

Figures

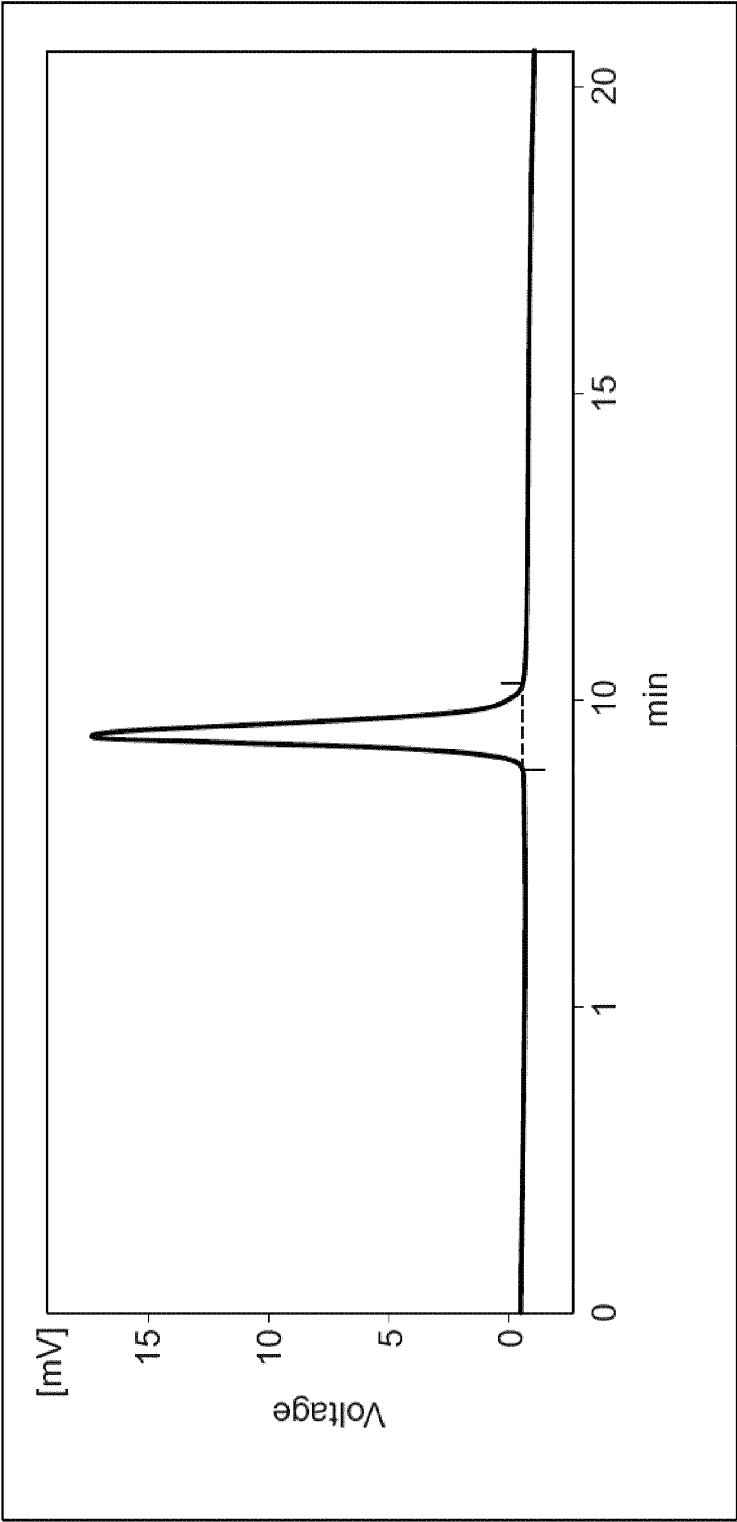


Fig. 1a

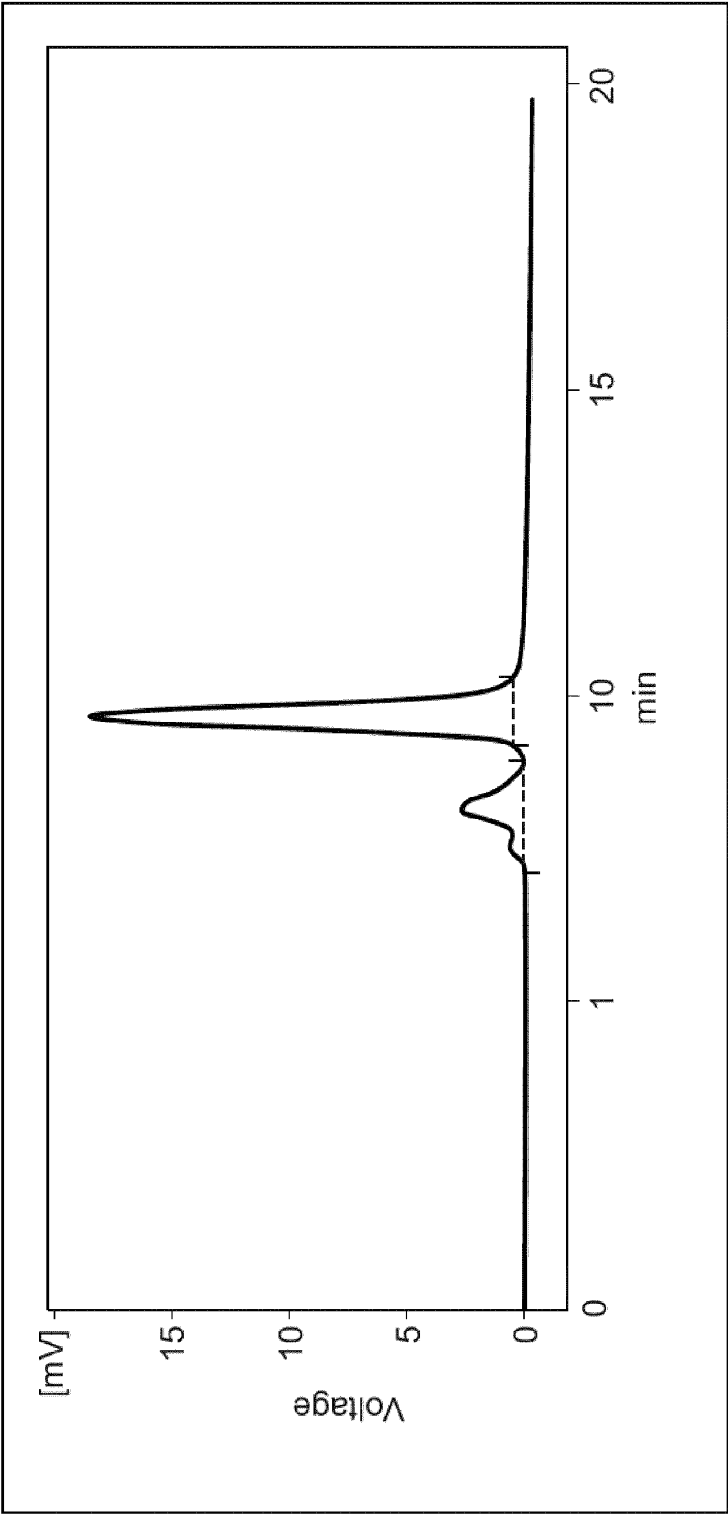
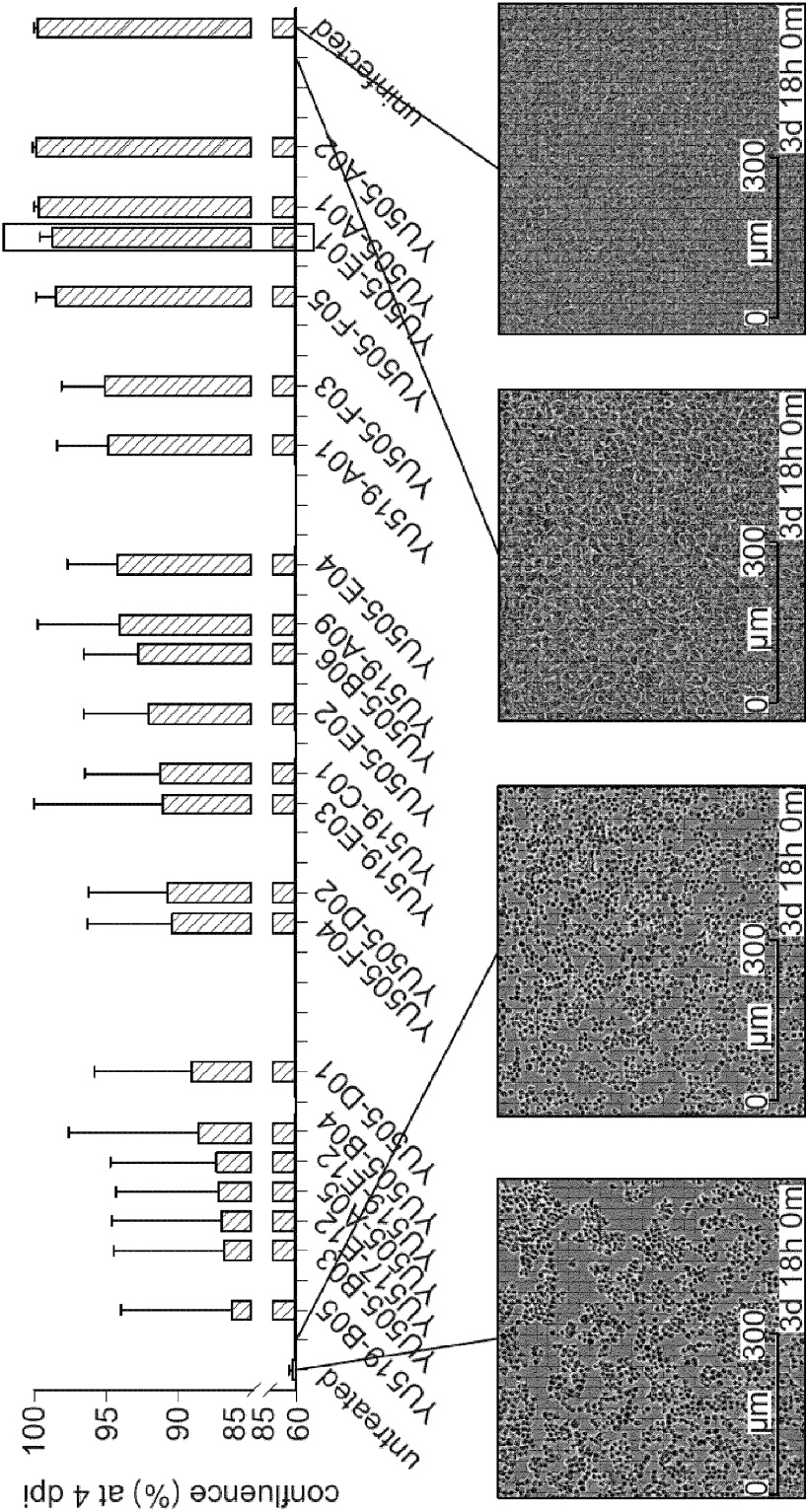


Fig. 1b



Antibody	▼	Germline VH	▼	Germline VL	▼
YU535-C09		IGHV3-15*04		IGKV1-39*01	
YU537-B05		IGHV1-2*02		IGLV2-14*01	
YU534-H01		IGHV1-2*02		IGLV2-14*01	
YU534-F11		IGHV1-2*04		IGLV2-14*01	
YU536-C01		IGHV3-23*01		IGKV1-5*01	
YU535-A06		IGHV3-23*04		IGKV1-5*01	
YU535-D12		IGHV3-23*04		IGKV1-5*01	
YU534-C09		IGHV1-69*09		IGLV1-36*01	
YU534-C12		IGHV1-46*01		IGLV2-14*01	
YU535-A02		IGHV1-3*01		IGKV1-5*01	
YU535-E07		IGHV1-3*01		IGKV1-5*01	
YU536-E12		IGHV3-53*01		IGLV1-40*01	
YU537-E03		IGHV3-53*01		IGLV1-40*01	
YU534-D06		IGHV3-66*02		IGLV2-14*01	
YU536-E07		IGHV3-66*02		IGKV1-9*01	
YU534-B03		IGHV3-66*02		IGLV1-40*01	
YU534-D10		IGHV3-66*02		IGLV1-40*01	
YU536-D04		IGHV3-66*02		IGKV1-9*01	
YU537-B08		IGHV3-53*01		IGLV2-14*01	
YU537-H11		IGHV3-53*01		IGLV1-51*01	
YU534-A11		IGHV3-66*02		IGLV1-36*01	
YU534-G06		IGHV1-69*14		IGLV2-14*01	
YU534-H02		IGHV1-69*14		IGLV2-14*01	
YU534-F06		IGHV1-69*14		IGLV2-23*02	
YU534-C05		IGHV1-2*02		IGLV1-40*01	
YU534-D09		IGHV1-69*14		IGLV2-14*01	
YU535-C06		IGHV1-3*01		IGKV1-5*01	
YU535-A09		IGHV3-23*01		IGKV1-5*01	
YU535-G09		IGHV3-23*01		IGKV1-5*01	
YU536-H01		IGHV3-23*01		IGKV1-5*01	
YU536-H05		IGHV3-23*01		IGKV1-5*01	
YU535-G02		IGHV3-23*04		IGKV1-5*01	
YU535-G11		IGHV3-23*01		IGKV1D-13*01	
YU534-B11		IGHV3-23*04		IGLV1-40*01	
YU534-C10		IGHV3-23*04		IGLV1-40*01	
YU535-D10		IGHV5-51*01		IGKV1-39*01	
YU535-B02		IGHV5-51*01		IGKV1S2*01	
YU534-D07		IGHV5-51*01		IGLV1-44*01	
YU537-H08		IGHV1-46*01		IGLV3-21*02	
YU534-E01		IGHV3-23*04		IGLV1-51*02	
YU534-C02		IGHV3-23*01		IGLV1-51*02	
YU534-C06		IGHV3-23*01		IGLV1-40*01	
YU536-C12		IGHV3-23*01		IGLV2-14*01	
YU534-G10		IGHV3-23*04		IGLV2-14*02	

Fig. 3

CDR of VH	▼
DAWMT_RINSNTDHGTTDYAAPVKG_SYYDYWSAFLY	
GYMH_WINPISGGTNYAQKFQG_VPYYYDSSGLWFDP	
GYMH_WINPNSGGTNYAQKFQG_APMYYYDSSGYFDY	
GYMH_WINPNSGGTNYAQKFQG_GPQLNMITFGGVGYAFDI	
NYAMS_AFSGSGGSTYYADSVKG_GARGGYDYGDY	
SYAMS_AIGSGGGSTYYADSVKG_GPRSSGDYFDY	
RYAMS_AISGSGGSTYYADSVKG_GPRSGWDYFDY	
NYAVS_RIIPNLGLTKYAQNFGG_GLGAYPDY	
NYYMH_IINPSGGSTSYAQKFQG_DLYAIFGVVID	
SNAMH_WINAGNGNTKYSQKFQG_GRDGYNVDYFEY	
SNVMH_WINAGNGNTKYSQKFQG_GRDGYNVDYFDY	
SNYMS_LIYSGGSTYYADSVKG_ALEVNTAGDYFDY	
SNYMS_LIYSGGSTYYADSVKG_ALEVNTAGDYFDY	
SNYMS_VIYSGGSTFYADSVKG_DGYYDILTGYSENSFDI	
SNYMS_VIYSGGSTFYADSVKG_DLGPYGMVDV	
SNYMS_VIYSGGSTFYADSVKG_DLGPYGMVDV	
SNYMS_VIYSGGSTYYADSVKG_DLVNWGMDY	
SNYMS_VIYSGGSTYYADSVKG_DLVVMGLDV	
SNYMS_VIYSGGSTYYADSVKG_GEIQPYYYGMDV	
SNYMS_VIYSGGSTYYADSVKG_GESGSPYGMVDV	
SNYMS_VIYSGGSTYYADSVKG_GKSITMVRGVPTGVPPYMDV	
SYAIT_GIIPFGTPNYAQKFQD_DKGFGEKGKGYHYYGLDV	
SYALT_GIIPFGTPNYAQKFQD_DKGFGEKGKGYHFYGLDV	
SYAIT_GIIPFGTPNYAQKFQD_DKGFGEKGKGYHYYGLDV	
SYAIS_WINPNSGGTNYAQKFQG_GPLPYNWNYEGHWFDI	
SYAIT_GIIPFGTPNYAQKFQD_DKGLGEGKGKGYHYYGLDV	
SYAMH_WINAGNGNTKYSQKFQG_SFDGSGSYNVDAFDI	
SYAMS_AISGSGGSTYYADSVKG_GPRGSADYVDY	
SYAMS_AISGSGGSTYYADSVKG_GPRGSADYVDY	
SYAMS_AISGSGGSTYYADSVKG_GVRYNSDYFDY	
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SYAMS_AISGSGGSTYYADSVKG_GPRSGTDYFDY	
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SYWIG_IIPGDS DTRYSPSFQG_QNYYDSSGYYFDY	
SYWIG_IIPGDS DTRYSPSFQG_SRSSDYFDY	
SYWIG_IIPGDS DTRYSPSFQG_YNSGWLDY	
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TYAMG_TISGTGGITYYADSVKG_VGDNYYDRSGNYHMDYFDY	
TYAMS_TISGTGGITYYADSVKG_VGDNYYDRSGNYHMDYFDY	
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TYAMS_TISGTGGITYYADSVKG_VGDNYYDRSGNYHMDYFDY	
TYAMS_TISGTGGITYYADSVKG_VGDNYYDRSGNYHMDYFDY	

Fig. 3 (continued)

CDR of VL	▼
RASQSISSYLN_AASSLQS_QQAYNIPYT	
TGTSSDVGGYNYVS_EVSNRPS_SSYTSSSTWV	
TGTSSDVGGYNYVS_EVSNRPS_SSYTSSSTYV	
TGTSSDVGGYNYVS_DVSNRPS_SSYTSSSTVV	
RASQSISSWLA_DASSLES_QQYNSYSPT	
RASQSISSWLA_DASSLES_QQYNSYWGT	
RASQSISSWLA_DASSLES_QQYNSYPMYT	
SGSSSNIGNNAVN_YDDLPS_AAWDDSLSGPV	
AGTSSDVGGYNYVS_DVTNRPS_SSYTSSSTWV	
RASQSISSWLA_DASSLES_QQYNSYPWT	
RASQSISSWLA_DASSLES_QQYNSYPWT	
TGSSSNIGAGYDVH_GNSNRPS_QSYDSSLSGWV	
TGSSSNIGAGYDVH_GNSNRPS_QSYDSSLSGYV	
TGTSSDVGGYNYVS_EVSNRPS_SSYTSSSTYVV	
RASQGISSYLA_AASTLQS_QQLNSYPPYT	
TGSSSNIGAGYDVH_GSNRPS_AAWDDSLSDV	
TGSSSNIGAGYDVH_GNSNRPS_QSYDSSLSGYV	
RASQGISSYLA_AASTLQS_QQLNSYPIT	
TGTSGDVGGYNYVS_DVSNRPS_SSYTSSSTPVV	
SGSSSNIGNNYVS_DTNKRPS_ATWDSSLVGV	
SGSSSNIGNNAVN_YDDLPS_AAWDDSLNGVV	
TGTSSDVGSYNFVS_EVNNRPS_SSYTSSSVV	
TGTSSDVGGYNFVS_EVSNRPS_SSYTSSGLI	
TGTSSDVGSYNLVS_EVSKRPS_SSYAGSNNVV	
SGSSSNIGNNYVS_GNSNRPS_QSYDSSLSGSV	
TGTSSDVGGYNYVS_EVSNRPS_TSYTSNSNLA	
RASQSISSWLA_DASSLES_QQYNSYSWT	
RASHSISSWLA_DASSLES_QQYNTYSGT	
RASQSISSWLA_DASSLES_QQYNSYSYT	
RASQSISSWLA_DASSLES_QQYNSVLGVT	
RASQSISSWLA_DASSLES_QQYETYSQT	
RASESIRSWLA_DASNLES_QQYYSYPLT	
RASQGISSWLA_DASSLES_QQFNYSYPLT	
TGSSSNIGAGYDVH_GNSNRPS_QSYDSSLSGSV	
TGSSSNIGAGYDVH_GNSNRPS_QSYDSSLSGVV	
RASQSISSYLN_AASSLQS_QQSYSTHSWT	
RASQGISSWLA_DASNLET_QQYDNLPVT	
SGSSSNIGSNPNVN_SNNQRPS_AAWDDSLNGNVL	
GGNNIGSKSVH_DDSDRPS_QVWDSSTAV	
SGSSSNIGNNYVS_EDNERPS_GTWDSSLVML	
TGSSSNIGAAYDVH_ENNKRPS_GTWDGSLSV	
TGSTSNIGAGYDVQ_EDNNRPS_QSSVSSLSAVV	
TGTSSDLGAYDYVS_DVNNRPS_NSYTSSSTWV	
TGTSSDVGSYNLVS_EGSQRPS_SSYTSSSTVV	

Fig. 3 (continued)

YU505-A01: VH

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYMHWVVRQAPGQGGLF
WMGIINPSGGSTSYAQKFKQGRVTMTRDTSTSTVYMESSLRSEDYAVYY
CARDRHYDSSGSSQATFLFDYWGGQGLTVTVSS

YU505-A01: VL

QSVLTQPPSVSGAPGQQRVTISCTGSSNIGAGYDVHWYQQLPGTAPKLLI
YGNSNRPSGVDPDRFSGSKSGTSASLAITGLQAEDEADYYCQSYDSSLNVF
GTGTKLTVL

Fig. 4a

YU505-A02: VH
QVQLVESGAENVKKPGSSVKVSCCKASGGTFSSYAISWVRQAPGQGLEWM
GGIIPFGTANYAQKFQGRVTITADESTSTAYMELSSLRSEDTAVYYCARQI
WAYDSSGYPVPAEYFQHWGQGTLTVSS

YU505-A02: VL
QSVLTQPPSVSGAPGQRVTISCTGSSNIGAGYDVHWYQQLPGTAPKLLI
YGNSNRPSGVPDRFSGSKSGTSASLAITGLQAEDEADYYCQSYDSSLSGV
VFGGGTKLTVL

Fig. 4b

YU505-E01: VH
QVQLVQSGAEVKKPGSSVKVSCKASGGTFSSYSIVWVRQAPGQGLEW
MGGIPIFGTTNVAQKFQGRVTITADESTSTAFMELSNLKSEDTAVYFCAR
SLGATRDYWGQGTLVTVSS

YU505-E01: VL
SYVLTQPPSVSEAPRQRVTISCSGSSNIGNNAVNWYQQQLPGKAPKLLIY
YDDLPSGVSDRFSGSKGTSASLAISGLQSEDEADYYCAAWDDSLNGPV
FGGGTKVTVL

Fig. 4c

YU505-F05: VH
EVQLLESGGKVVPGRSLRLSCAASGFTFSSYGMHWVRQAPGKGLEW
VAVMSYDGSKKYYADSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYC
VTQGM DVWGQGGLTVSS

YU505-F05: VL
QSVLTQPPSVAPGKTARITCGGNNIGSKSVHWYQQKPGQAPVLIYYI
SDRPSGIPERFSGNSGNTATLTISRVEAGDEAAYYCHVW DSSSDHVVFG
GGTKLTVL

Fig. 4d

YU505-A01: DNA-sequence of scFv

CAGGTGCAGCTGGTGCAGTCTGGGGCTGAGGTGAAGAAGCCTGGGGCCT
CAGTGAAGGTTTCCTGCAAGGCATCTGGATACACCTTCACCAGCTACTATAT
GCACTGGGTGCGACAGGCCCTGGACAAGGGCTTGAGTGGATGGGAATA
ATCAACCCTAGTGGTGGTAGCACAAGCTACGCACAGAAGTTCCAGGGCAG
AGTCACCATGACCAGGGACACGTCCACGAGCACAGTCTACATGGAGCTGA
GCAGCCTGAGATCTGAGGACACGGCCGTGTATTACTGTGCTAGAGACCGCC
ATTACTATGATAGTAGTGGTTCTTCCCAGGCCACCTTTCTCTTTGACTACTGG
GGCCAGGGAACCCTGGTCACCGTGTCTCACAGTCTGTGTTGACGCAGCC
GCCCTCAGTGTCTGGGGCCCCAGGGCAGAGGGTCACCATCTCCTGCACTG
GGAGCAGCTCCAACATCGGGGCAGGTTATGATGTACACTGGTACCAGCAG
CTTCCAGGAACAGCCCCCAAACCTCCTCATCTATGGTAACAGCAATCGGCCCT
CAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTCCC
TGGCCATCACTGGGCTCCAGGCTGAGGATGAGGCTGATTATTACTGCCAGT
CCTATGACAGCAGCCTGAATGTCTTCGGAACCTGGGACCAAGCTGACCGTCC
TA

Fig. 5a

YU505-A02: DNA-sequence of scFv

CAGGTGCAGCTGGTGGAGTCTGGGGCTGAGGTGAAGAAGCCTGGGTCCT
CGGTGAAGGTCTCCTGCAAGGCTTCTGGAGGCACCTTCAGCAGCTATGCTA
TCAGCTGGGTGCGACAGGCCCTGGACAAGGGCTTGAGTGGATGGGAGG
GATCATCCCTATCTTTGGTACAGCAAACACGCACAGAAGTTCCAGGGCAG
AGTCACGATTACCGCGGACGAATCCACGAGCACAGCCTACATGGAGCTGA
GCAGCCTGAGATCTGAGGACACGGCCGTGTATTACTGTGCACGTCAAATCT
GGGCTTATGATAGTAGTGGTTACCCCGTCCCGGCCGAATACTTCCAGCACTG
GGGCCAGGGCACCTGGTCACCGTGTCTCACAGTCTGTGTTGACGCAGC
CGCCCTCGGTGTCTGGGGCCCCAGGGCAGAGGGTCACCATCTCCTGCACT
GGGAGCAGCTCCAACATCGGGGCAGGTTATGATGTACACTGGTACCAGCA
GCTTCCAGGAACAGCCCCAACTCCTCATCTATGGTAACAGCAATCGGCC
CTCAGGGGTCCCTGACCGATTCTCTGGCTCCAAGTCTGGCACCTCAGCCTC
CCTGGCCATCACTGGGCTCCAGGCTGAGGATGAGGCTGATTATTACTGCCA
GTCCTATGACAGCAGCCTGAGTGGTGTGGTATTCTGGCGGAGGGACCAAGC
TGACCGTCCTA

