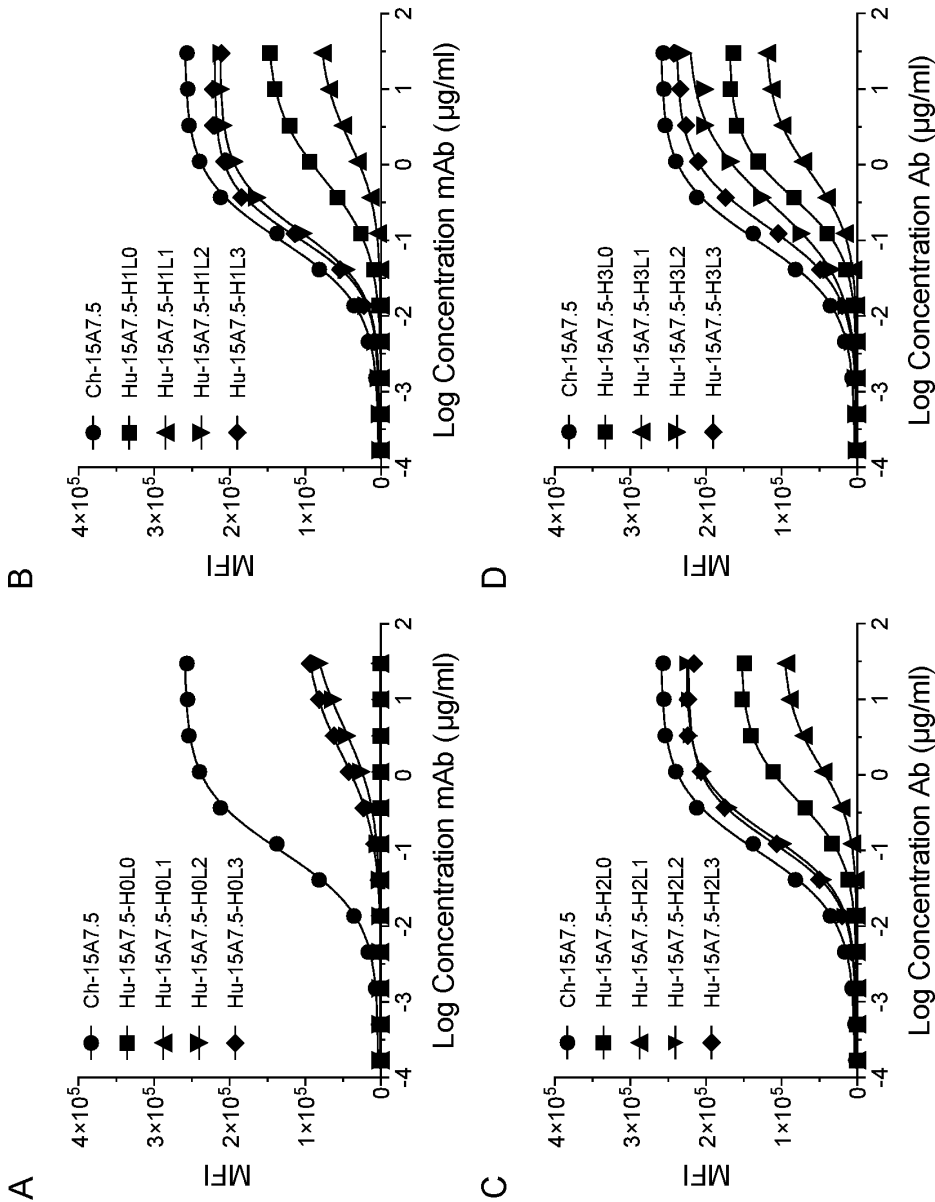


Figure 12



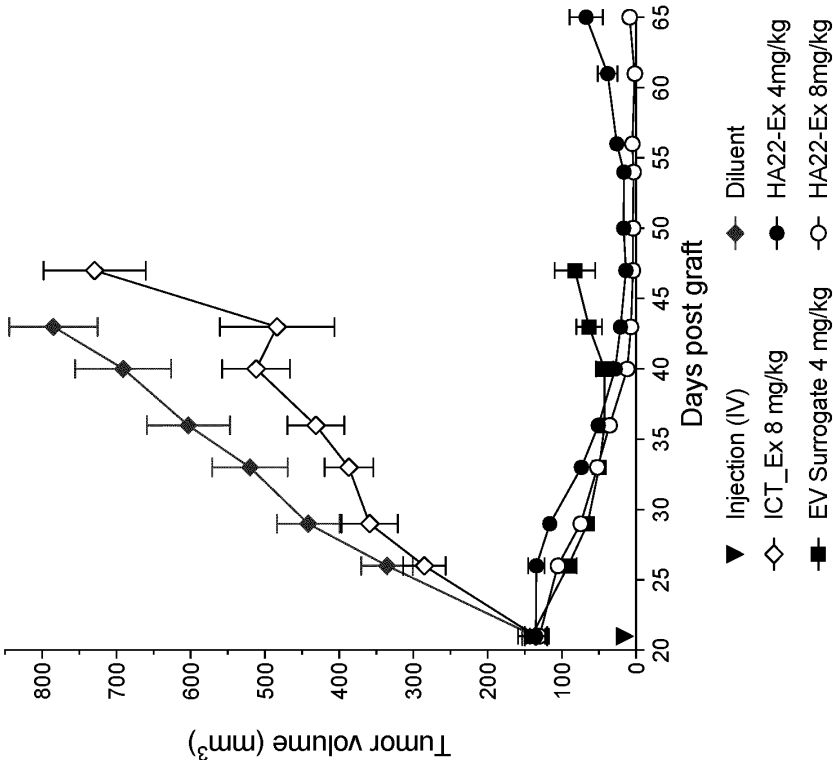


Figure 13

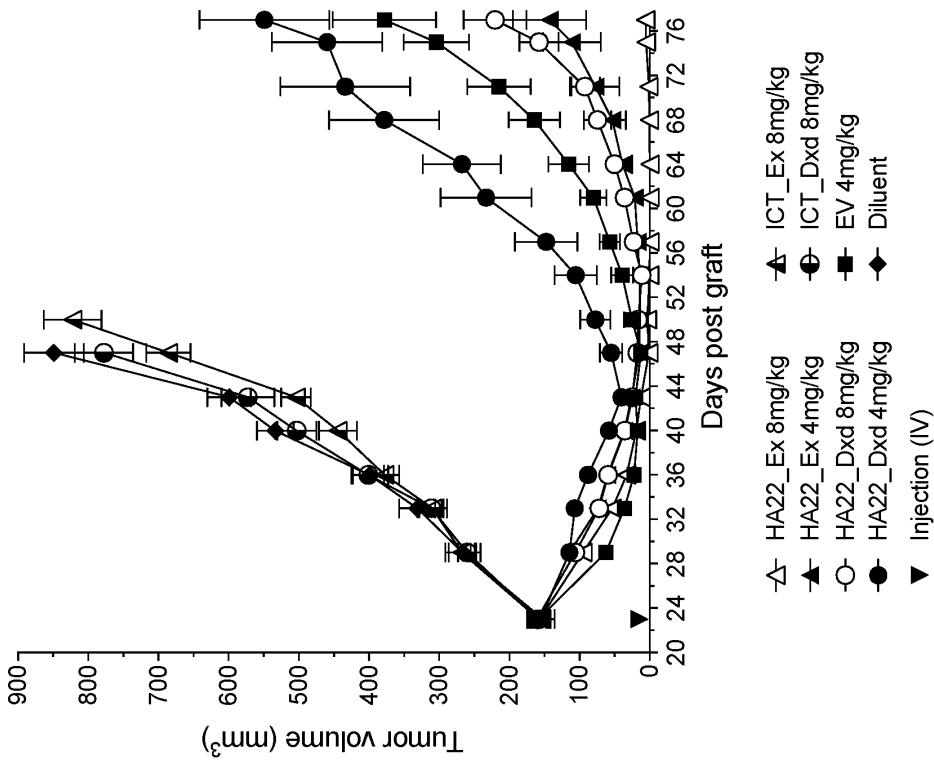


