

A.

	FR1	CDR1	FR2	CDR2
<b>IGHV1-02*02</b>	<b>QVQLVQSGAEVKKPGASVKVSK-ASGYTFTGY</b>	<b>-----YMHWVRQAPGQGLEWMGWINPNSGGTNY-AQKFQG</b>		
MinVRC01	.....C	TLN	.....K.RF.AV...R...	
Min12A21	.....R.....N	IL.W	.....K.VF.AV...RQ...	
5fH	.....E.IDC	TLN	.....LK.RG.AV...RPL...	
12A12	SQH...TQ.....RI..Q.....S..D	VL.W	.....K.VY.AR...RR...	
12A21	SQH...TQ.....R...Q.....N	IL.W	.....L.K.VF.AV...RQ...	
3BNC117	...L...A.T...R...E...NIRD	FI.W	.....Q.V...KT.QP.N-PRQ...	
3BNC60	..H.S...A.T...R...E...KISDH	FI.W	.....Q.V...KT.QP.N-PRQ...	
NIH45-46	..R.S...GQM...E.MRL..R...E.LNC	PIN.I	...L...RRP...LK.RG.AV...R...	
PGV04	.....SG.....R...WTSEDIFERTE	LI	.....I..VKTVT.AV.FGSPD.RQ	
PGV19	E.R.....R...A.....DF	DI.L	.....R...VR.LG.VS...RQ...	
PGV20	..H.M...T.M...R.T.Q-T...SD	FI.L	..V..R.F...M..QW.QV...RT...	
VRC-CH30	.....A.R.....T...F.EDDDYSPHWVNPAPAH	FI.FL	.....Q...LA.M..TN.AV...WQLH.	
VRC-CH31	.....A.R.....T...F.EDDDYSP.WVNPAPAH	FI.FL	.....Q...LA.M..TN.AV...WYLN.	
VRC01	.....GQM...E.MRI..R...E.IDC	TLN.I	...L...KRP...LK.RG.AV...RPL...	
VRC03	.....VI.T.S...I..R...N.RD	SI	...LI.DK.F..I...K.LW.AVS...RQL...	
VRC06	E...E..PVMR...S.M.I..A-T...N.RDF	SI	...FNRRY.F..I...K.MW.AV...RQL...	
VRC23	..F.....R...E...S..D	VLQ.I	.....RP...K.ER.AVS...PQ...	

	FR3	CDR3	FR4
<b>IGHV1-02*02</b>	<b>RVTMTR---DTSIS---TAYMELSLRLSDDTAVYYCAR</b>		
MinVRC01	.....VYSD	GKNCDYN	---WDFQHWGQGLTVTVSS
Min12A21	.....IYRE---I	DESGD-D	---LKWHLHPWGQGTQIVVSP
5fH	.....VYS	GKNCDYN	---WDFQHWGQGLTVTVSS
12A12	.INFD.---IYRE---I.F.D..G.....L.F..D	DGSGD-D	---TSWHLDPWGQGLTVVISA
12A21	.IQL..---IYRE---I.FLD..G.....	DESGD-D	---LKWHLHPWGQGTQIVVSP
3BNC117	..SL..HASW.FDTF---SF..D.KA.....F..QRSDY	---	---WDFDVWGSQTQTVVSS
3BNC60	..SL..QASW.FDTY---SF..D.KAV.....I.F..QRSDF	---	---WDFDVWGSQTQTVVSS
NIH45-46	.....VYSD	FL.RS.T.....F.T.GKYCTARDYNNWDFEHWGRGAPTVVSS	
PGV04	..SL..---RDLF---.H.DIRG.TQG...T.F...QKFYTG	---QGWYFDLWGRGTLIVVSS	
PGV19	.....FY.D---.F.DFRN.KM...L.F..MGAAR	---	---EWDFQYWGQGTQTVVSS
PGV20	.....VYRE---V..LD.RS.TFA...F...RMRSQ-D	---	---REWDFQHWGQGTQTVVSS
VRC-CH30	.L.A.---G.MT---.FL.VRS.....AQKRGR	---	---SEWAYAHWGQGTQTVVSS
VRC-CH31	...A.---R.MT---.FL.VKS.....AQKRGR	---	---SEWAYAHWGQGTQTVVSS
VRC01	.....VYSD	FL.RS.TV.....F.T.GKNCD	---YNWDFEHWGRGTPVIVSS
VRC03	..S...QLSQ.PDDPDWGV...F.G.TPA...E.F.V.RGSCDYC	---	---GDFPWQYWGQGTQTVVSS
VRC06	..S.S.LFSQ.LYYPDRG...L.F.G.T.A...D.F.V.RGSSCPH	---	---CGDFHFEHWGQGTAVVSSA
VRC23	.L.L.---LYTE---.HFKN.....I.....GVRRA	---	---SWWLQFWGQGLTVTVSS

B.