Fig. 5b

YU505-E01: DNA-sequence of scFv

CAGGTTCAGCTGGTGCAGTCTGGAGCTGAGGTGAAGAAGCCTGGGTCCTC
GGTGAAGGTCTCCTGCAAGGCTTCTGGAGGCACCTTCAGCAGTTATAGTAT
TGTCTGGGTGCGACAGGCCCTGGACAAGGACTTGAGTGGATGGGAGGG
ATCATCCCTATTTTTGGTACTACAACTATGCACAGAAGTTCCAGGGCAGAG
TCACGATTACCGCGGACGAATCCACAAGCACAGCCTTCATGGAGCTGAGCA
ACCTAAAATCTGAGGACACGGCCGTCTATTTCTGTGCGAGATCTCTGGGAG
CCACTCGTGACTACTGGGGCCAGGGAACCCTGGTCACCGTGTCTCATCCT
ATGTGCTGACTCAGCCACCCTCGGTGTCTGAAGCCCCCAGGCAGAGGGTC
ACCATCTCCTGTTCTGGAAGCAGCTCCAACATCGGAAATAATGCTGTAACT
GGTACCAGCAGCTCCCAGGAAAGGCTCCCAAACCTCCTCATCTATTATGATGA
TCTGCTGCCCTCAGGGGTCTCTGACCGATTCTCTGGCTCCAAGTCTGGCAC
CTCAGCCTCCCTGGCCATCAGTGGGCTCCAGTCTGAGGATGAGGCTGATTA
TACTGTGCAGCATGGGATGACAGCCTGAATGGTCCGGTGTTTCGGCGGAG
GGACCAAGGTCACCGTCCTA

Fig. 5c

YU505-F05: DNA-sequence of scFv

GAGGTGCAGCTGTTGGAGTCTGGGGGAGGCGTGGTCCAGCCTGGGAGGT
CCCTGAGACTCTCCTGTGCAGCCTCTGGATTACCTTCAGTAGCTATGGCAT
GCACTGGGTCCGCCAGGCTCCAGGCAAGGGGCTGGAGTGGGTGGCAGTT
ATGTCATATGATGGAAGTAAAAAATACTATGCAGACTCCGTGAAGGGCCGAT
TCACCATCTCCAGAGACAATTCCAAGAACACGCTGTATCTGCAAATGAACA
GCCTGAGAGCTGAGGACACGGCTGTGTATTACTGTGTCACTCAGGGTATGG
ACGTCTGGGGCCAAGGGACCCTGGTCACCGTGTCTCACAGTCTGTGCTG
ACTCAGCCACCCTCAGTGTCAGTGGCCCCAGGAAAGACGGCCAGGATTAC
CTGTGGGGGAAACAACATTGGAAGTAAAAGTGTGCACTGGTACCAGCAGA
AGCCAGGCCAGGCCCTGTGTTGGTCATCTATTATATTAGCGACCGGCCCTC
AGGGATCCCTGAGCGATTCTCTGGCTCCAACCTCTGGGAACACGGCCACCCT
GACCATCAGCAGGGTCGAGGCCGGGGATGAGGCCGCCTATTACTGTCACG
TGTGGGATAGTAGTAGTGATCATGTGGTATTCGGCGGAGGGACCAAGCTGA
CCGTCCTA