Figure 14

Figure 15

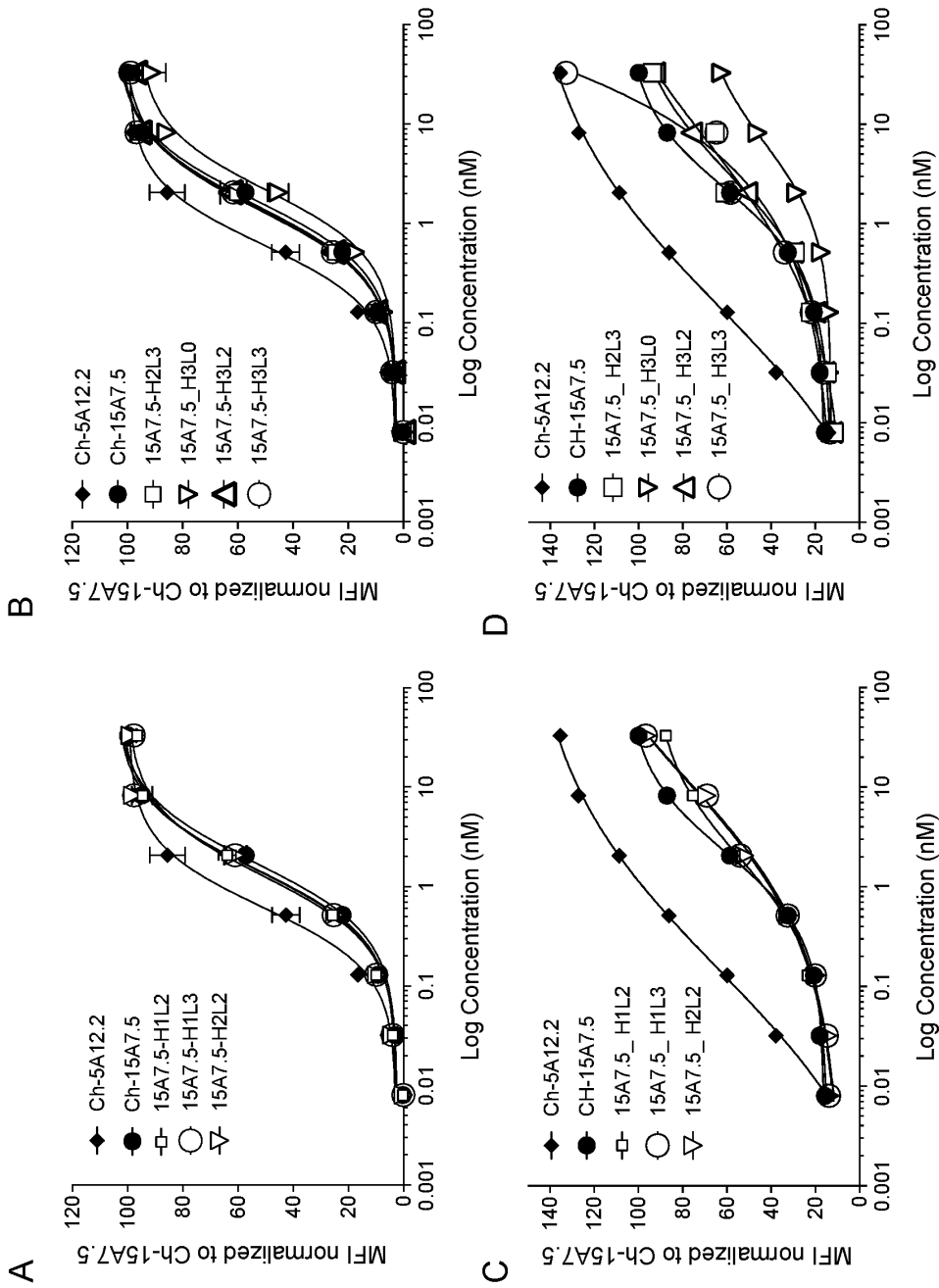


Figure 16

- Antibody clone 5A12.2

>VH_5A12.2

QIQLQQSGAELVKPGASVTLCKTS~~SGFTFNSMYISWLKQKPGQ~~SL~~EWIAWIYAGTGGT~~
RFNQKFTGK~~VQLTVDTSSSTAYMQFSSLT~~DDSAIYYCAIRSGFVPM~~DYWGQG~~TSVTV
SS