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-----FR1----- CDR1 -----FR2----- CDR2_
IGKV1-33*01 DIQMTQSPSSLSASVGRVTITTCQASQDISNY-LNWIYQOKPGKAPKLLIYDASNLET
12A12 .....G.G.GSS-.Q.....VHG...HR
12A21 .....N...G.G.GSS-...K...R...VHG...QR
Min12A21 .....G.G.GSS-.....
3BNC60 .....R...T.....N---G-.....RR.....G.K..R
3BNC117 .....T.....---NG-.....RR.....G.K..R
VRC-CH30 .....L.....RG.GKD-.....VS...I..G
VRC-CH31 .....L.....RG.GKD-.....A.....VS...T..G
IGKV3-11*01 EIVLTQSPATLSLSPGERATLSCRASQSVSSY-LAWYQOKPGQAPRLLIYDASNRAT
6fL .....T..YG.----.....V..SG.T..A
NIH45-46 .....T.II..T..G.----.....R.....V..SG.T..A
VRC01 .....G.....T.II..T..YG.----.....R.....V..SG.T..A
MinVRC01 .....T..YG.----.....G.....
IGKV3-15*01 EIVMTQSPATLSVSPGERATLSCRASQSVSSN-LAWYQOKPGQAPRLLIYGASTRAT
VRC23 .....V.V...R.GT.....G.G.D-V...H...T.....S
IGKV3-20*01 EIVLTQSPGTLSPGERATLSCRASQSVSSYLAWIYQOKPGQAPRLLIYGASSRAT
PGV04 .....T.S...T.ASYGH---MT...K...P.K...FAT.K..S
VRC03 .....I.....T...F.K...GGNA---MT...KRR..V.....DT.R..S
VRC06 .....A.....T.....GGN---N...KRR..T.....DT.R..S
IGLV2-14*01 QSALTQ-PASVSGSPGQSITISCTGTSSDVGGYNYVSWYQHPGKAPKLMIEVSNR
PGV19 .....-.....A...FR.FSS.....V..R...L.FS.NR.
PGV20 .....-P.....L...A.T-----S.A...YAD...R.IVFDGNK.
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-----FR3----- CDR3-----FR4-----
IGKV1-33*01 GVPSRFSGSGGTDFITISLQPEDIAITYCQYDNL
12A12 .....FH.T.SL...G..RD.F...F.AVLEFFGPGTKVEIK
12A21 .....FH.T..L.....D.V...F.AVFQWFGPGTKVDIK
Min12A21 .....FH.T.....AVFQWFGPGTKVDIK
3BNC60 ...A...RRW.QEYNL..NN.....V...F..V.EFIVPGTRLDLK
3BNC117 .....RRW.QEYNL..NN.....F..V.EFVVPGTRLDLK
VRC-CH30 .....FHQN.SL.....V...F...ETFGQGTKVDIK
VRC-CH31 .....FHQN.SL.....A..V...F...ETFGQGTKVDIK
IGKV3-11*01 GIPARFSGSGGTDFITLISLEPEDFAVYYCQQRSNWP
6fL .....R..P.Y.....YEFFGPGTKVQVDIK
NIH45-46 ...D...RW.A.YN.S..N..SG..G.....YEFFGQGTKVQVDIK
VRC01 ...D...RW.P.YN...N..SG..G.....YEFFGQGTKVQVDIK
MinVRC01 .....RW.P.....YEFFGQGTKLEIK
IGKV3-15*01 GIPARFSGSGGTEFTLISLQSEDFAVYYCQYNNWP
VRC23 .V.E.....FHVD...S..G..P..V.I.....ETFGQGTKVEIK
IGKV3-20*01 GIPDRFSGSGGTDFITLISRLEPEDFAVYYCQYGS
PGV04 .....QF.KOY...T.M.....R...LEFFGQGTRLEIR
VRC03 .V...V.....F...NK.DR.....FEFFGLGSELEVH
VRC06 D..EK.V.....S...TKVG.....FEFFGLGTTLEIN
IGLV2-14*01 PSGVSNRFSKSGNTASLTISGLQAEDEADYCSSTL
PGV19 ...I.H.....I.....H.NA.EFFGGTKVFLVQ
PGV20 ..DI.S...Q..G.....S...Y.H.NA.FEFFGGTKLTVLSQ
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