Fig. 5d

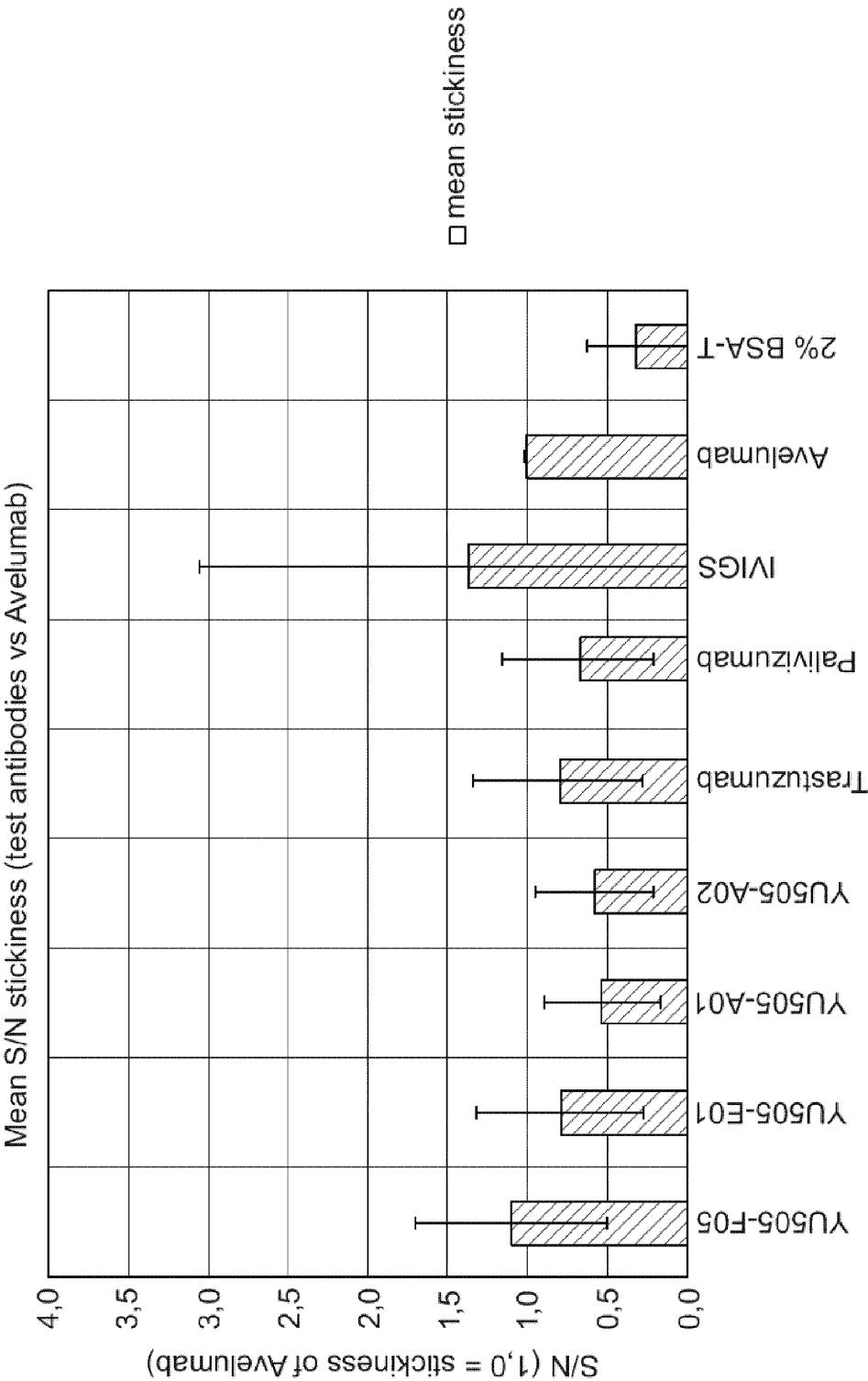


Fig. 6

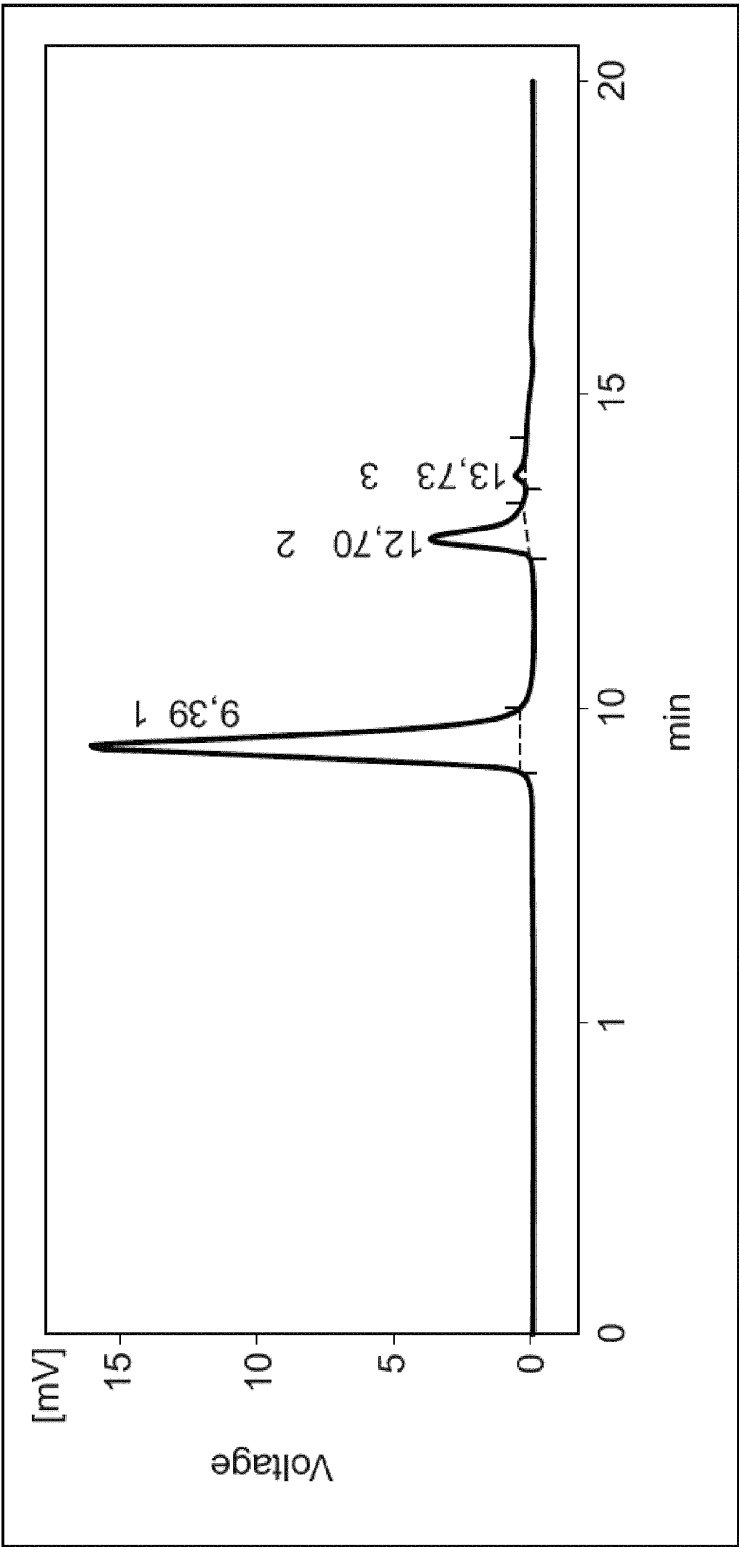


Fig. 7a

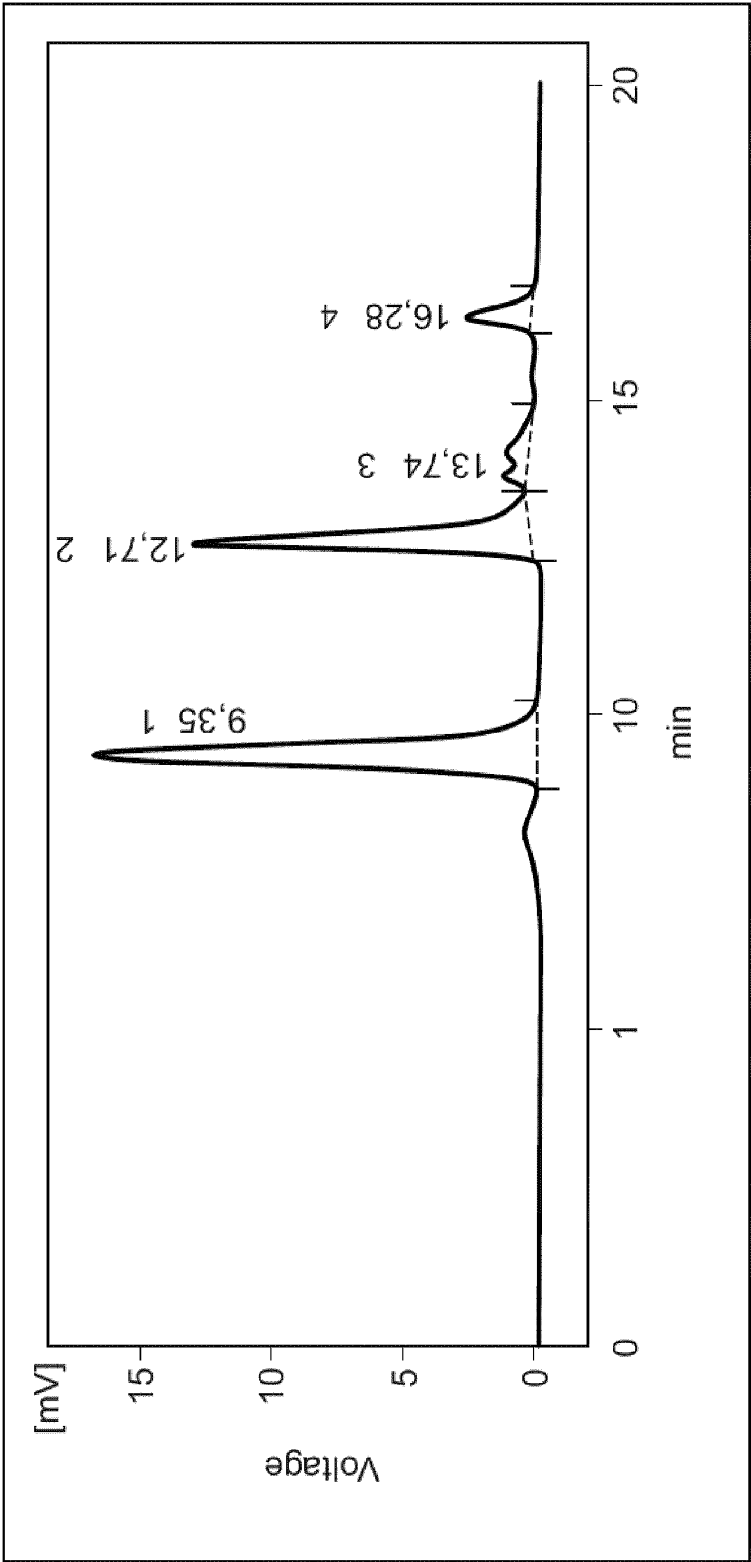


Fig. 7b

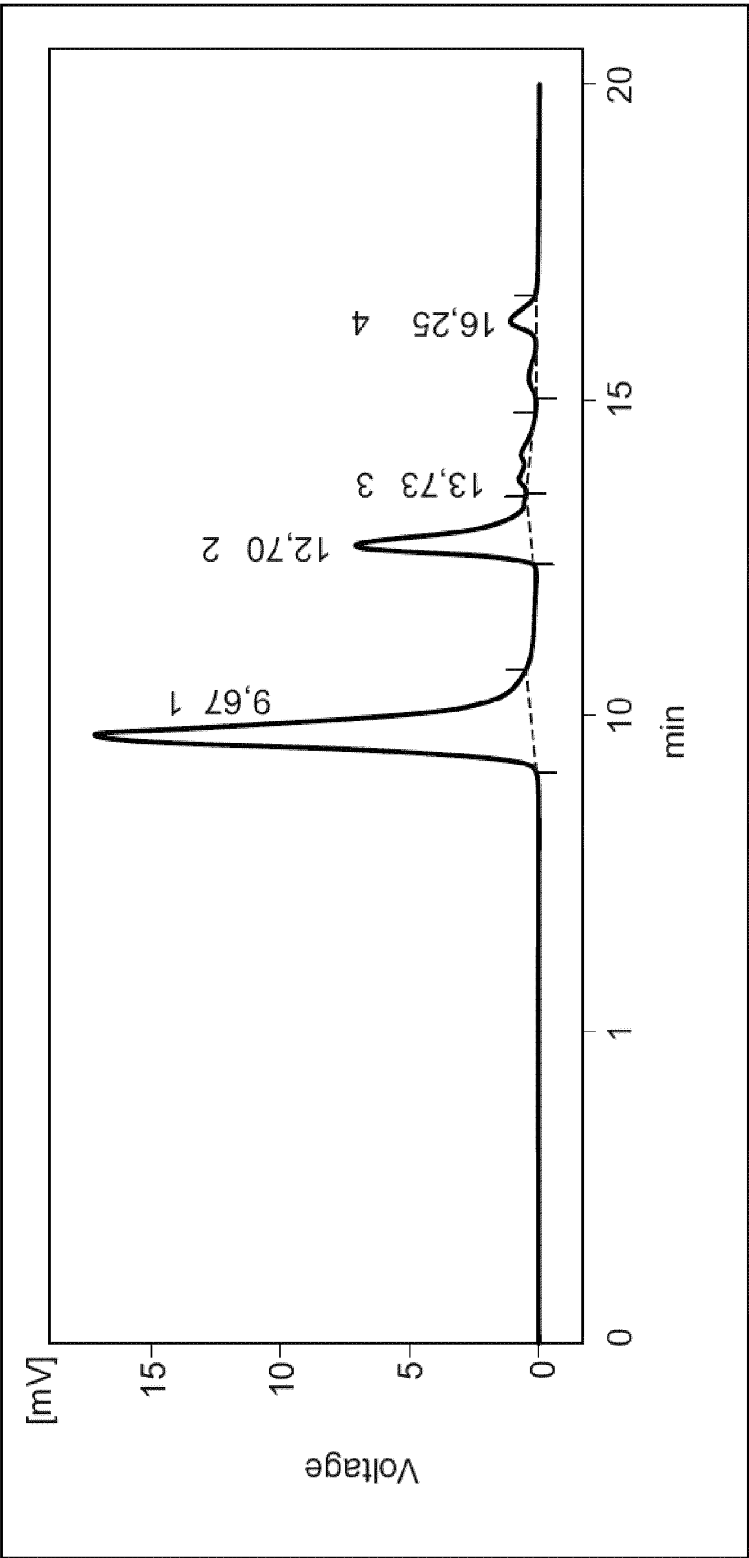


Fig. 7c

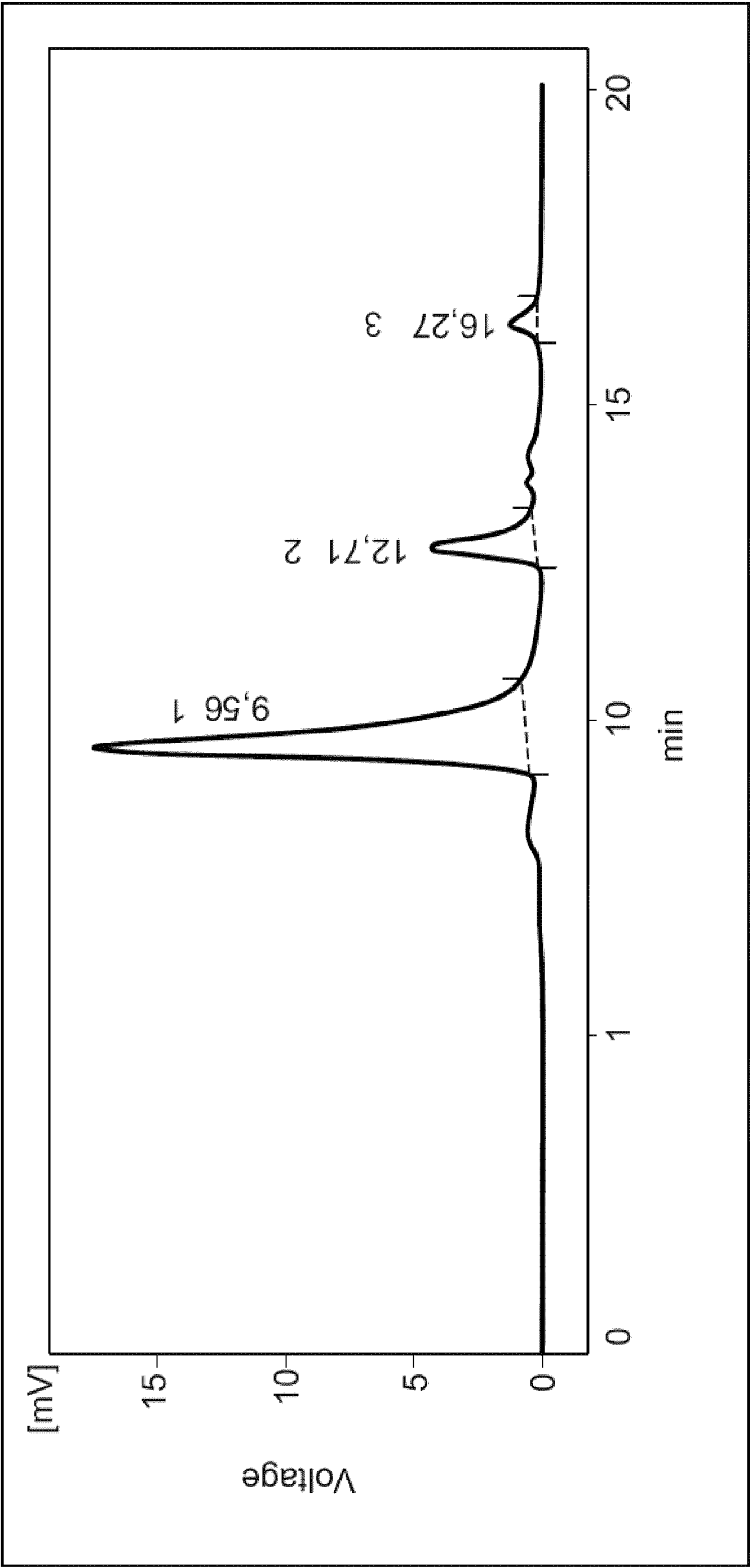


Fig. 7d

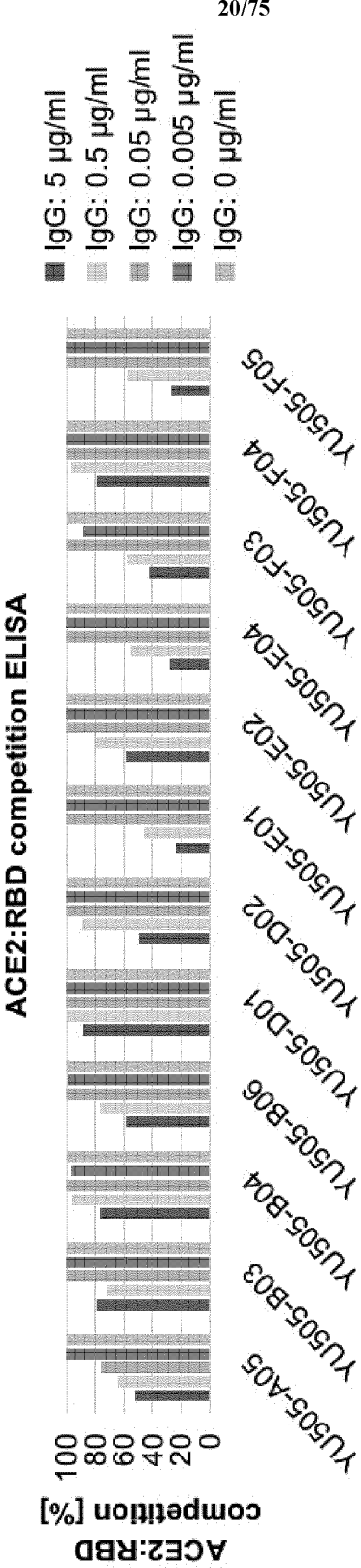


Fig. 8

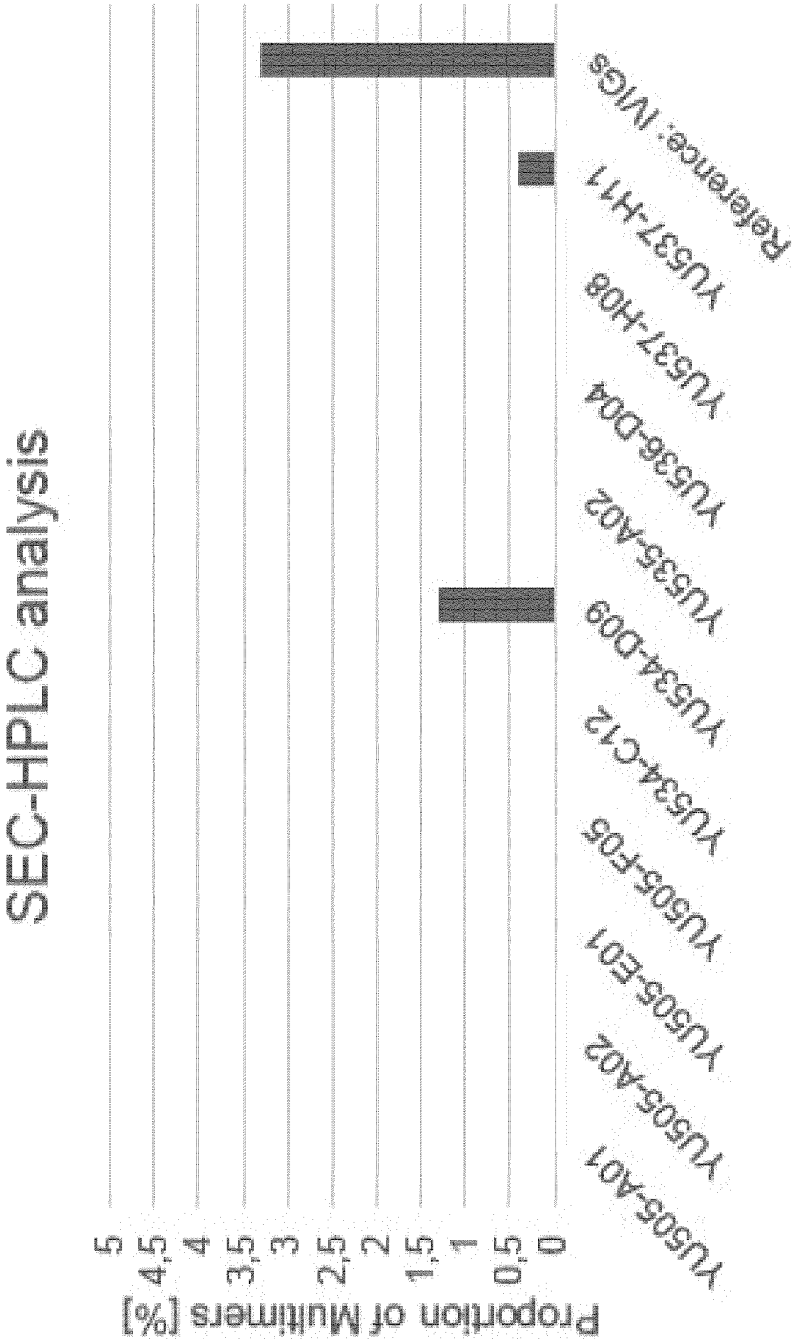


Fig. 9

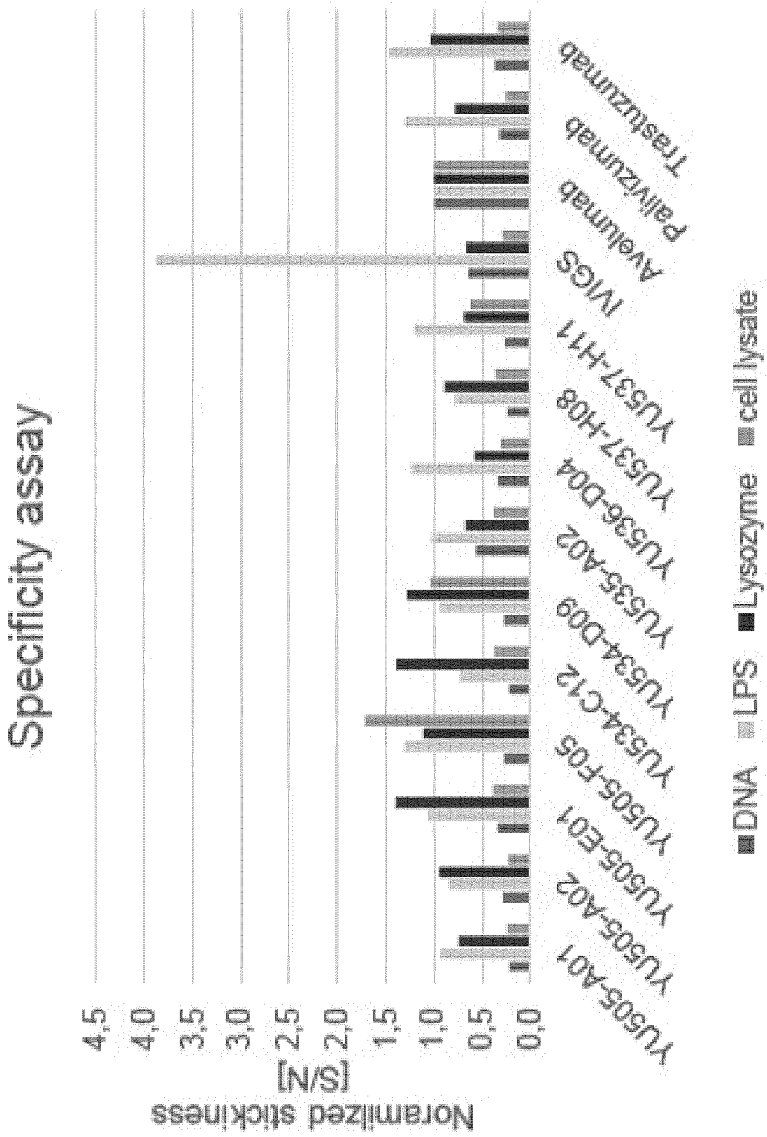


Fig. 10

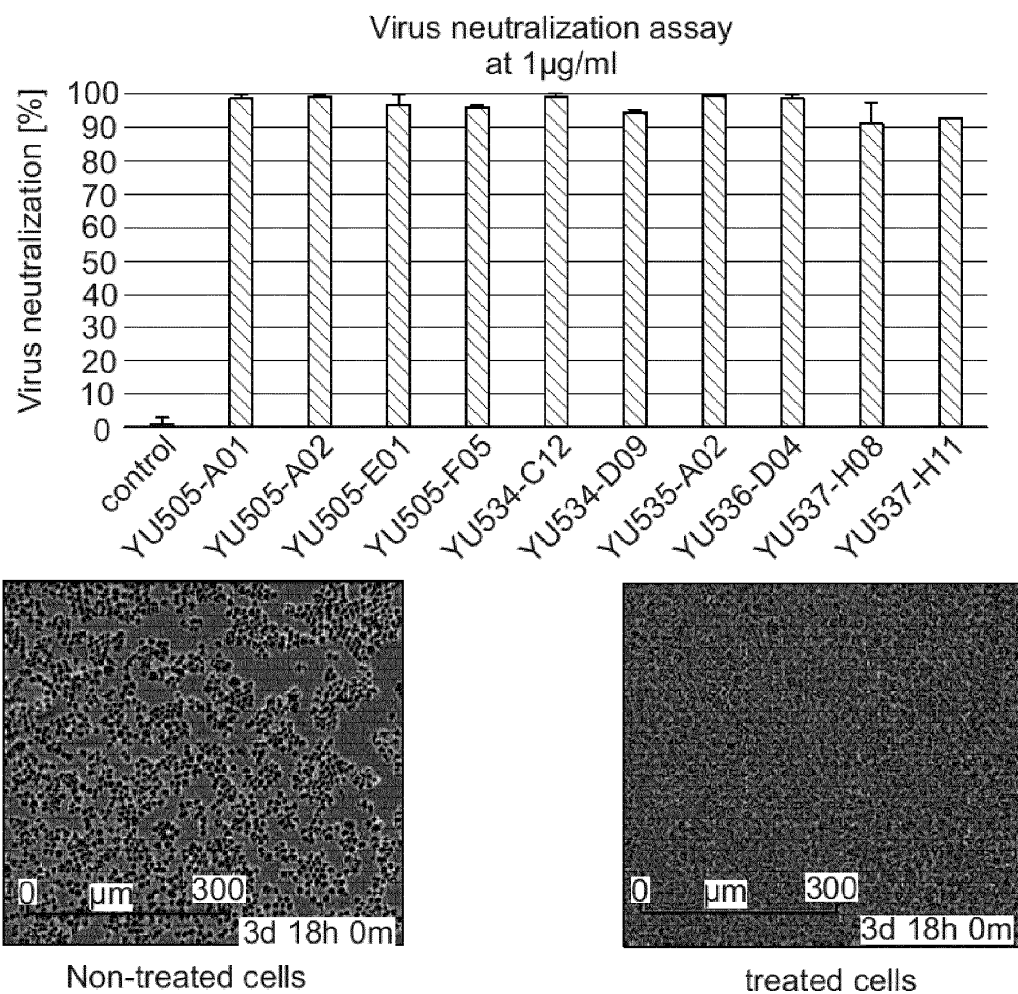


Fig. 11

ACE2:RBD blocking assay
at 5 µg/ml IgG

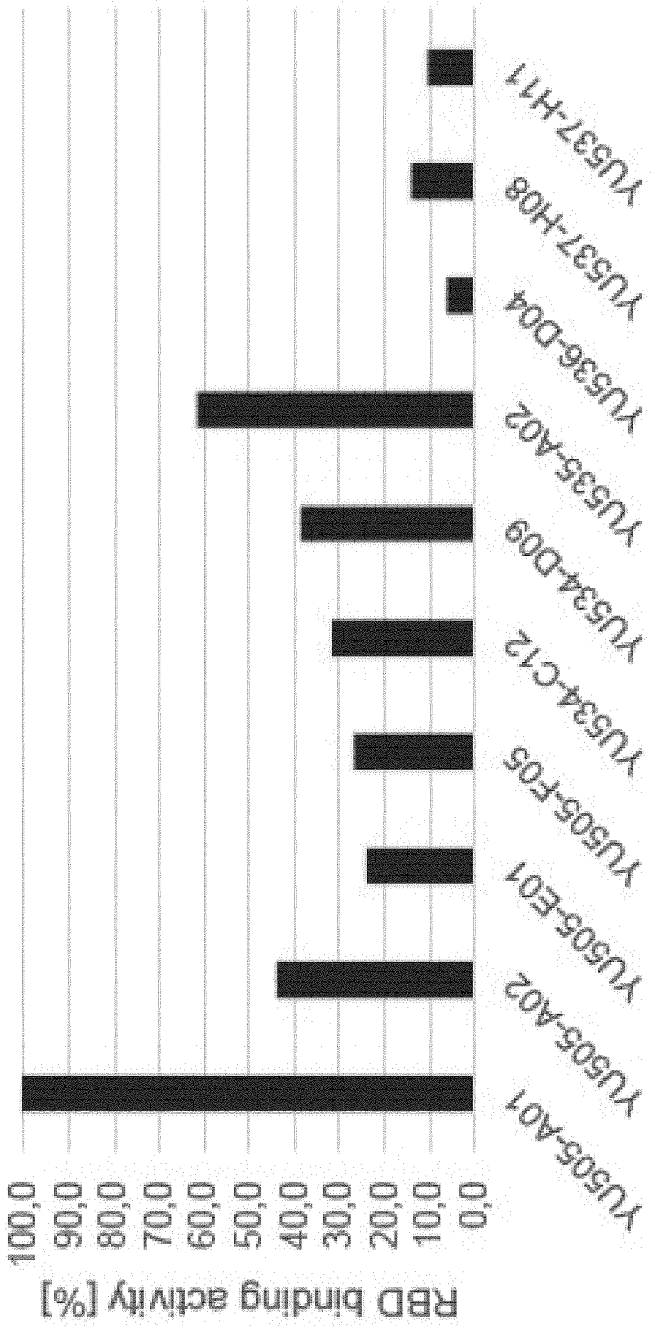


Fig. 12

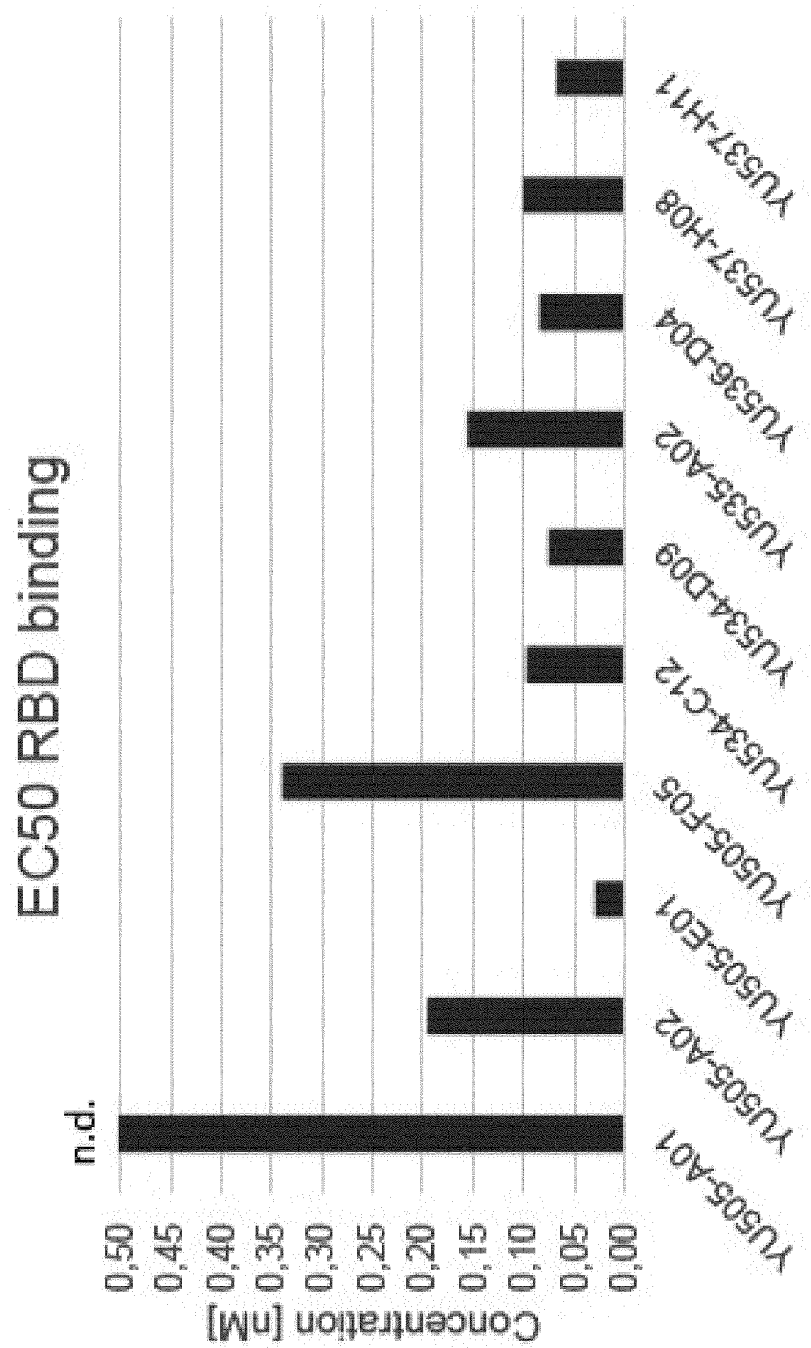


Fig. 13

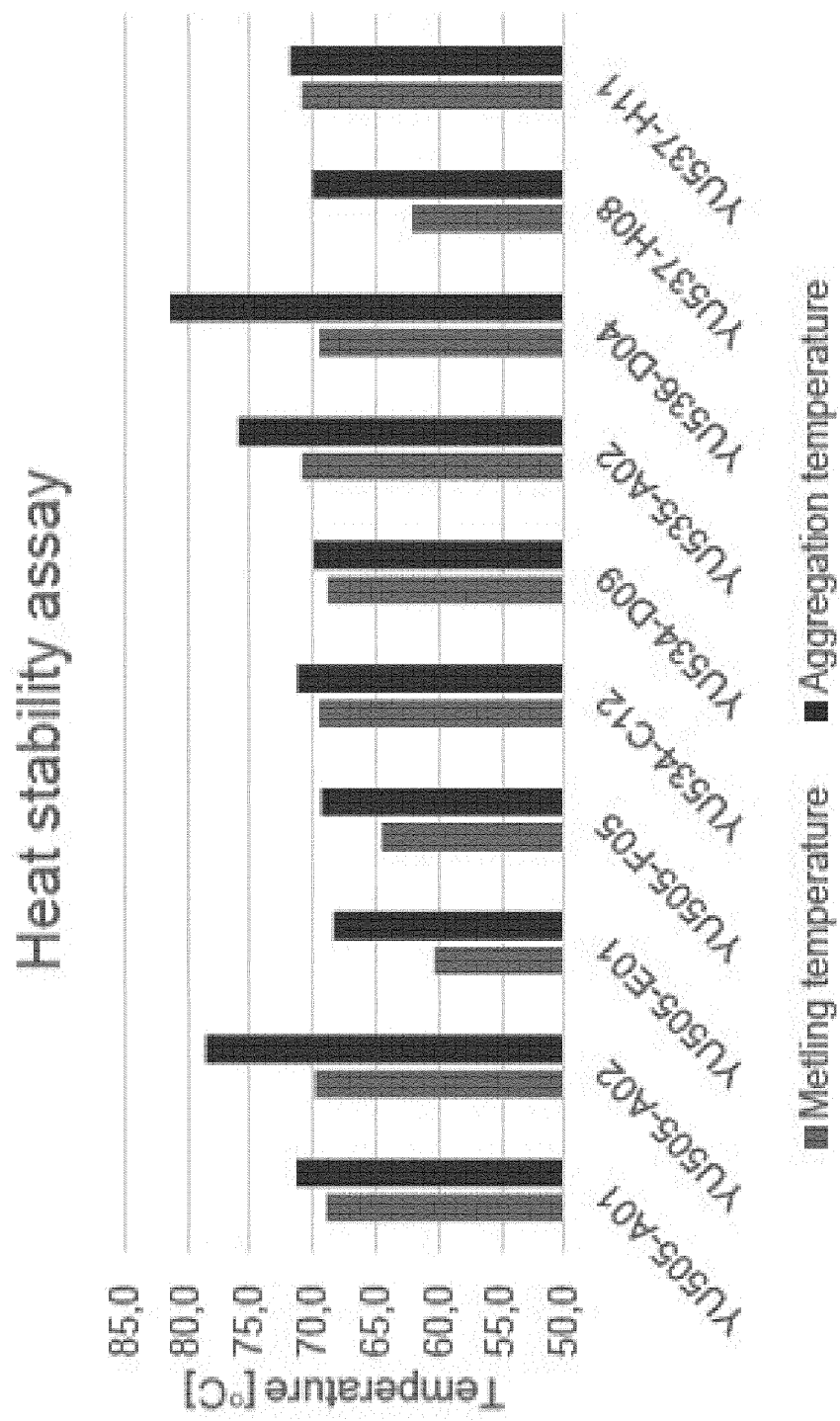


Fig. 14

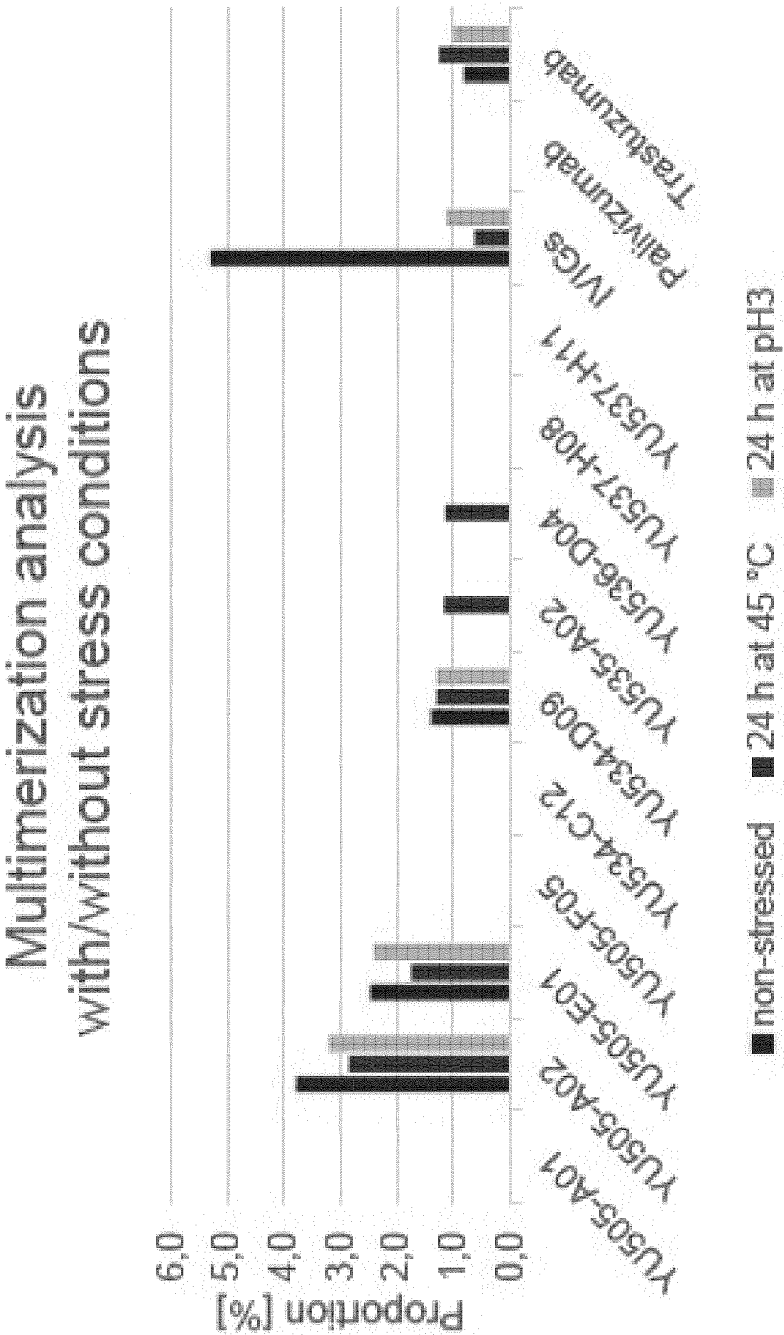


Fig. 15

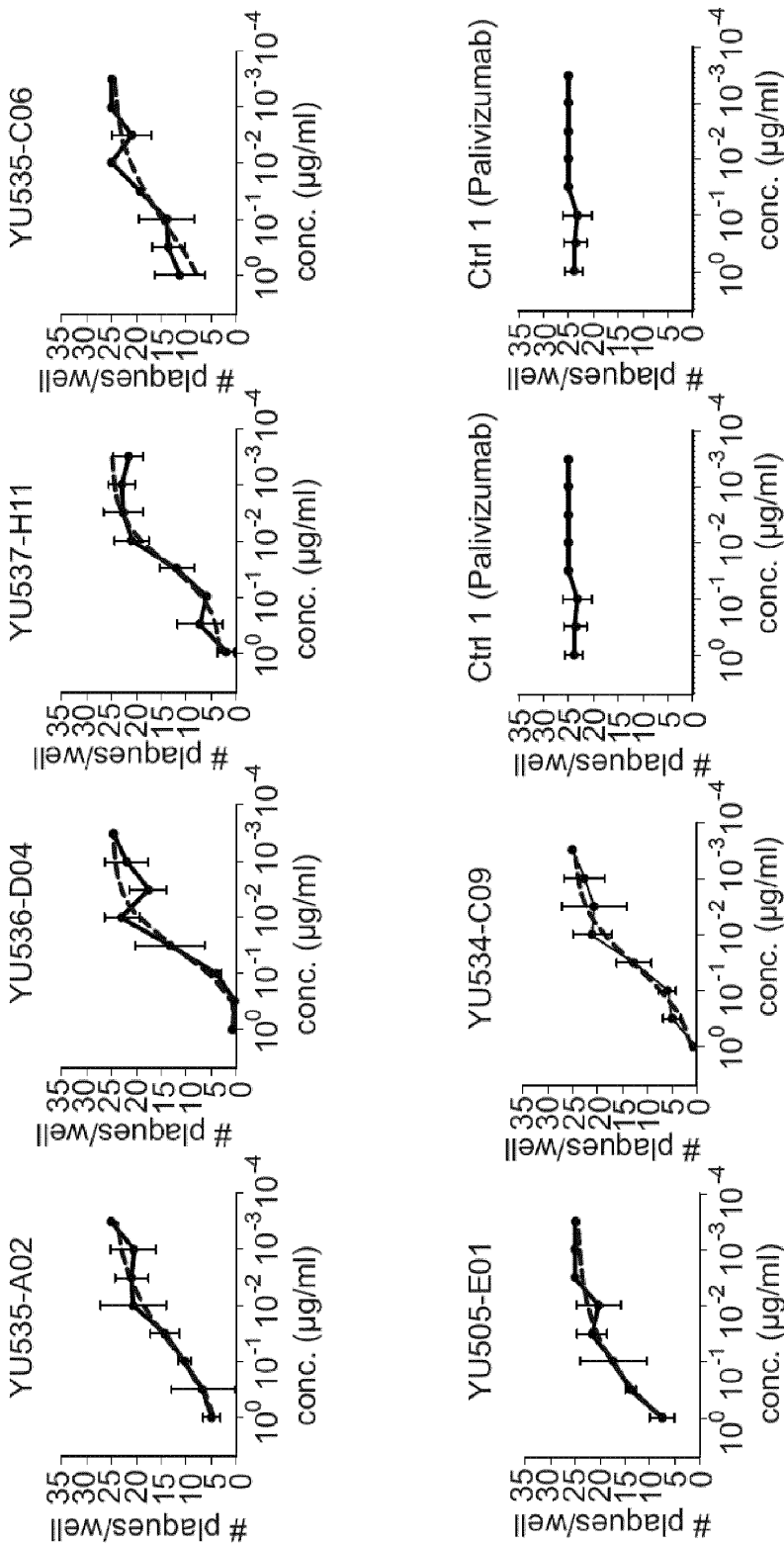


Fig. 16

IC50 (µg/ml)	R ²	Ab-Name
0.02539	0.857	YU537-H11
0.03243	0.606	YU537-E03
0.03599	0.885	YU534-C09
0.03672	0.855	YU536-D04
0.04848	0.794	YU535-A02
0.1195	0.530	YU505-F05
0.1296	1.075	YU534-D09
0.1304	0.658	YU535-C06
0.5112	1.122	YU534-C12
2.052	0.806	YU505-E01