>VK_5A12.2

SIVMTQTPKFLLVSAGDRVTITCKASQSVSNDVAWYQQKPGQSPKLLIYYAS~~NRYTGVP~~
DRFTGSGYGTDF~~FTISTVQAE~~DLAVYFC~~QQDYSSPWTF~~GGG~~TKLEIK~~

CDR : IMGT nomenclature

Figure 17

- Antibody clone 9A2.7

>VH_9A2.7

QVQLQQPGAELVRPGASVKLSCKASGYNFTTFWINWVKQRPQGQGLEWIGNIYPSDSYA
NYNQKFKDKATLTVDKSSTTAYMQLSSPTSEDSAVYYCTRPSTYFGRNSFAYWGQGTLVTV
SA

>VK_9A2.7

DIVMTQSPSSLVSVGEKVTMSCKSSQSLLYSVNHKNYLAWYQQKPGQSPKLLIYWAST
RESGVPRFTGSGGTDFTLTSSVKAEDLAVYYCHQYYTYPLTFGAGTKLELK

CDR : IMGT nomenclature

Figure 18

- Antibody clone 3A1.4

>VH_3A1.4

DVQLQESGPSLVKPSQTLSTCSVTGDSITSGYWNWIRKFPGNKLEYMGYISNSGITYYNPSLKS
RISITRDTSKNQYFLQLNSVTAEDTATYYCTRFGSTMILYYTMDYWGQGSTVTVSS