Fig. 17

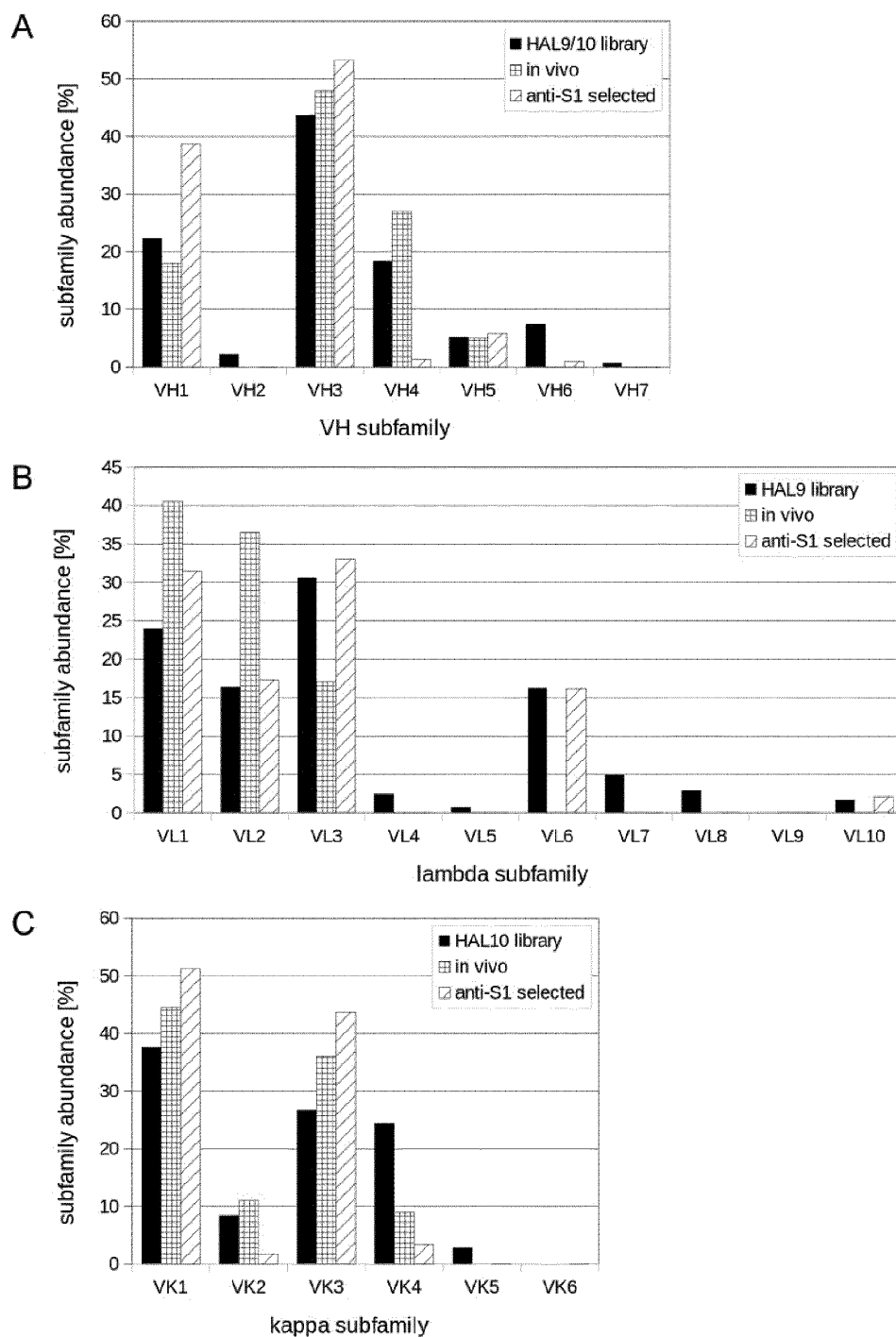


Fig. 18

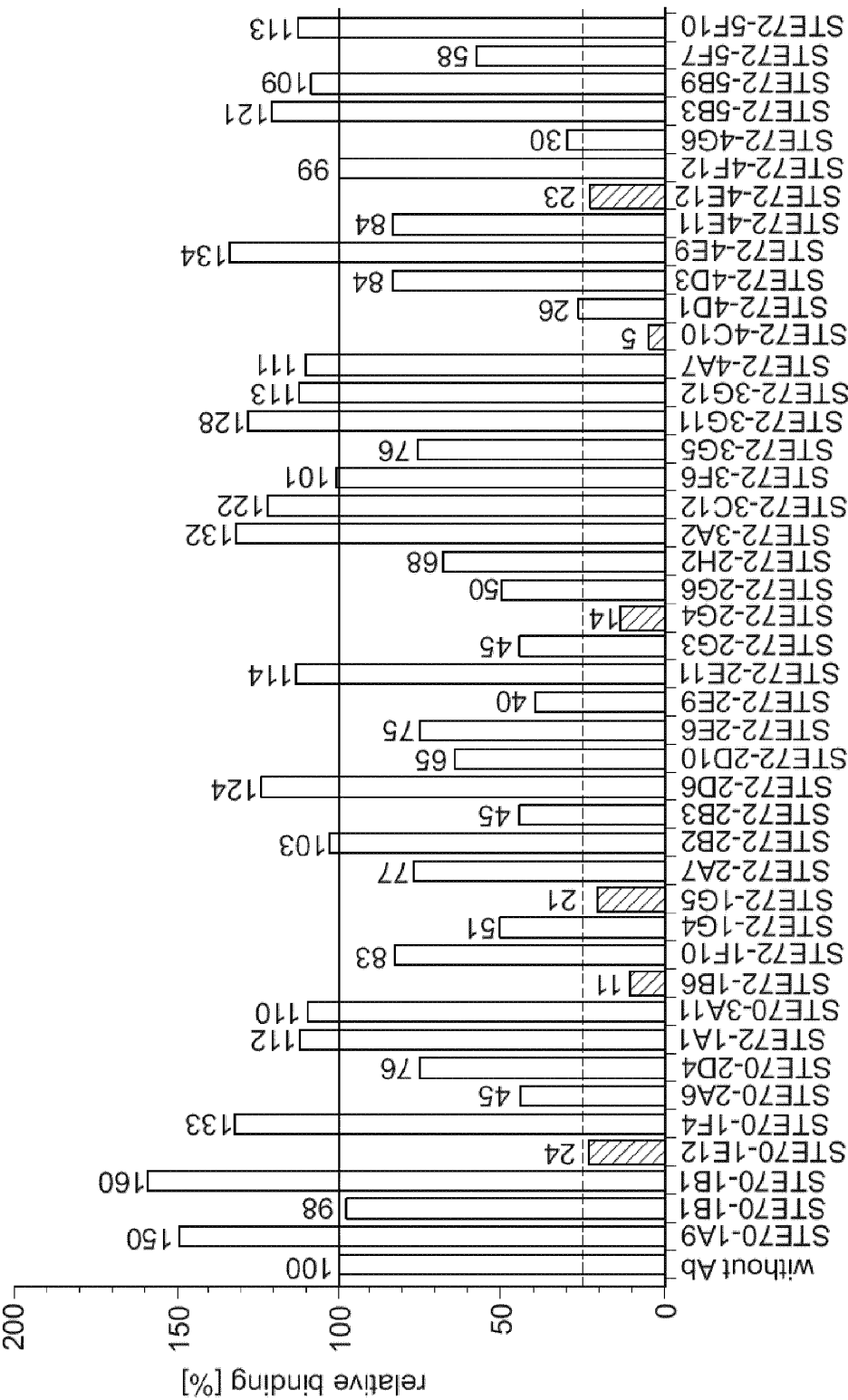


Fig. 19a

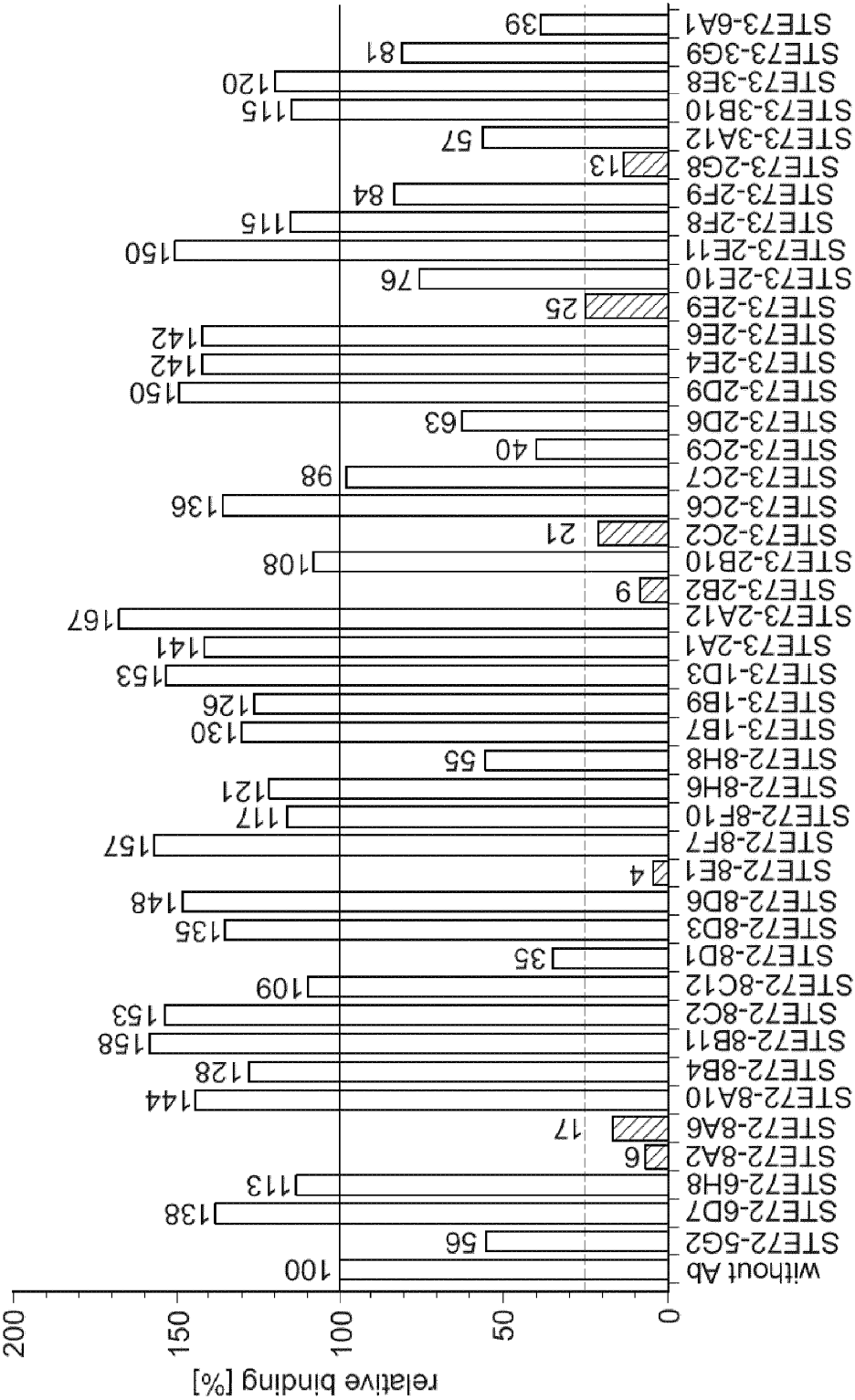


Fig. 19a (continued)

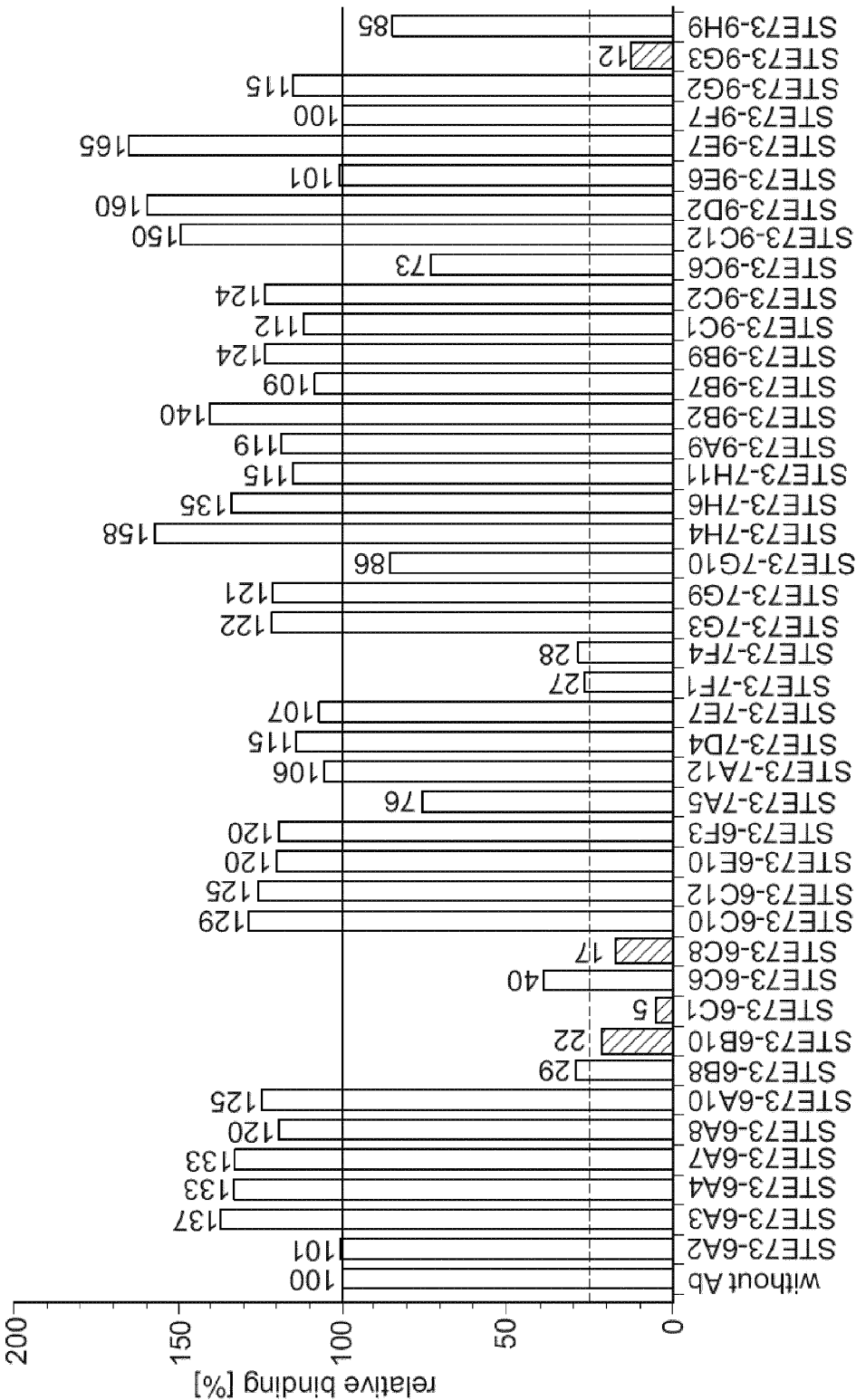


Fig. 19a (continued)

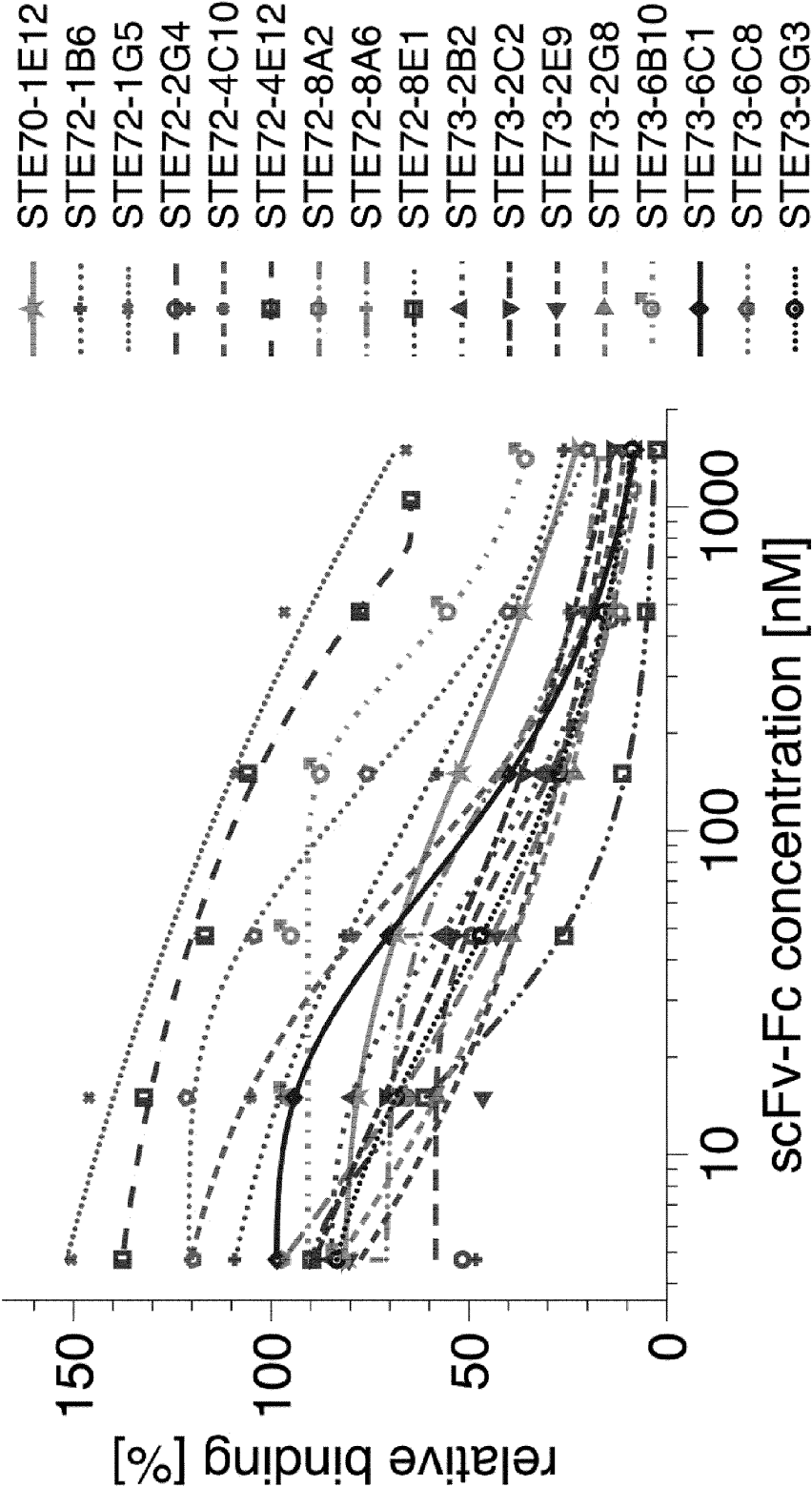


Fig. 19b

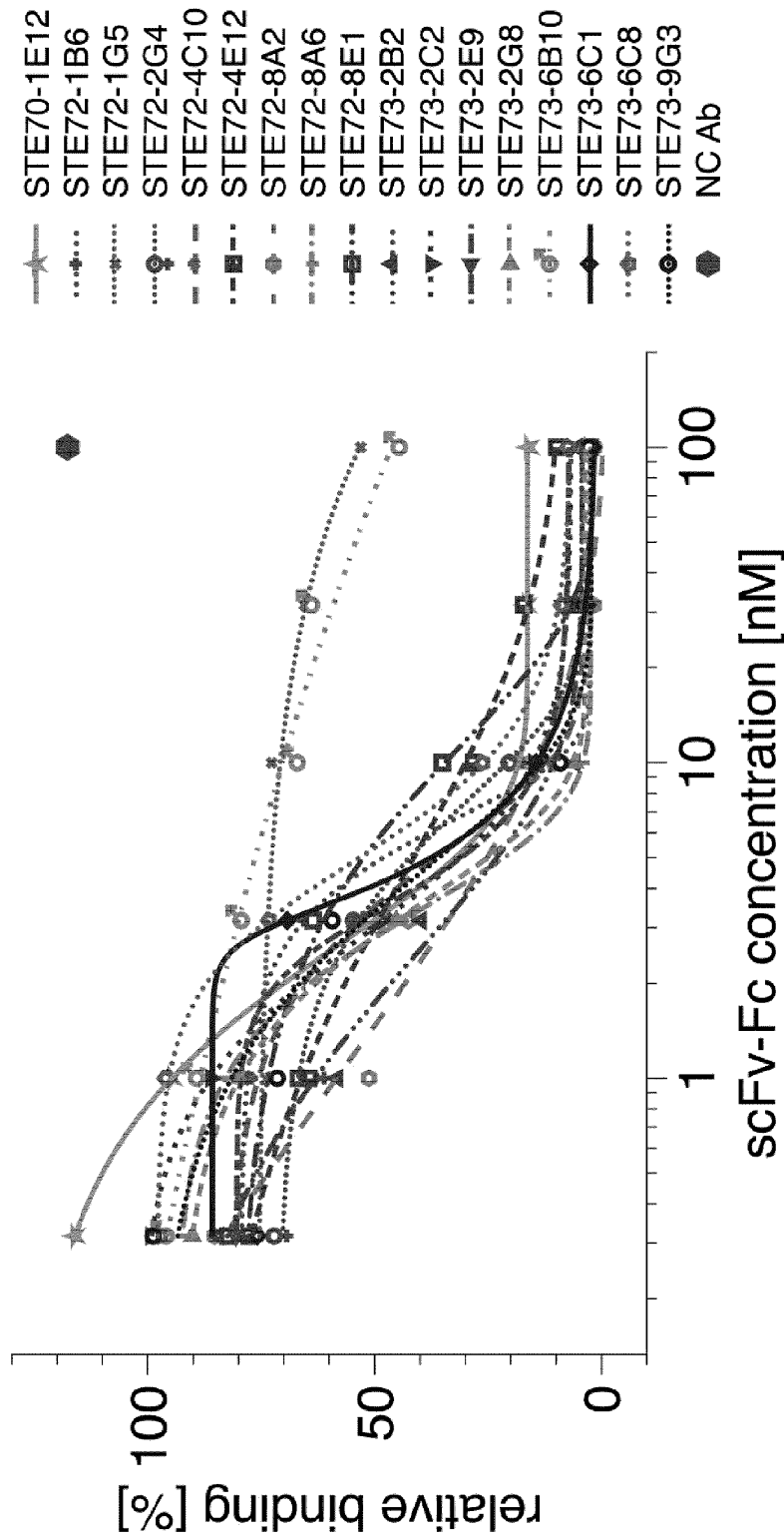


Fig. 19c

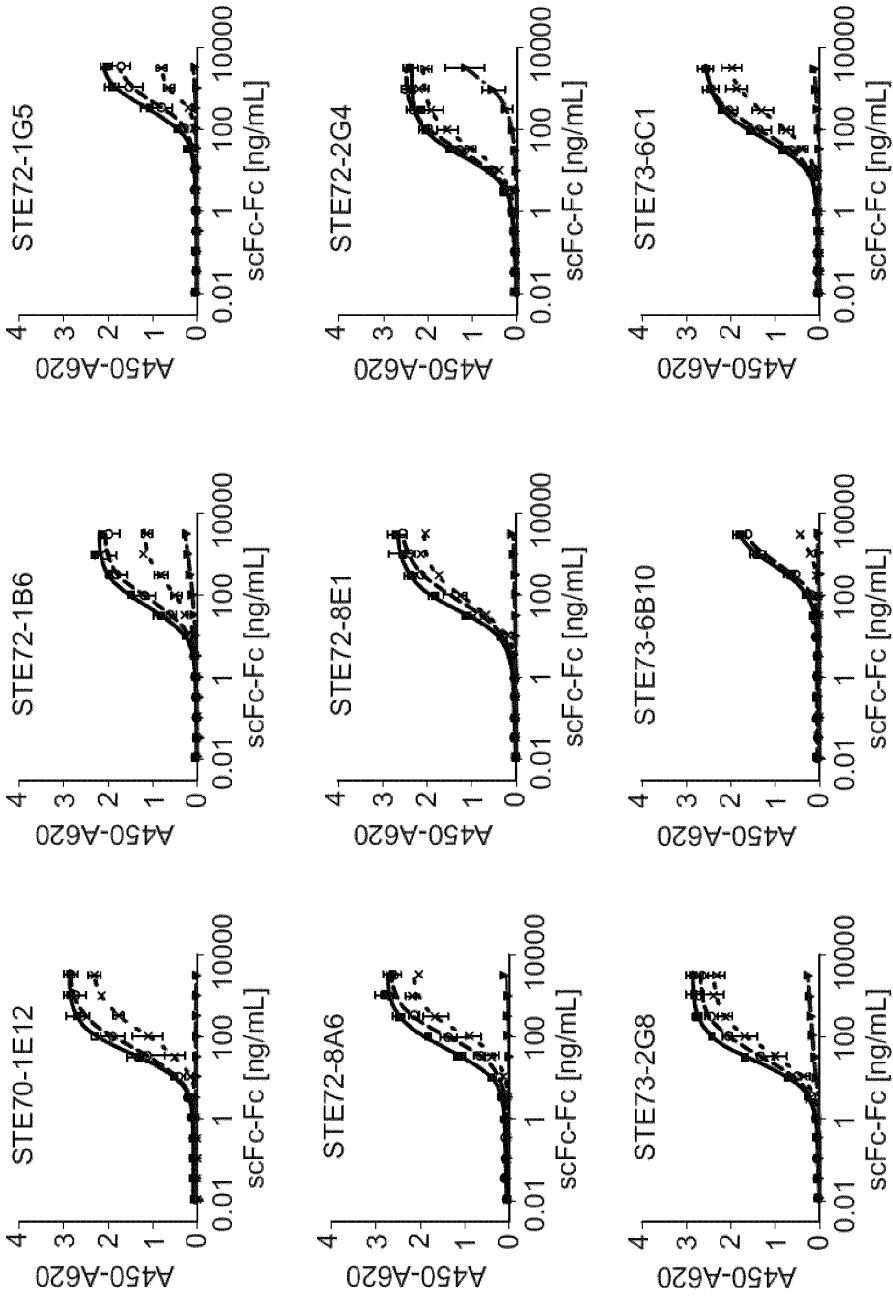


Fig. 20

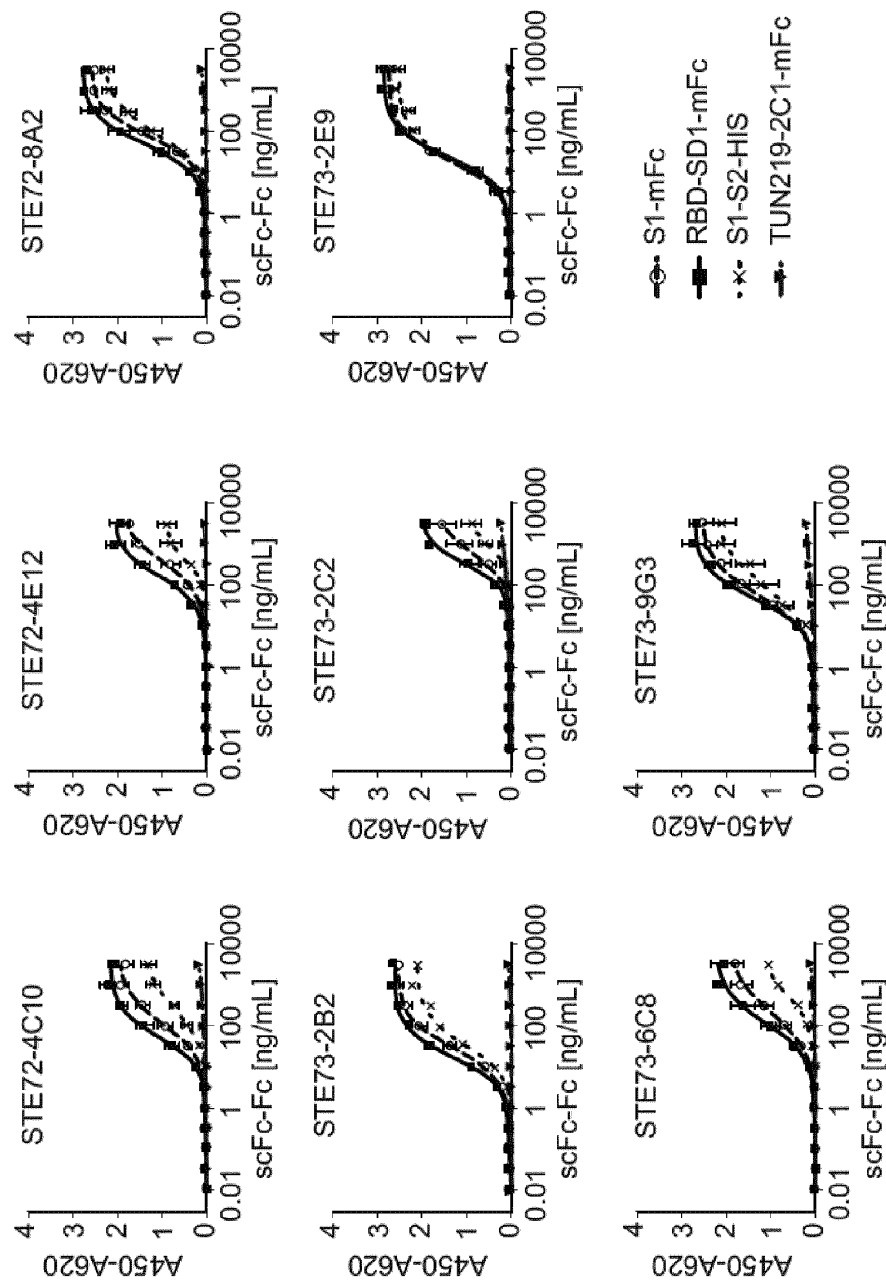
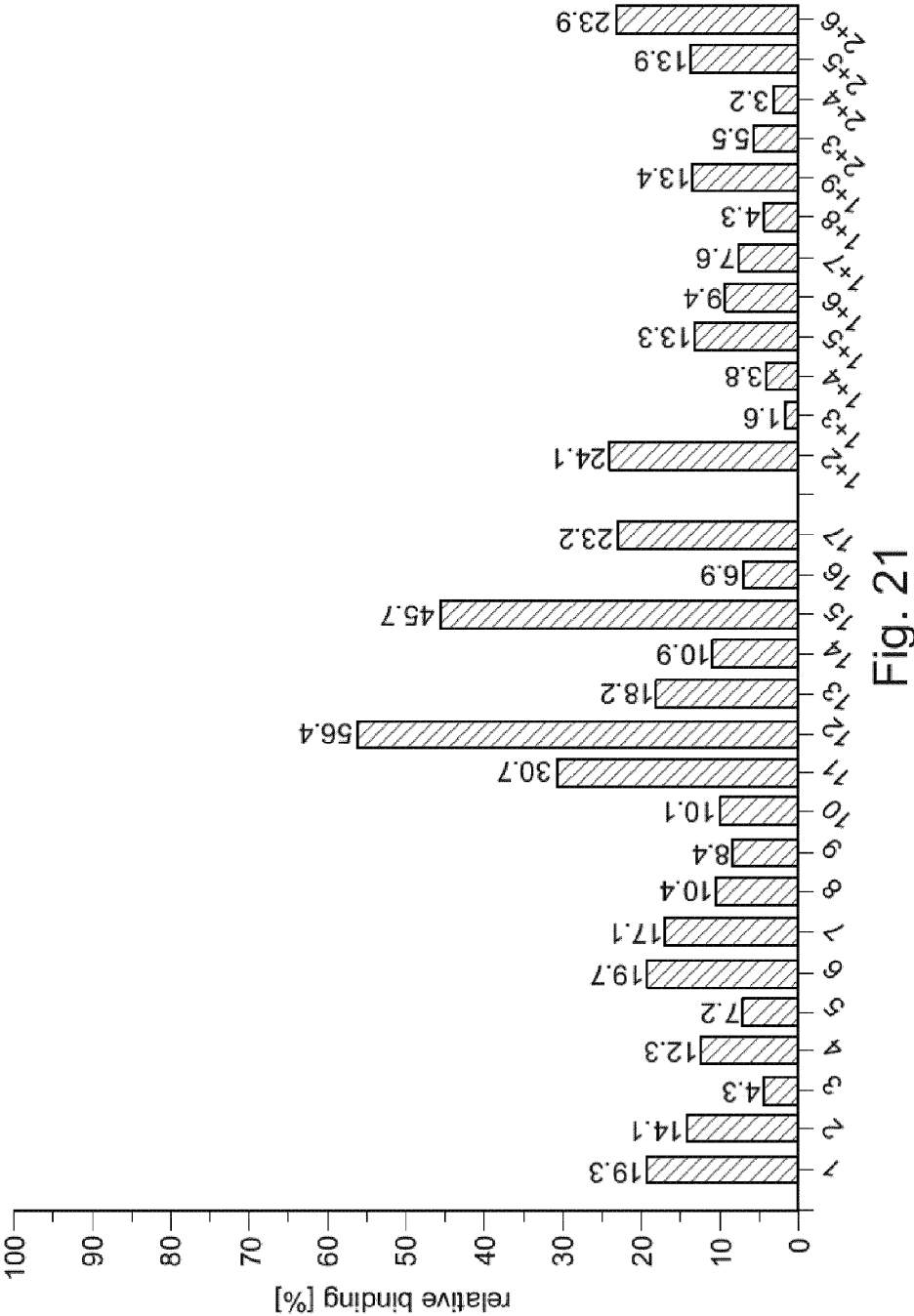


Fig. 20 (continued)



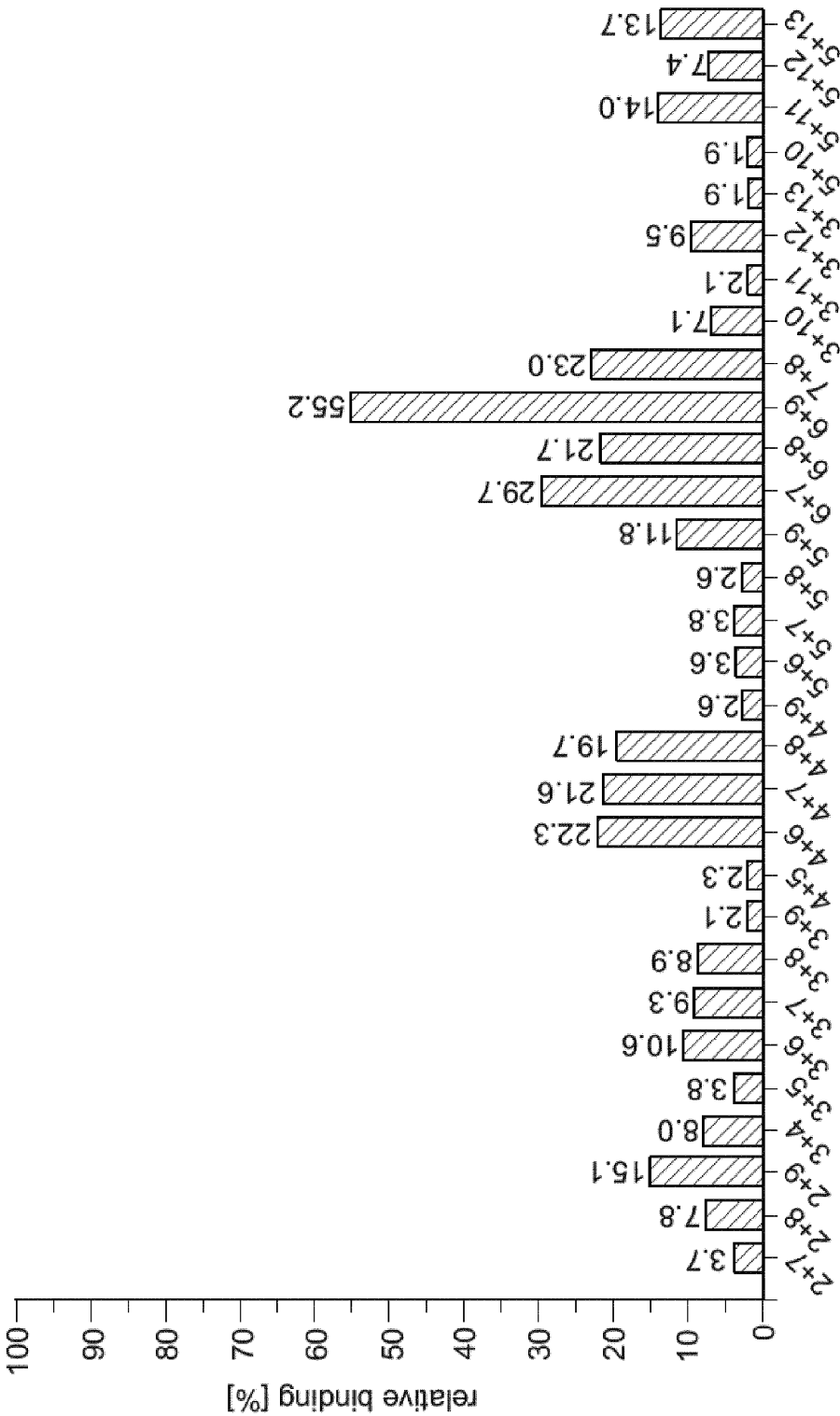


Fig. 21 (continued)

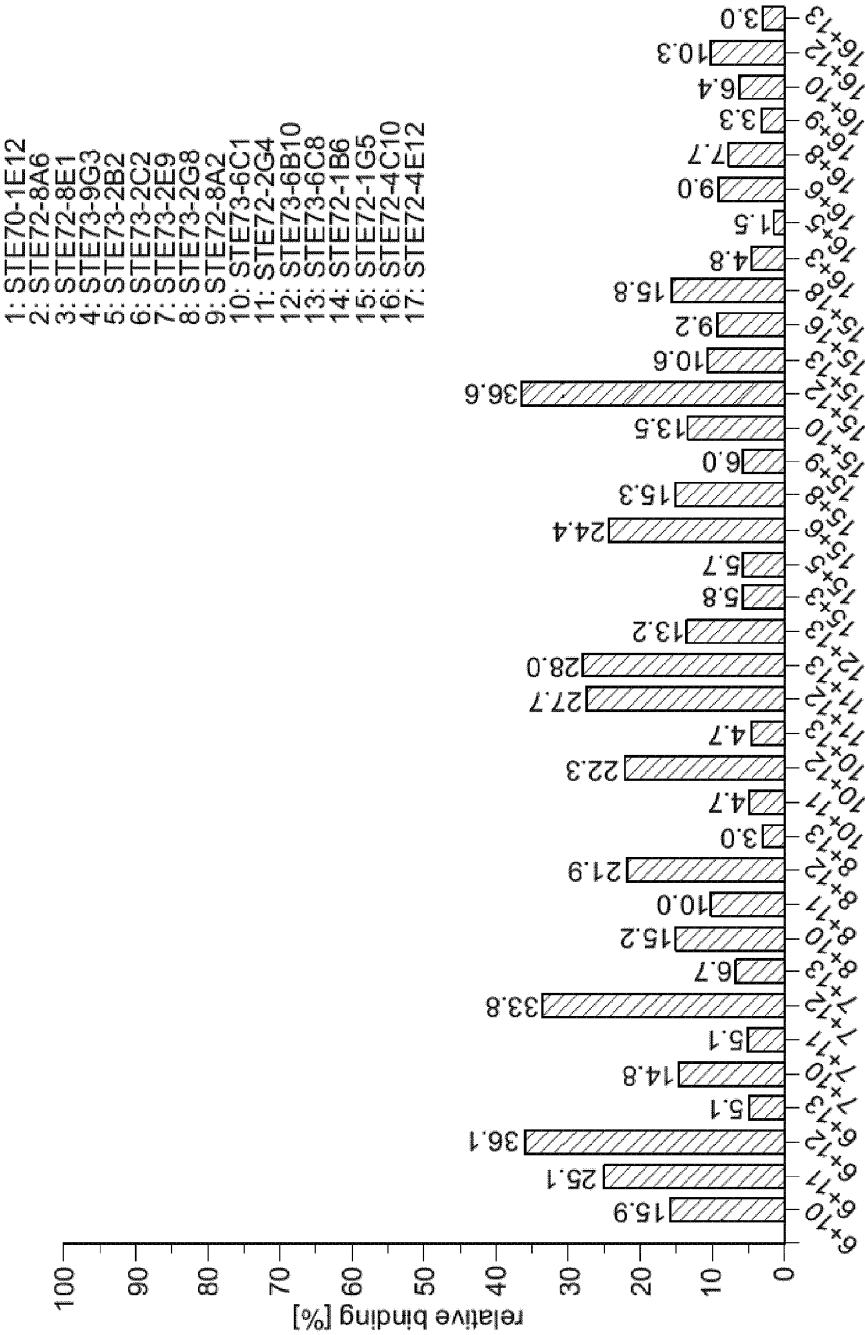


Fig. 21 (continued)

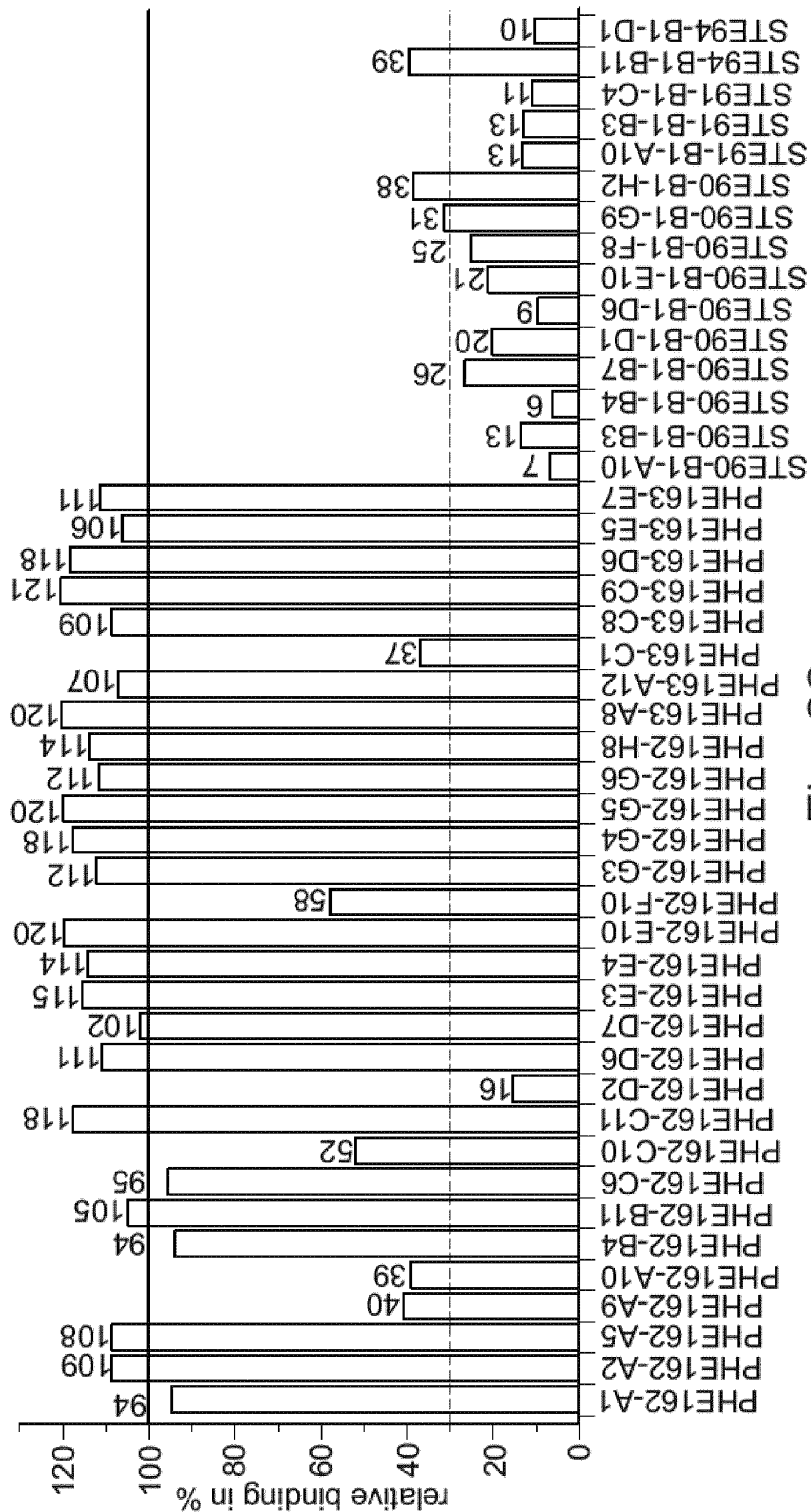


Fig. 22

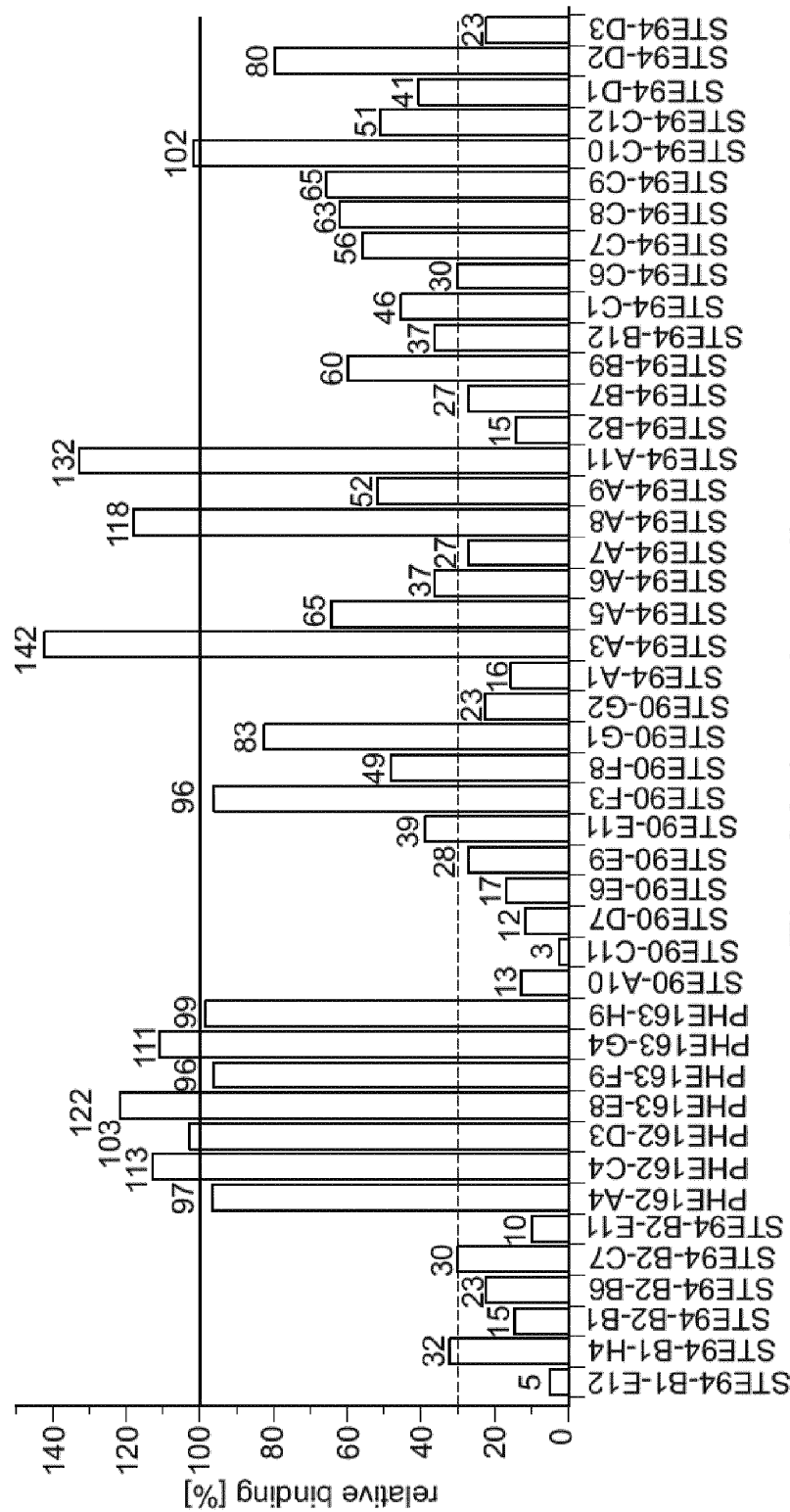


Fig. 22 (continued)

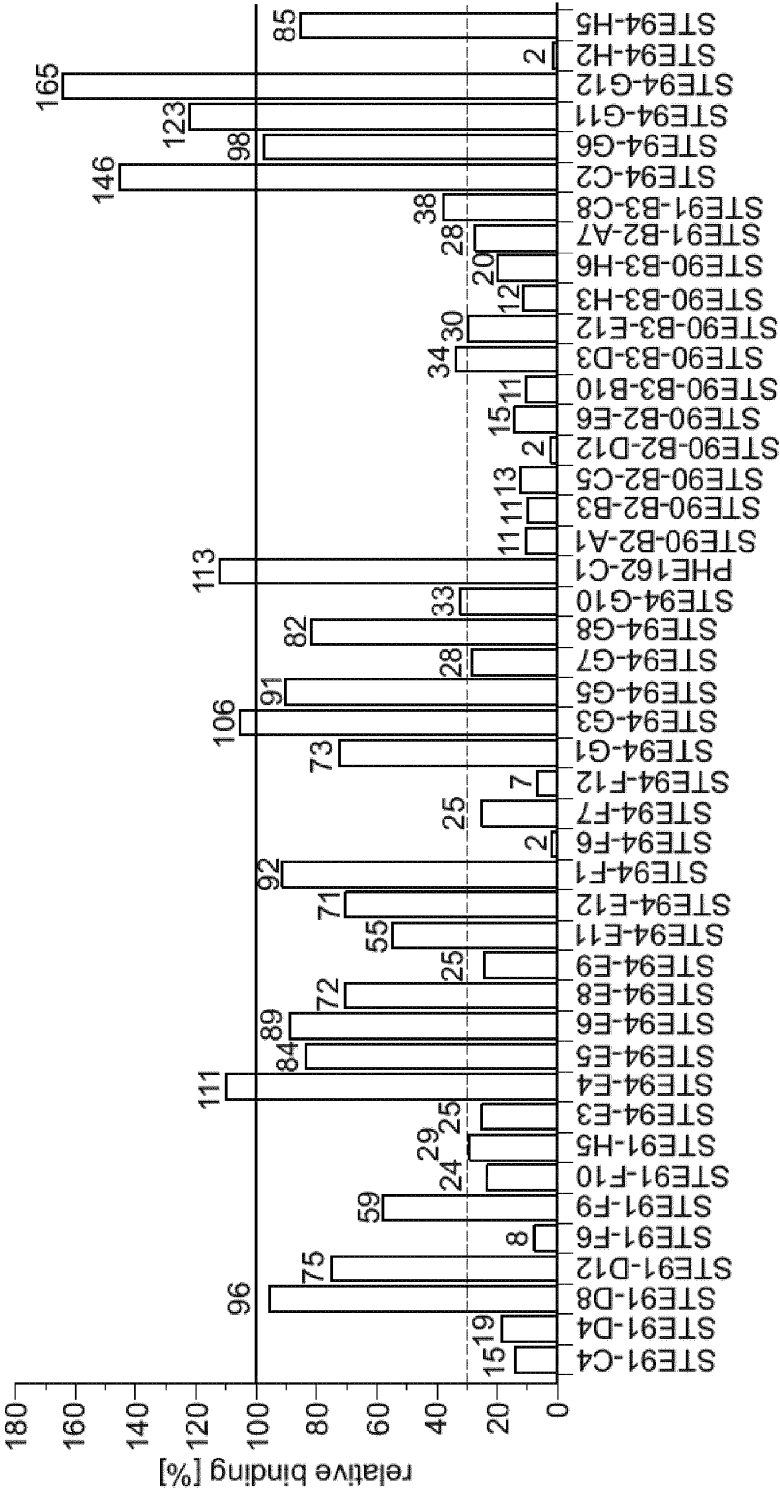


Fig. 22 (continued)