>VK_3A1.4

DIVMTQSPVTLSTPGDRVSLSCRASQSDYLHWYQQKSKQSPRLLIKYASKSISGIPSRFSGSG
SGSNFTLSINSVEPEDVGVVYCQNGHSFPLTFGAGTKLELK

CDR : IMGT nomenclature

Figure 19

- Antibody clone 8F06

>VH_8F06

EVQLQQSGPELVKPGASVKMSCKASGYTFTSYVMHWVKQKPGQGLEWIGYINPYND
GTKYNEKFKGKATLTSDKSSSTAYMELSSLTSEDSAVYYCVTLFAYWGQGTLVTVSA

>VK_8F06

QIVLTQSPAIMASAPGEKVTMTCSASSISYMHWYQQKPGTSPKRWIYDTSKLGVP
ARFSGSGGTSYSLTISSMEAEADAATYCHQRSSYPFTFGSGTKLEIK

CDR : IMGT nomenclature

Figure 20

Humanized Variants 15A7.5

> H0_15A7.5 EVQLVESGGGLVQPGGSLRLSCAA ^S GFTF^SNYG^M AWVRQAPGK GLEWVS ^F ISNLAYG^N YADSVKGRFTISRDNAKNSLYLQMNSLRAE DTAVYY ^C A^RGARATGWFA^W YWGQGTLVTVSS	> L1_15A7.5 DIQMTQSPSSLSASVGDRTTIT ^C KA^SQNVDTH^V A ^W FQQKPGKAP KSLI ^Y SAS^YRYSG^V PSRFRSGSGGTDFTLTISSLQPEDFATYY ^C QQ YNSYPLT^F GGGTKVEIK
> H1_15A7.5 EVQLVESGGGLVQPGGSLRLSCAA ^S GFTF^SNYG^M A ^W VRQAPGKG LEWV ^{SF} ISNLAYG^N YADITVG ^R FTISRDNAKNSLYLQMNSLRAED TAVYY ^C A^RGARATGWFA^W YWGQGTLVTVSS	> L2_15A7.5 DIQMTQSPSSLSASVGDRTTIT ^C KA^SQNVDTH^V A ^W YQQKPGKAPK ALI ^Y SAS^YRYSG^V PSRFRSGSGGTDFTLTISSLQPEDFATYY ^C QQY NSYPLT^F GGGTKVEIK
> H2_15A7.5 EVQLVESGGGLVQPGGSLRLSCAA ^S GFTF^SNYG^M A ^W VRQAPGKG LEWV ^{AE} ISNLAYG^N YADITVG ^R FTISRDNAKNSLYLQMNSLRAED TAVYY ^C A^RGARATGWFA^W YWGQGTLVTVSS	> L3_15A7.5 DIQMTQSPSSLSASVGDRTTIT ^C KA^SQNVDTH^V A ^W YQQKPGKSPK ALI ^Y SAS^YRYSG^V PSRFRSGSGGTDFTLTISSLQPEDFATYY ^C QQY NSYPLT^F GGGTKVEIK
> H3_15A7.5 EVQLVESGGGLVQPGGSLRLSCAA ^S GFTF^SNYG^M A ^W VRQAPGKG PEWV ^{AE} ISNLAYG^N YADITVG ^R FTISRDNAKNSLYLQMNSLRAED TAVYY ^C A^RGARATGWFA^W YWGQGTLVTVSS	CDR: IMGT nomenclature / <i>Kabat nomenclature</i> / anchor IMGT and/or Kabat / <u>back-mutations</u>
> L0_15A7.5 DIQMTQSPSSLSASVGDRTTITCRA ^S QNVDTH^V AWFQQKPGKAP KSLI ^Y SAS^Y LQSGVPSRFRSGSGGTDFTLTISSLQPEDFATYY ^C QQ YNSYPLT^F GGGTKVEIK	

Figure 21

Humanized 15A7.5 variants

Clone/variant	KD (nM)	Ka (1/Ms)	Kdis (1/s)	R ²
Ch-15A7.5	45.9	7.52 ^{E+04}	3.45 ^{E-03}	0.98
15A7.5_H1L2	52	8.01 ^{E+04}	4.16 ^{E-03}	0.97
15A7.5_H1L3	50	8.24 ^{E+04}	4.12 ^{E-03}	0.97
15A7.5_H2L2	59.7	7.79 ^{E+04}	4.65 ^{E-03}	0.97
15A7.5_H2L3	60	8.00 ^{E+04}	4.80 ^{E-03}	0.97
15A7.5_H3L2	55.5	8.81 ^{E+04}	4.89 ^{E-03}	0.97
15A7.5_H3L3	58.1	7.86 ^{E+04}	4.57 ^{E-03}	0.97
15A7.5_H0L3	Irrelevant	Irrelevant	Irrelevant	0.92

Figure 22

- Parental antibody clone 15A7.5

>VH_15A7.5

EVKLVEGGGLVQPGGSRKLSCAASGFTFSNYGMAWVRQAPGKGPWWAFISNLAYGI
NYADTVTGRFTISRENAKNTLYLEMRLRSEDTAMYYCARGARATGWFAYWGQGTLVT
 VSA

>VK_15A7.5

DIVMTQSQKFMSTSIGDRVSVTCKASQNVDTHVAWYQEKPGQSPKALIYSASYRYSGVP
 DRFTGSGSGTDFTLTISNVQSEDLADYFCQQYNSYPLTFGGGKLEIK

CDR : IMGT nomenclature, Kabat nomenclature

Figure 23

>VH_HA22
EVQLVESGGGLVQPGGSLRLSCAASGFTTFSSYNMNNWVRQAPG
KGLEWVSYSSTIYYADSVKGRFTISRDNAL
NSLSLQMNSLRDEDTAVYYCARAYYYGMDVWGQGTTVTVSS

>VK_HA22
DIQMTQSPSSVSASVGDRVTITCRASQGISGWLAWYQQKPGKA
PKFLIYAASSTLQSGVPSRFSGSGGTDFTLTISL
QPEDFATYYCQQANSFPPTFGGGTKVEIK