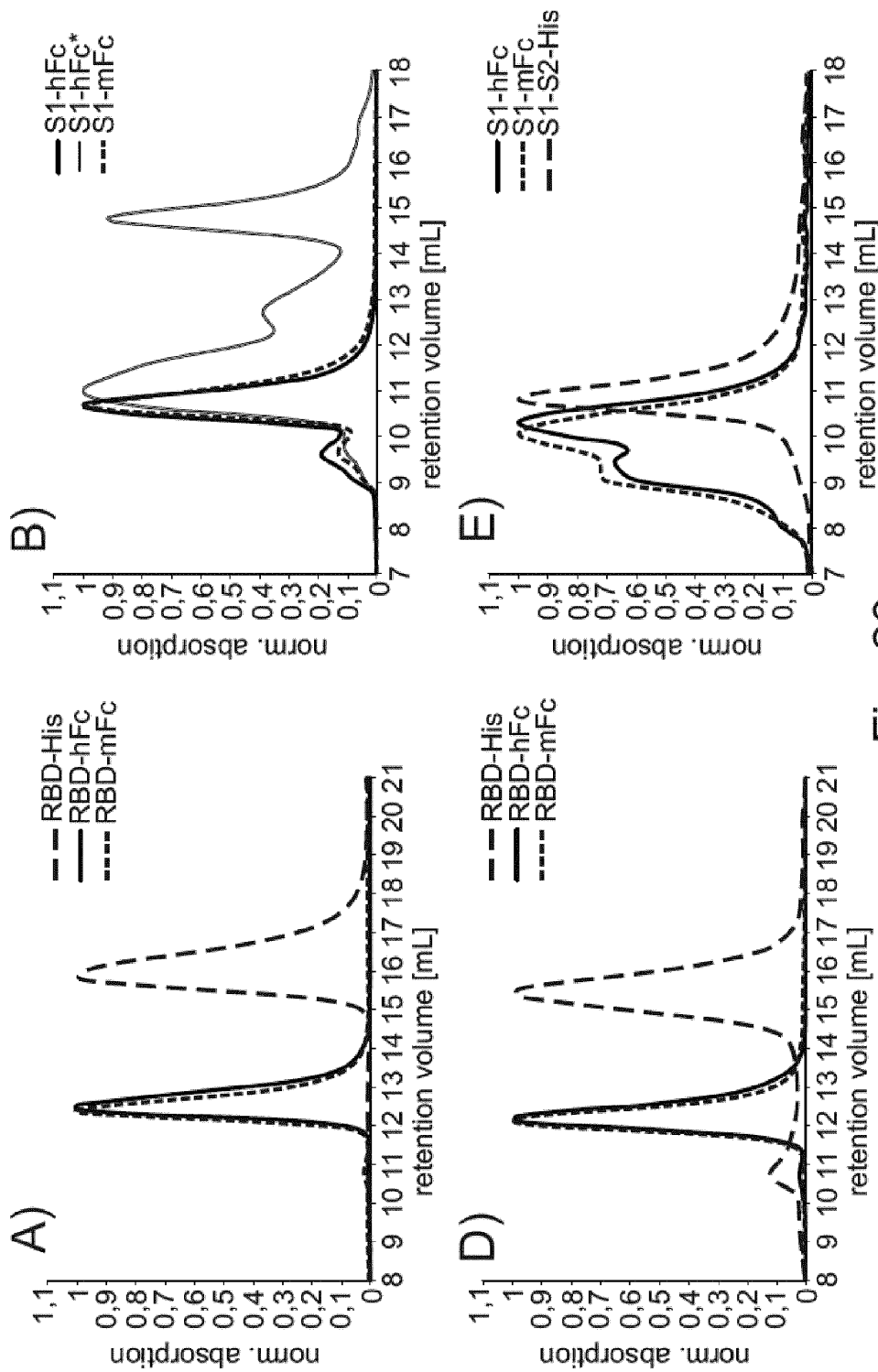
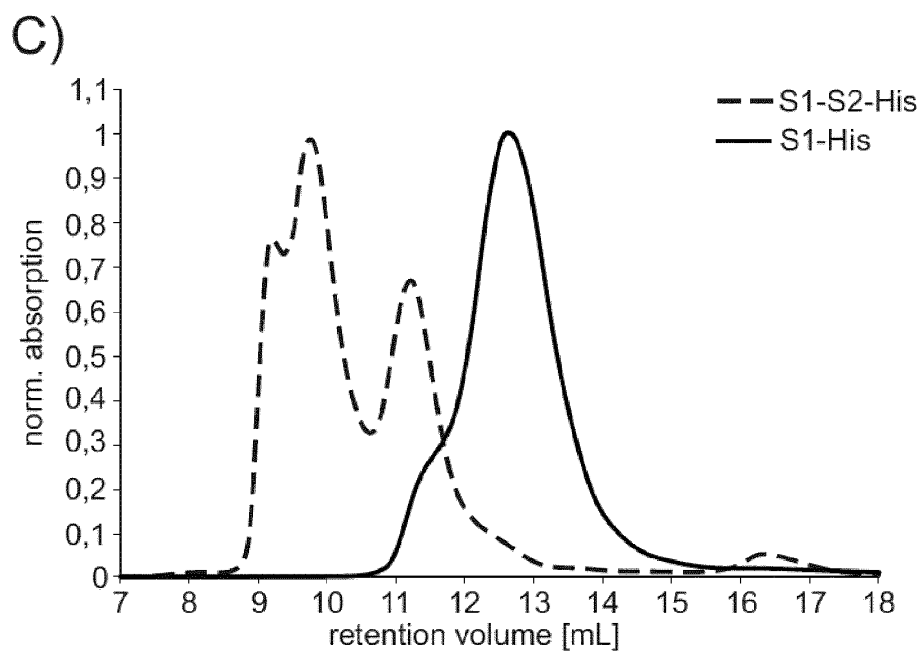


Fig. 23



F)

Antigen	Main Peak	High Five cells	Vol [mL]	Area [%]	Expi293F cells	Vol [mL]	Area [%]
RBD-His	Monomer		15.9	99		15.4	93
RBD-hFc	Dimer		12.5	100		12.2	98
RBD-mFc	Dimer		12.4	99		12.1	99
S1-His	Monomer		12.7	100		nd	nd
S1-hFc	Aggregate?		9.6	16		9.3	31
	Dimer		10.7	84		10.3	68
S1-hFc*	Dimer		10.9	58		nd	nd
	S1-hFc-hFc		12.8	9		nd	nd
	hFc-Dimer		14.8	33		nd	nd
S1-mFc	Aggregate?		9.7	11		9.1	27
	Dimer		10.7	89		10.1	73
S1-S2-His	Aggregate?		9.2	23		-	-
	Trimer		9.8	50		-	-
	Monomer		11.2	27		10.8	100

Fig. 23 (continued)

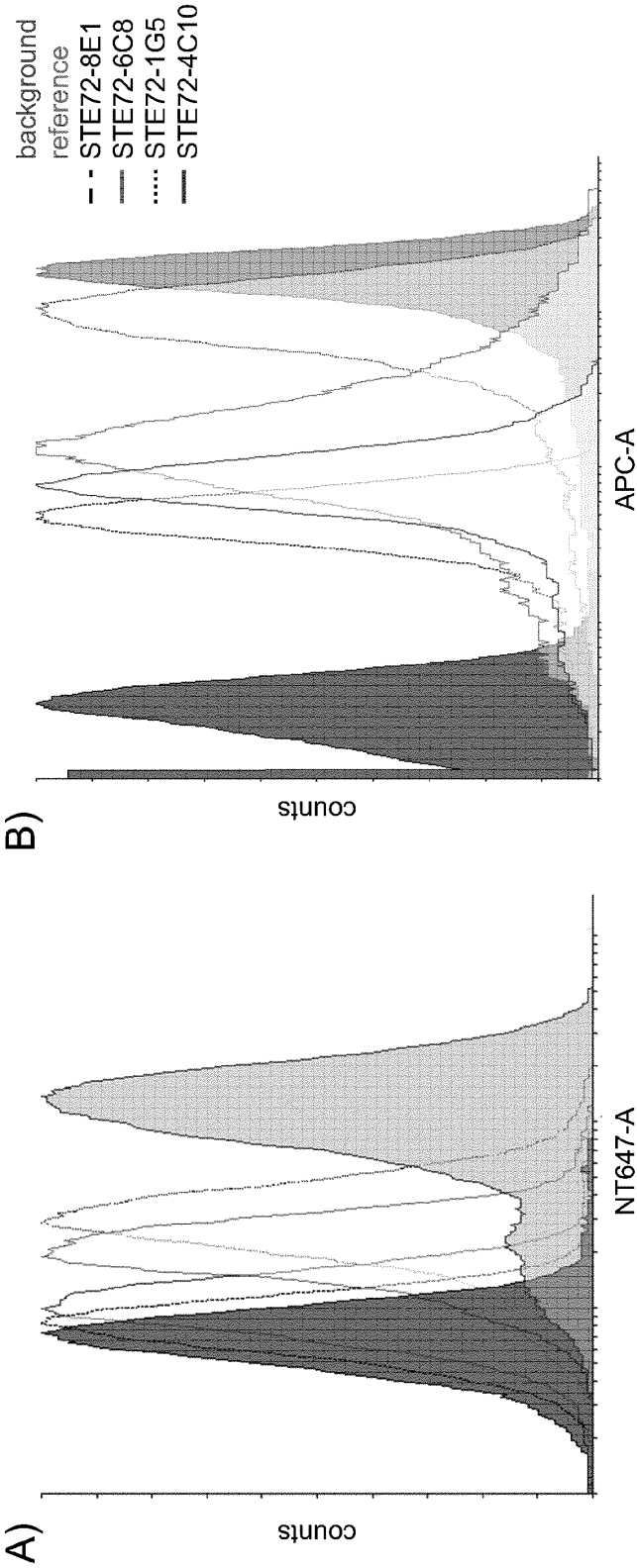


Fig. 24

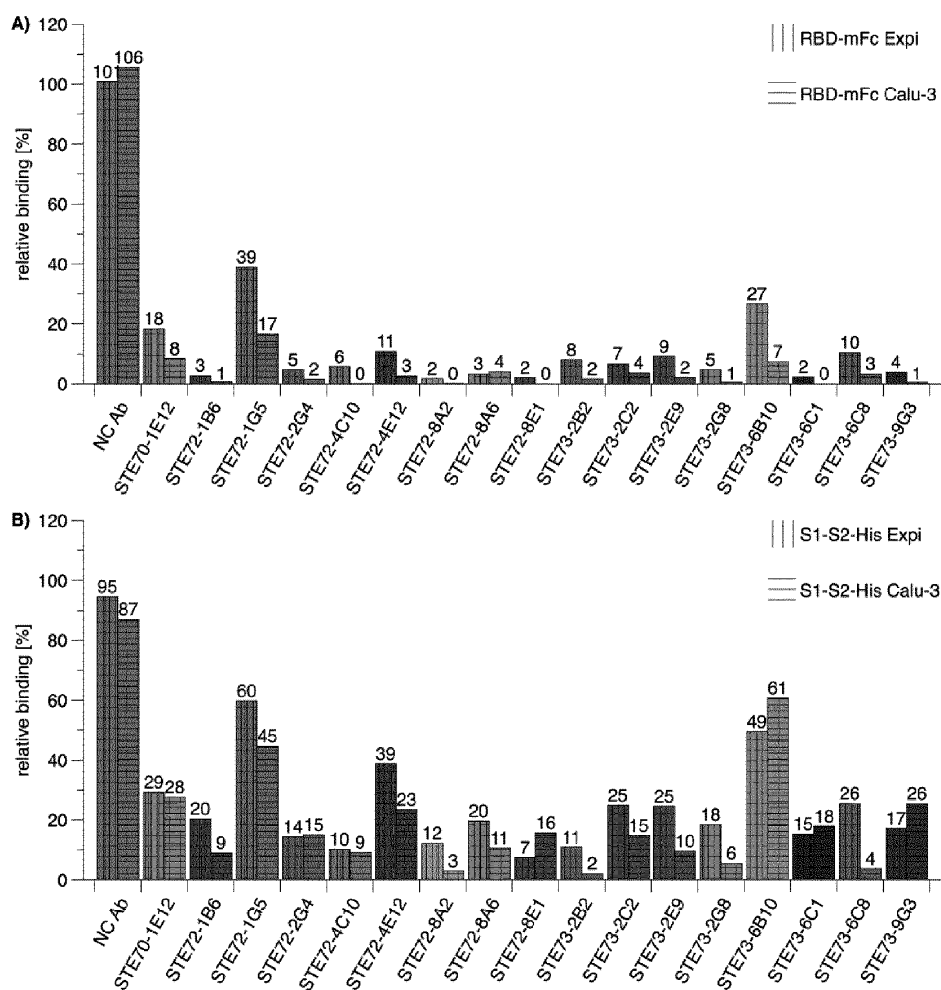


Fig. 25

Antibody name	VH	VL	EC50 ELISA [nM]			Flow cytometry spike binding inhibition assay			
			RBD	S1	S1-S2	IC 50 [nM] with 50 nM spike	Molar ratio antibody arm: spike	IC 50 [nM] with 10 nM RBD	Molar ratio antibody arm: RBD
STE70-1E12	IGHV1-2	IGLV6-57	1.1	1.5	13.3	180	7.2	3.2	0.64
STE72-1B6	IGHV3-23	IGKV1-12	1.6	2.2	4.4	240	9.6	4.8	0.96
STE72-1G5	IGHV1-69	IGKV3-20	8.9	10.7	16.3	n.d.	n.d.	n.d.	n.d.
STE72-4C10	IGHV3-30	IGKV1D-39	1.7	3.2	7.4	117	4.8	3.5	0.7
STE72-4E12	IGHV1-46	IGKV3-15	4.7	10.4	11.6	n.d.	n.d.	3.0	0.6
STE72-8A2	IGHV1-18	IGKV1D-33	1.5	2.3	2.6	35	1.4	1.5	0.3
STE72-8A6	IGHV1-18	IGKV1-5	1.5	2.9	3.7	102	4.0	2.8	0.56
STE72-8E1	IGHV4-61	IGKV1-5	1.4	2.4	2	20	0.8	5.6	1.1
STE72-2G4	IGHV1-2	IGLV2-8	0.7	0.9	1	37	1.4	3.7	0.74

Fig 26.

STE73-2B2	IGHV1-2	IGLV6-57	0.5	0.8	1	63	2.6	1.7	0.4
STE73-2C2	IGHV3-66	IGLV6-57	9.6	17.9	24.5	59	2.4	3.0	0.6
STE73-2E9	IGHV1-18	IGLV1-36	0.7	0.6	0.5	20	0.8	3.4	0.68
STE73-2G8	IGHV3-66	IGLV3-19	0.7	1	1.4	23	1.0	2.8	0.56
STE73-6B10	IGHV1-2	IGLV2-11	17.3	15.3	63.4	612	24	73	14.6
STE73-6C1	IGHV3-30	IGLV1-40	2	2.8	5.5	97	3.8	4.1	0.81
STE73-6C8	IGHV1-69	IGLV6-57	3.3	6	17	332	13.2	5.4	1.08
STE73-9G3	IGHV3-23	IGLV1-40	1.4	1.6	2.8	40	1.6	3.4	0.6

Fig 26. (continued)

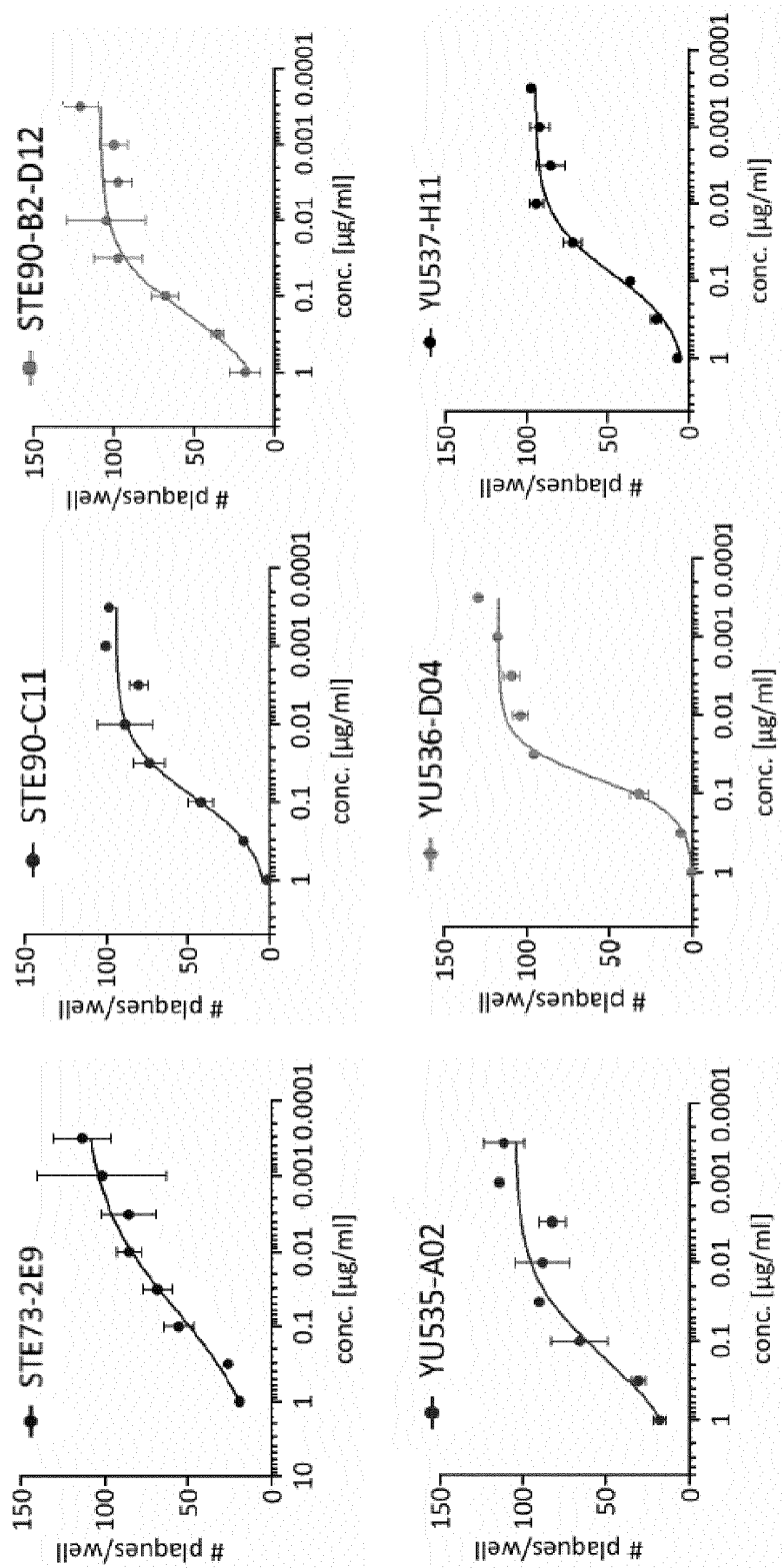


Fig. 27

IC₅₀ (µg/ml)	R²	Ab
0,03663	0,9001	STE94-H2 (scFv-Fc)
0,07019	0,5856	STE73-2E9 (IgG)
0,09516	0,71	STE90-C11 (scFv-Fc)
0,8039	0,8663	STE91-B1-C4 (scFv-Fc)

Fig. 28

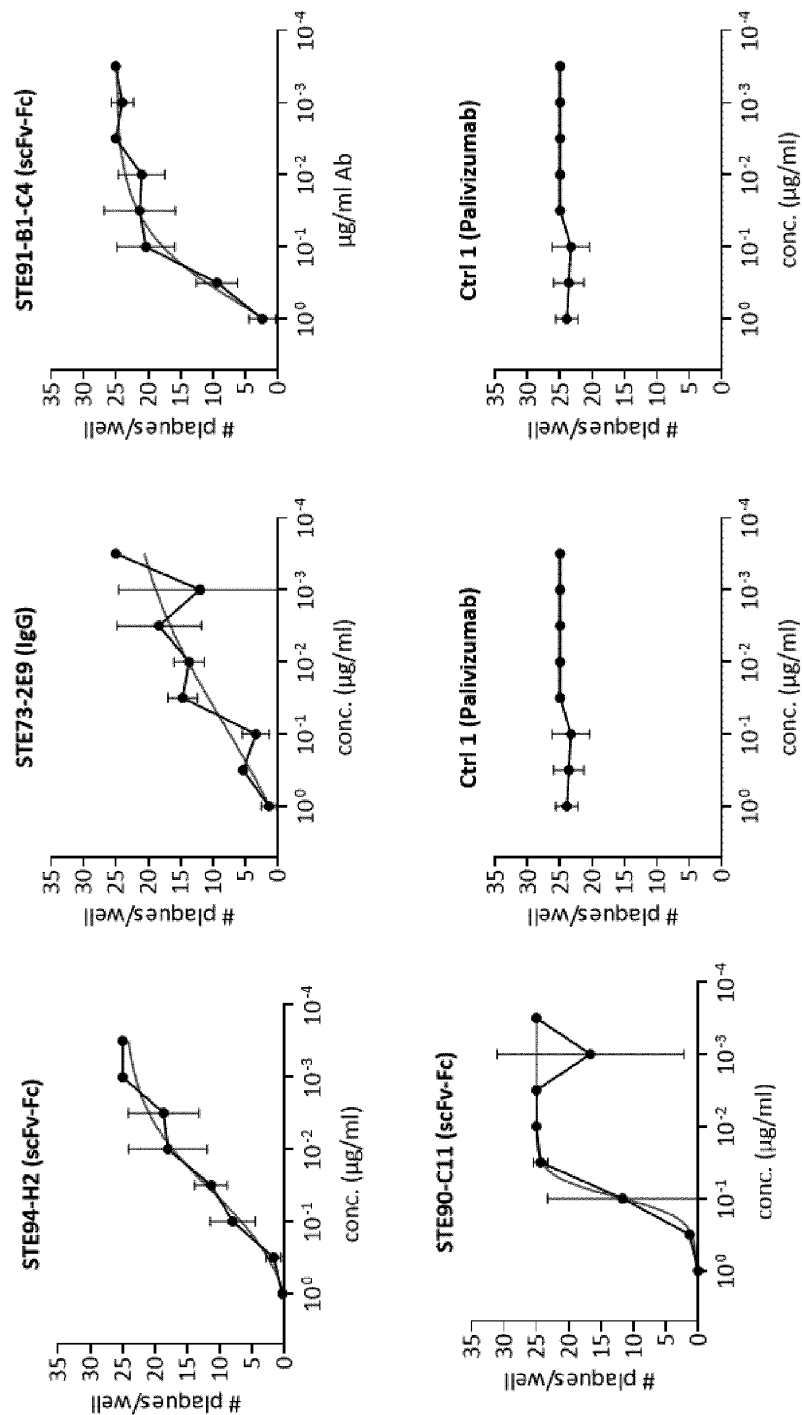


Fig. 29

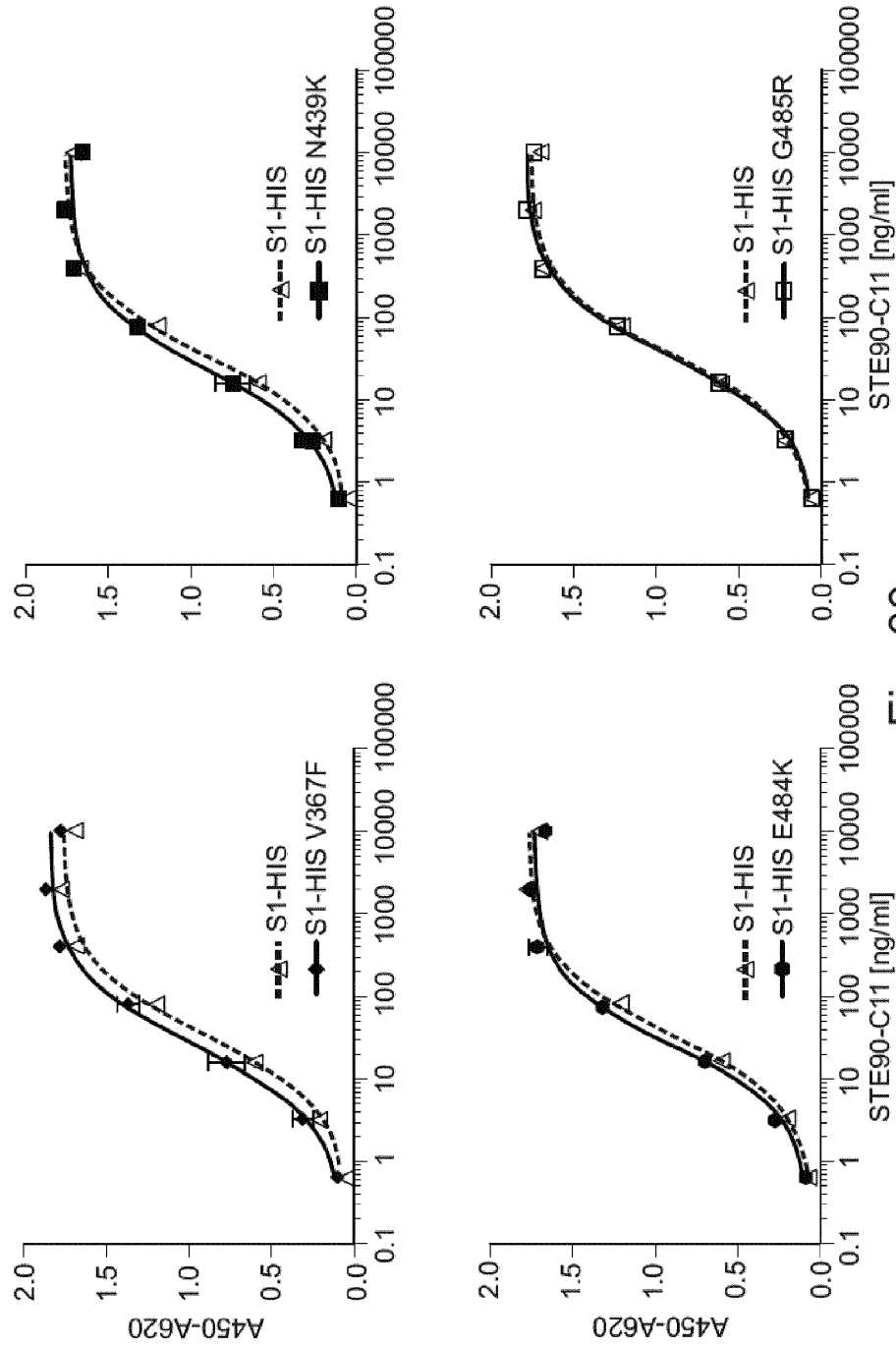


Fig. 30a

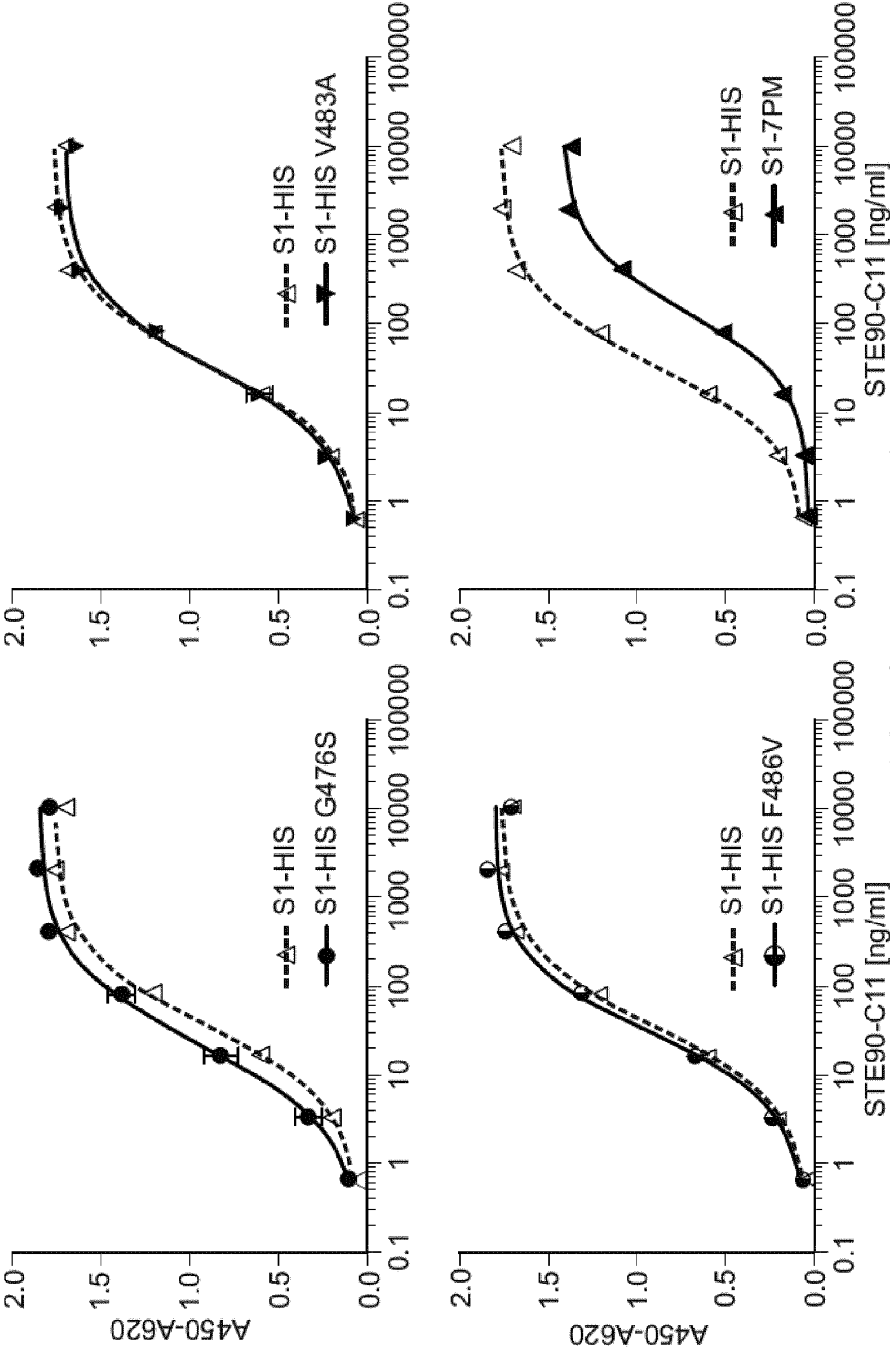


Fig. 30a (continued)

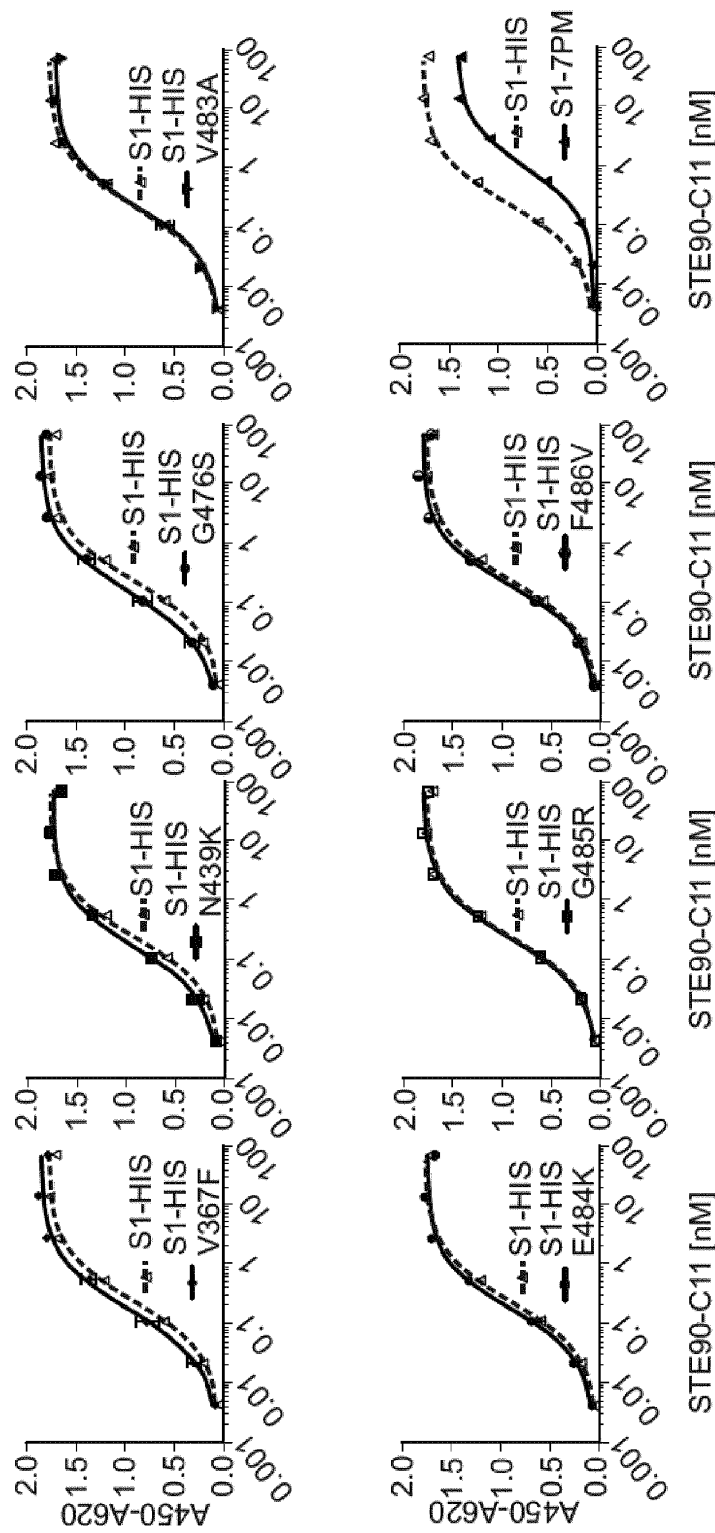


Fig. 30b

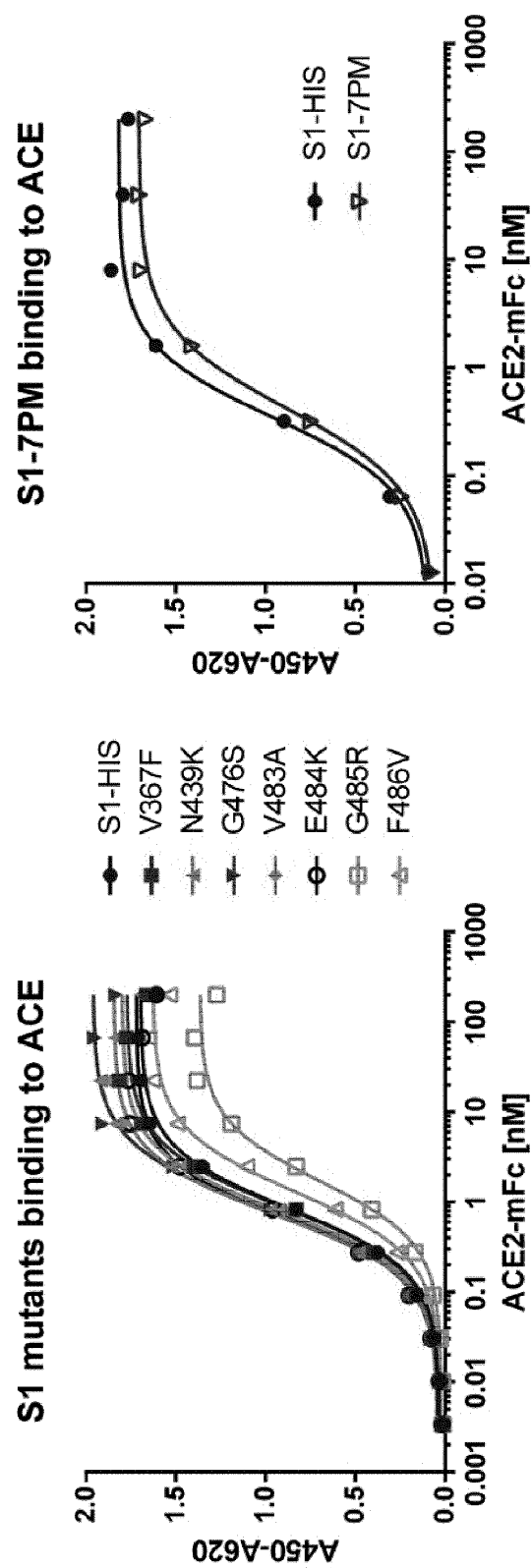


Fig. 31

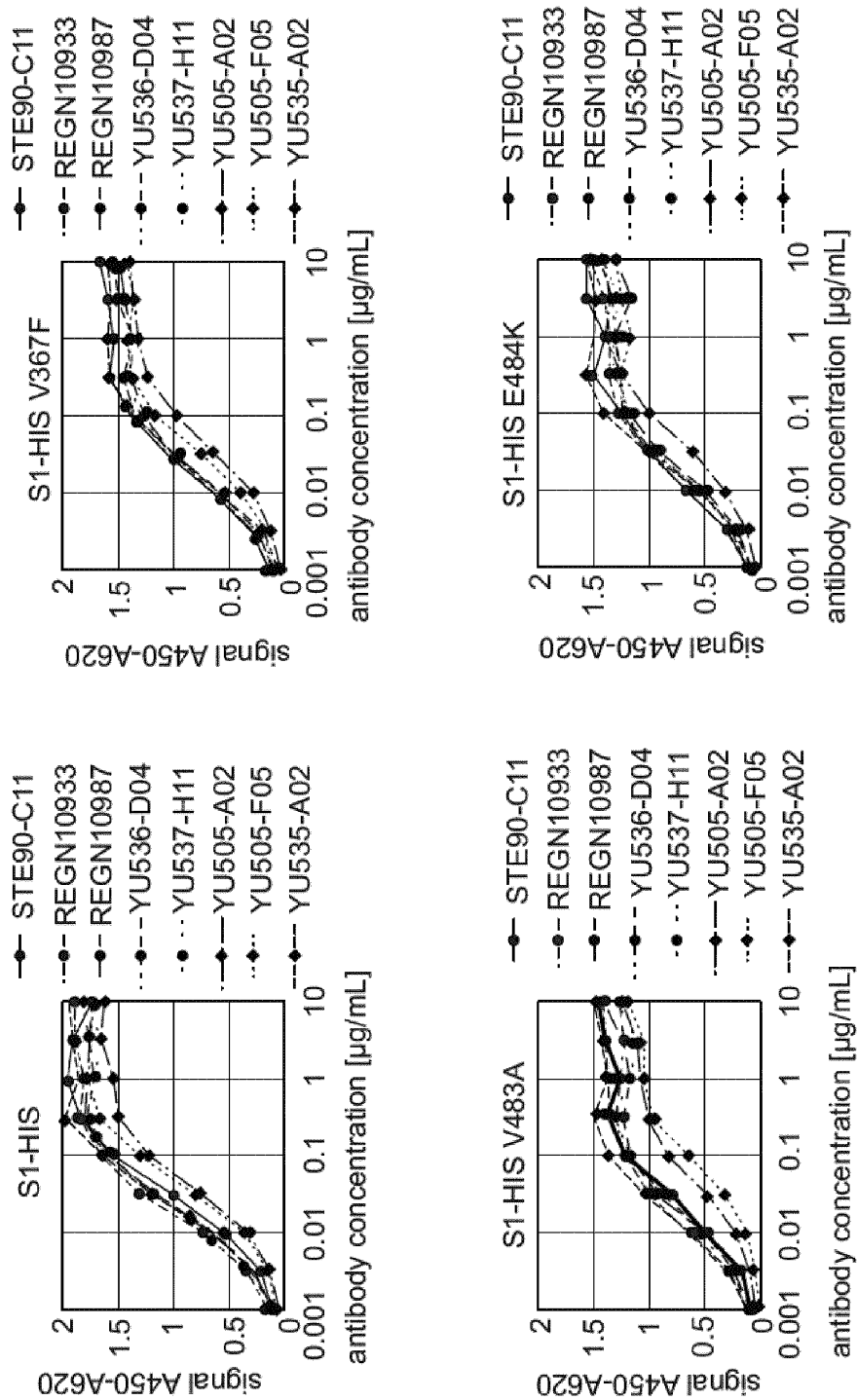


Fig. 32

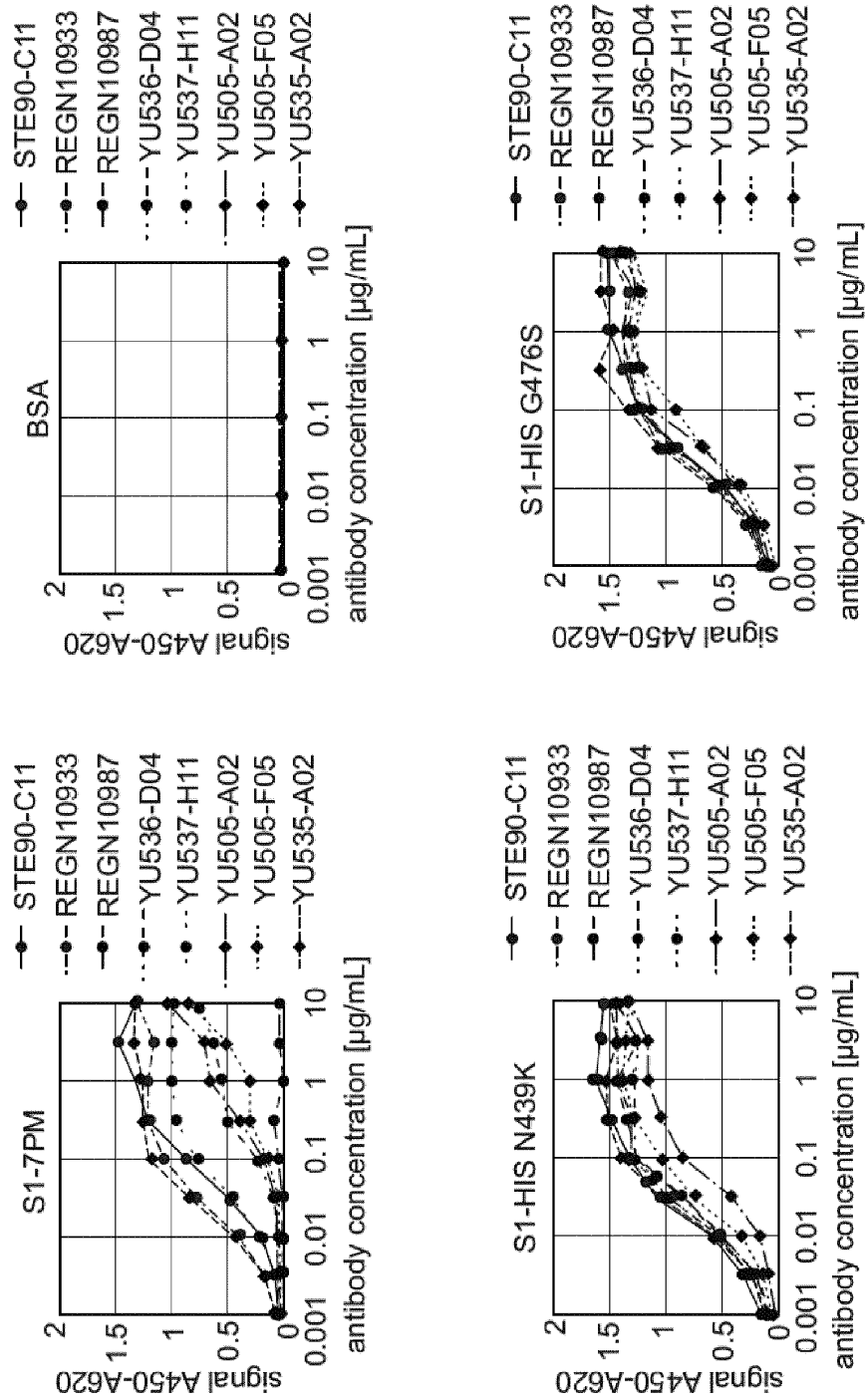


Fig. 32 (continued)

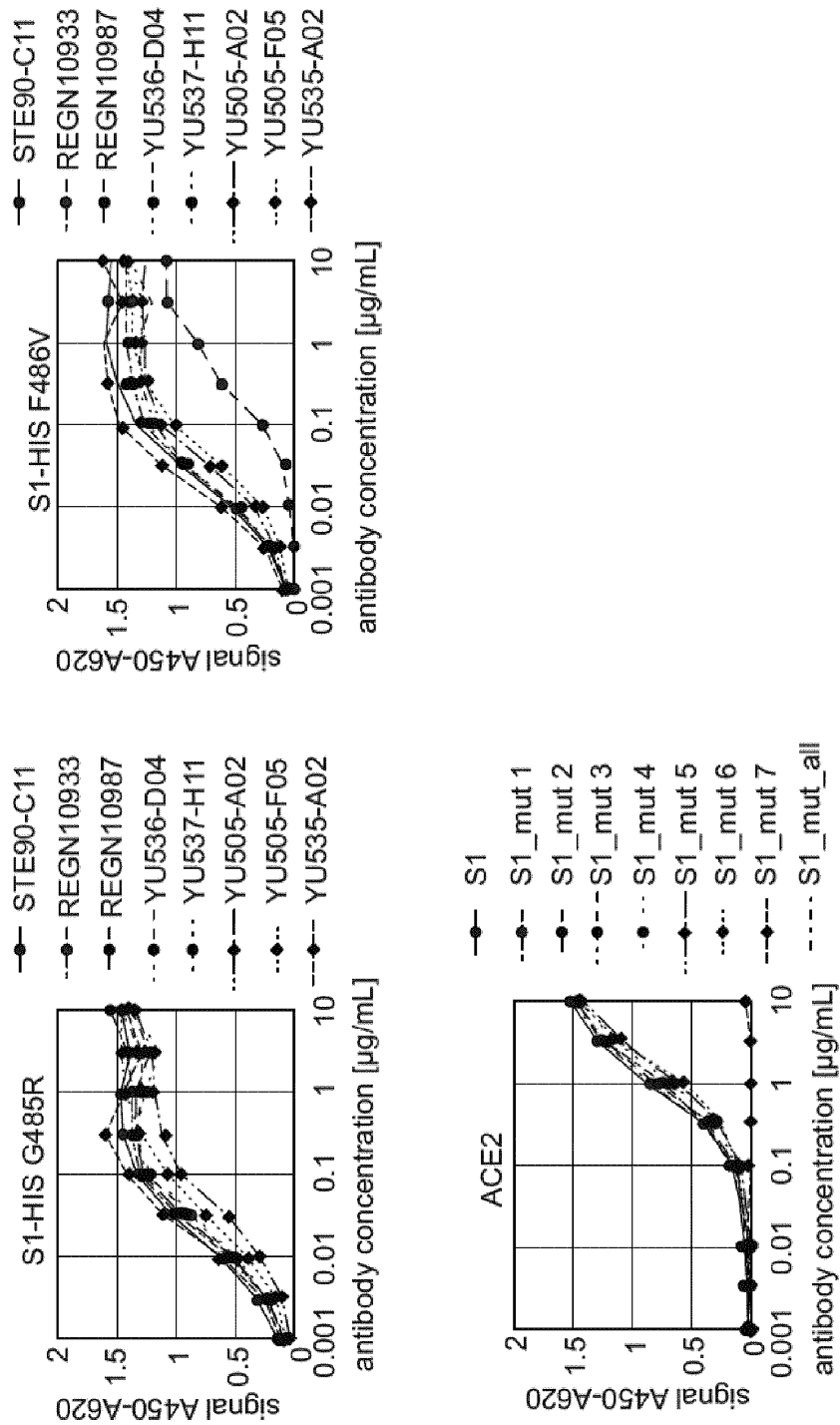


Fig. 32 (continued)

Com 1 (BIN 1):

- YU505-E01
- REGN10933
- YU536-D04
- STE90-C11
- YU536-D04
- YU537-H11
- YU505-A02
- YU537-H08

COM2 (BIN 2):

- YU534-D09
- YU505-F05

COM3 (BIN 3):

- YU535-A02
- REGN10987

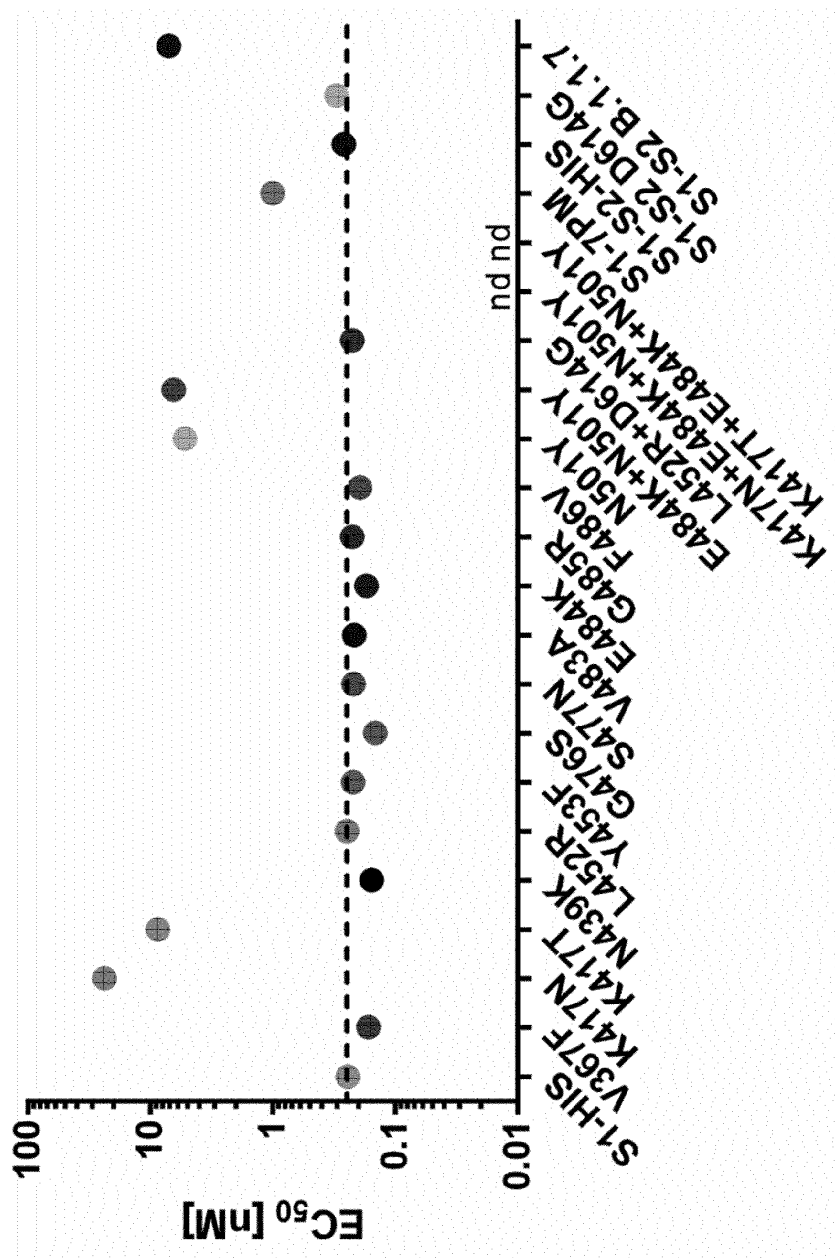
Fig. 33

	S1-7PM		
	KD (M)	KD Error	Full R ²
STE90-C11	4,27E-08	1,28E-09	0,95
REGN10933	-	-	-
REGN10987	4,91E-08	1,33E-09	0,97
YU536-D04	3,22E-08	2,72E-09	0,85
YU537-H11	2,10E-07	7,69E-09	0,97
YU505-A02	5,57E-09	5,38E-10	0,85
YU505-F05	7,13E-08	2,15E-09	0,96
YU535-A02	9,10E-08	3,63E-09	0,95
	S1-HIS V367F		
	KD (M)	KD Error	Full R ²
STE90-C11	1,66E-08	3,15E-10	0,99
REGN10933	3,65E-09	2,75E-11	1,00
REGN10987	7,19E-09	9,82E-11	0,99
YU536-D04	1,49E-08	1,80E-10	1,00
YU537-H11	1,54E-08	3,65E-10	0,98
YU505-A02	2,67E-09	1,84E-10	0,86
YU505-F05	9,91E-09	1,12E-10	1,00
YU535-A02	7,21E-09	1,54E-10	0,97
	S1-HIS N439K		
	KD (M)	KD Error	Full R ²
STE90-C11	9,90E-09	2,40E-10	0,96
REGN10933	3,92E-09	3,48E-11	1,00
REGN10987	9,68E-08	2,76E-09	0,97
YU536-D04	4,66E-08	5,18E-10	0,99
YU537-H11	2,43E-08	7,67E-10	0,98
YU505-A02	1,95E-07	1,45E-08	0,91
YU505-F05	5,00E-09	9,88E-11	1,00
YU535-A02	3,31E-08	5,10E-10	0,99
	S1-HIS G476S		
	KD (M)	KD Error	Full R ²
STE90-C11	5,89E-09	1,96E-10	0,95
REGN10933	3,85E-08	4,57E-10	1,00
REGN10987	7,51E-09	1,12E-10	0,99
YU536-D04	1,64E-08	2,50E-10	0,99
YU537-H11	2,82E-08	3,57E-10	0,99
YU505-A02	4,03E-07	2,51E-08	0,96
YU505-F05	4,94E-09	9,96E-11	1,00
YU535-A02	6,50E-09	1,76E-10	0,97

Fig. 34

	S1-HIS V483A		
	KD (M)	KD Error	Full R ²
STE90-C11	1,86E-08	3,44E-10	0,98
REGN10933	7,26E-09	3,98E-11	1,00
REGN10987	7,61E-09	1,13E-10	0,99
YU536-D04	4,78E-08	3,82E-10	1,00
YU537-H11	9,87E-08	1,61E-09	0,99
YU505-A02	5,51E-07	4,33E-08	0,96
YU505-F05	3,77E-08	4,40E-10	0,99
YU535-A02	1,88E-08	3,28E-10	0,98
	S1-HIS E484K		
	KD (M)	KD Error	Full R ²
STE90-C11	7,85E-09	1,55E-10	0,98
REGN10933	9,26E-08	1,29E-09	1,00
REGN10987	5,26E-09	7,38E-11	0,99
YU536-D04	4,39E-08	5,25E-10	0,99
YU537-H11	5,74E-08	8,20E-10	0,99
YU505-A02	4,95E-07	1,96E-08	0,99
YU505-F05	5,27E-09	8,77E-11	1,00
YU535-A02	1,39E-07	4,40E-09	0,99
	S1-HIS G485R		
	KD (M)	KD Error	Full R ²
STE90-C11	1,73E-08	4,26E-10	0,97
REGN10933	3,07E-08	5,91E-10	0,99
REGN10987	7,97E-09	9,80E-11	0,99
YU536-D04	3,45E-08	5,68E-10	0,99
YU537-H11	6,43E-08	1,53E-09	0,98
YU505-A02	2,13E-07	1,75E-08	0,98
YU505-F05	1,11E-08	8,94E-11	1,00
YU535-A02	1,07E-08	1,69E-10	0,99

Fig. 34 (continued)



Results of Selection pressure experiment.

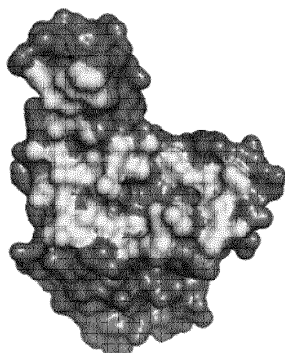
STE90-C11	
Mutation RBD	[%]
wt	4.7
K417T	81.9
K417T, A475V	3.35
A475V	0.35
N481H	0.3
N481Y	0.12
N501T	0.11

Palivizumab	
Mutation RBD	[%]
wt	89.9
N481H	0.32
K417T	0.14
N501T	0.13
Q414K	0.1

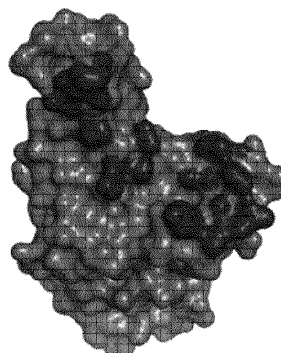
Fig. 36

RBD surface contacts

STE90-C11



ACE2



STE90-C11 + ACE2

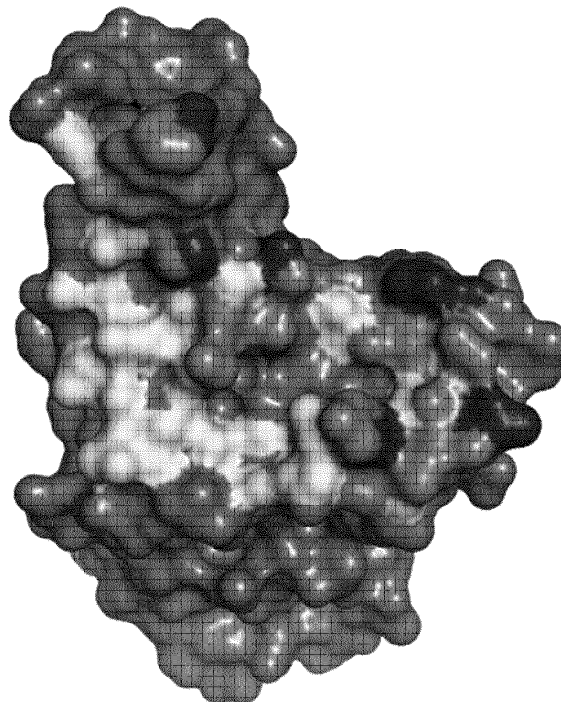
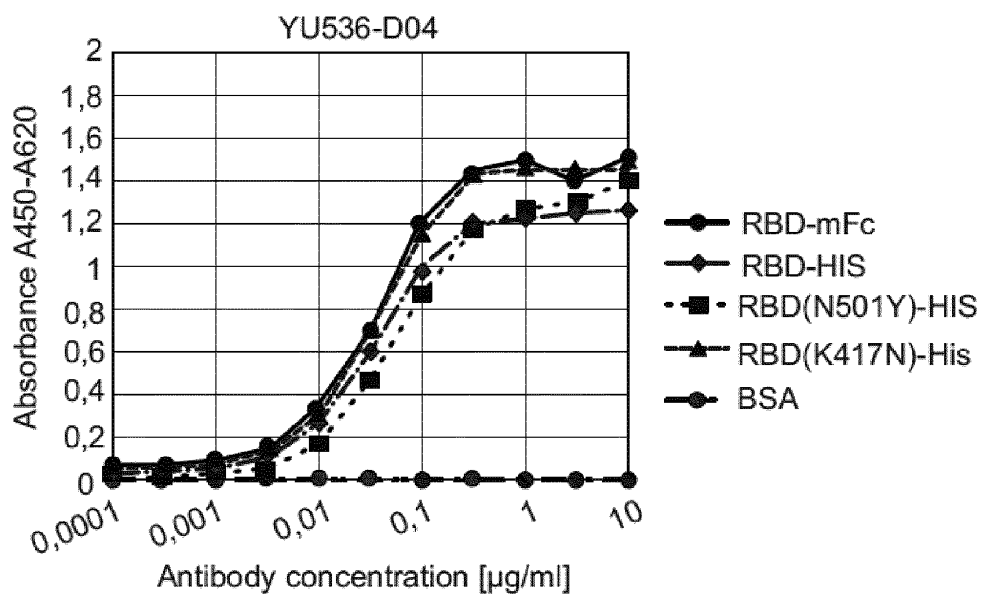
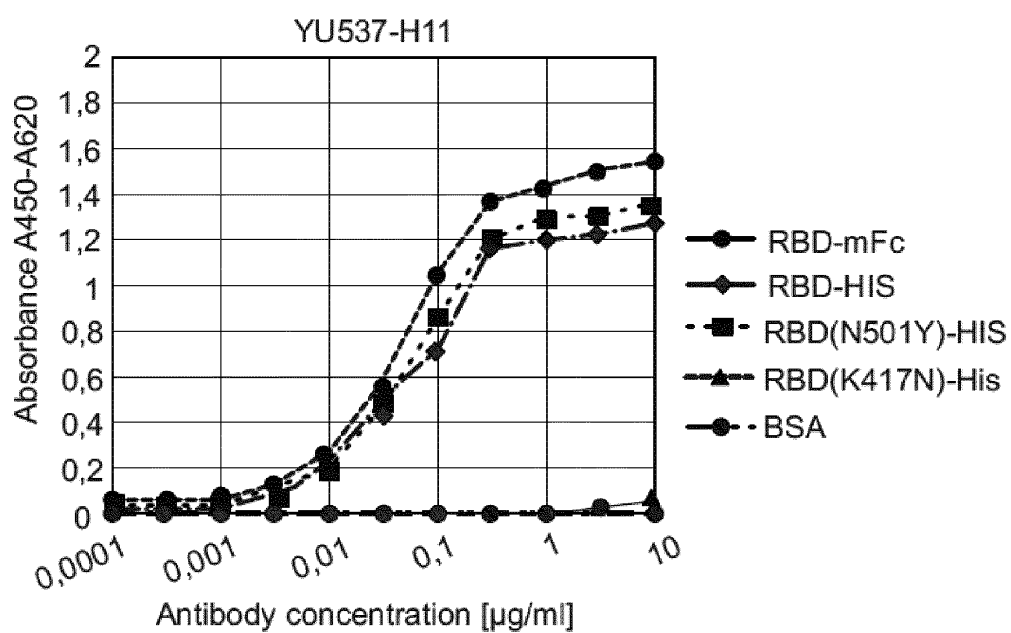


Fig. 37



Antigen	EC50[nM]
RBD-mFc	0.24
RBD-HIS	0.3
RBD(N501Y)	0.42
RBD(K417N)	0.22

Fig. 38



Antigen	EC50[nM]
RBD-mFc	0.35
RBD-HIS	0.38
RBD(N501Y)	0.39
RBD(K417N)	N/D

Fig. 38 (continued)

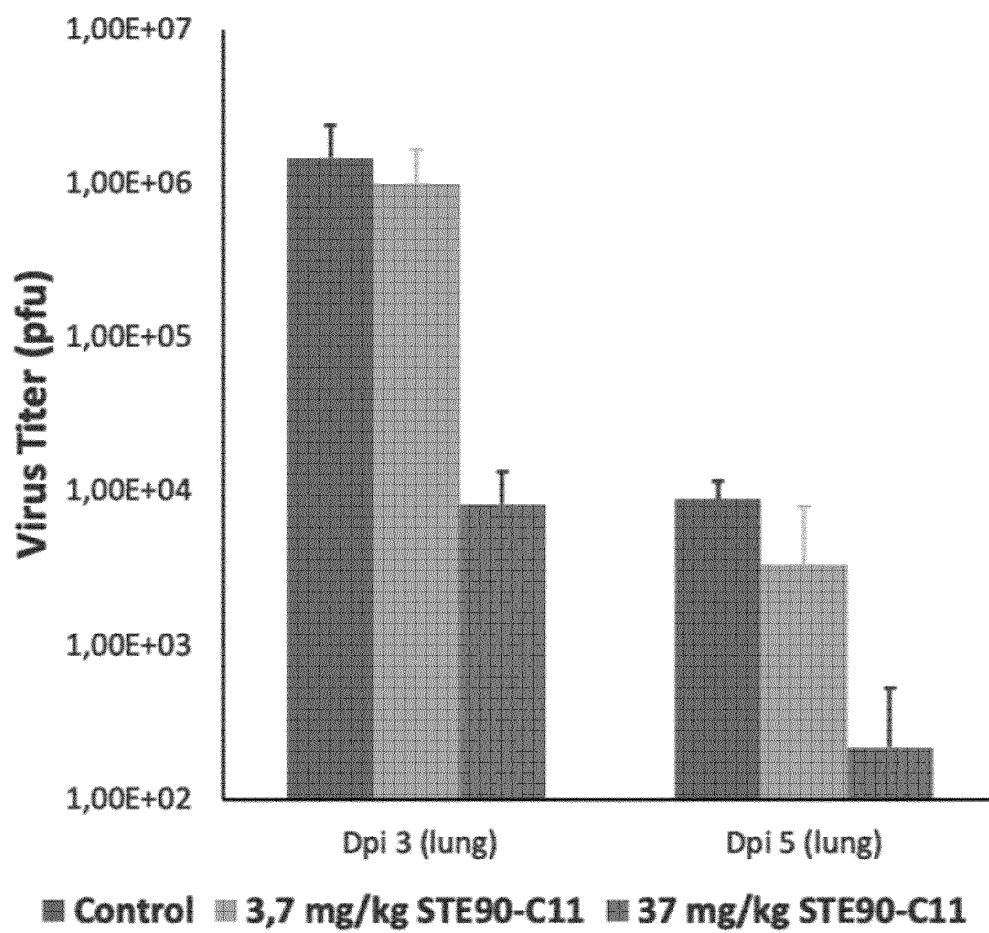


Fig. 39

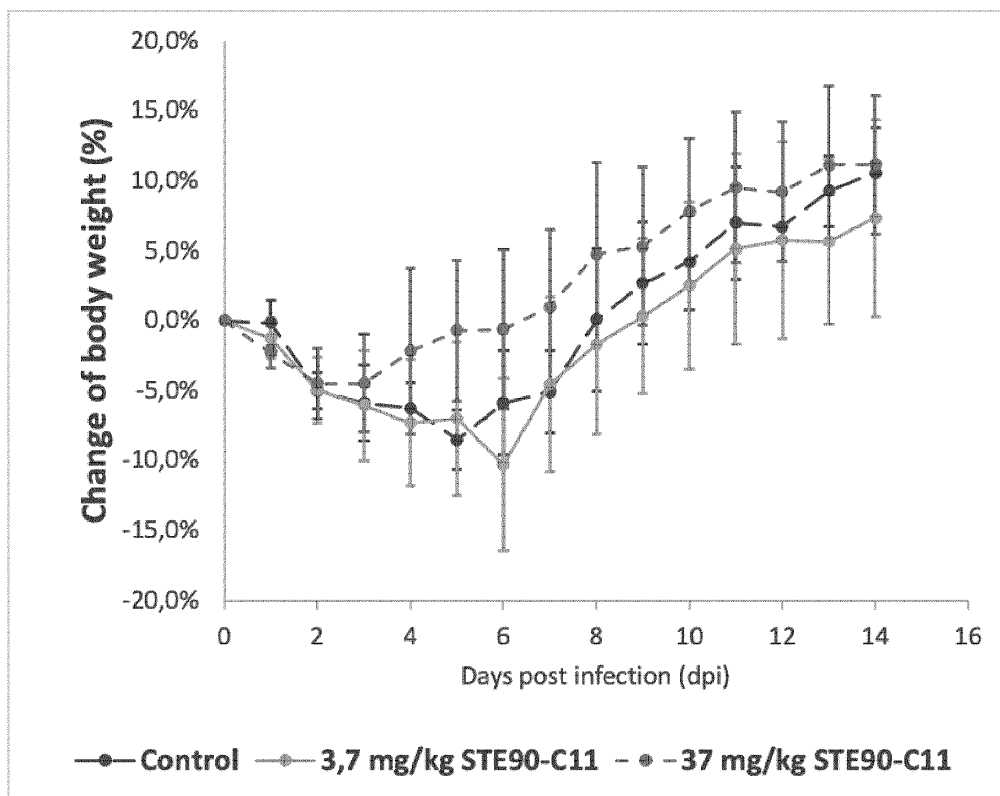


Fig. 40

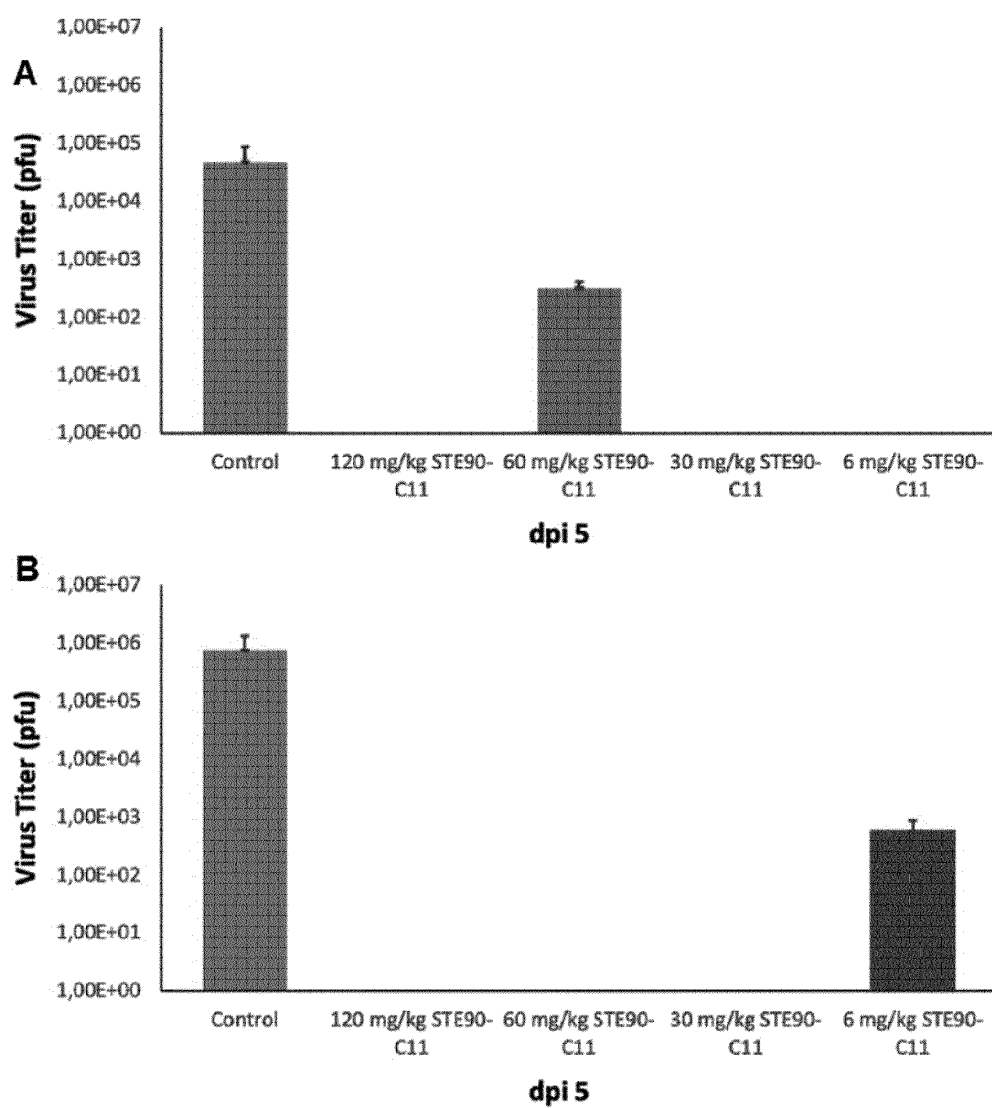


Fig. 41

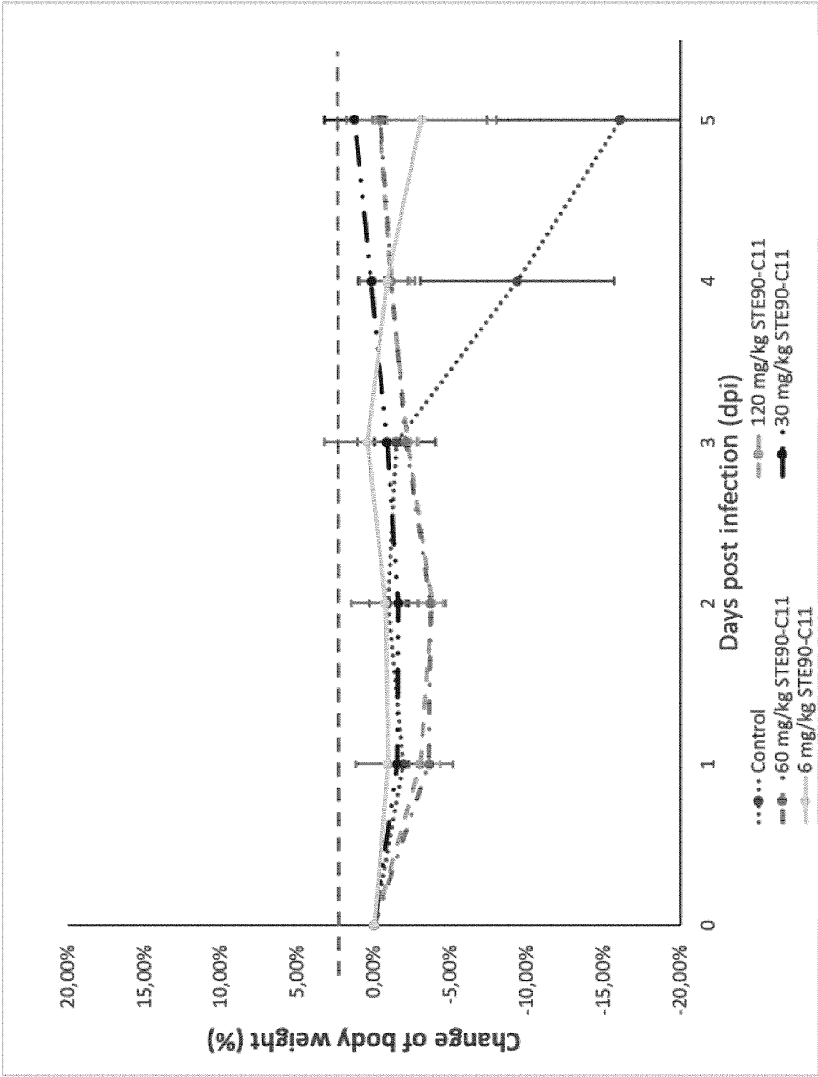


Fig. 42

STE90-C11_kappa_light_chain	CDR1 CDR2 DIVMTQSPSFLSASVGRVTITCRASQGISSYLA DIQLTQSPSSLASVGRVTITCRASQGISSYLA WYQQKPKGKAPKLLIYAAS WYQQKPKGKAPKLLIYAAS TLQS TLQS 60
YU536-D04-kappa_light_chain	DIVMTQSPSFLSASVGRVTITCRASQGISSYLA DIQLTQSPSSLASVGRVTITCRASQGISSYLA WYQQKPKGKAPKLLIYAAS WYQQKPKGKAPKLLIYAAS TLQS TLQS 60
STE90-C11_kappa_light_chain	CDR3 RFGSGSGTEFTLTISLQPEDFATYYCQQQLNSYPFFTFGPGTKVDIK 108
YU536-D04-kappa_light_chain	RFGSGSGTEFTLTISLQPEDFATYYCQQQLNSYP-ITFGQGTKLEIK 107
	*****;*****;***** :*** **; *****;*****;***** :*** **;
STE90-C11_heavy_chain	CDR1 CDR2 QVQLVESGGGLVQPGGSLRLS QVQLVQSGGGLVQPGGSLRLS CAASGLTVSSNYMSWVRQAPGKGLEWVS CAASGLTVSSNYMSWVRQAPGKGLEWVS VIYSGGSTYYA VIYSGGSTYYA 60
YU536-D04-heavy_chain	QVQLVESGGGLVQPGGSLRLS QVQLVQSGGGLVQPGGSLRLS CAASGLTVSSNYMSWVRQAPGKGLEWVS CAASGLTVSSNYMSWVRQAPGKGLEWVS VIYSGGSTYYA VIYSGGSTYYA 60
	*****;*****;***** :*** **; *****;*****;***** :*** **;
STE90-C11_heavy_chain	CDR3 DSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVY DSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVY CARDVA-DAFD CARDVA-DAFD WGQGMVT WGQGMVT 116
YU536-D04-heavy_chain	DSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVY DSVKGRFTISRDDSKNTLYLQMNSLRAEDTAVY CARDLVVMGLDV CARDLVVMGLDV WGKGLVT WGKGLVT 117
	*****;*****;***** :*** **; *****;*****;***** :*** **;

Fig. 43

73/75

Fig. 44

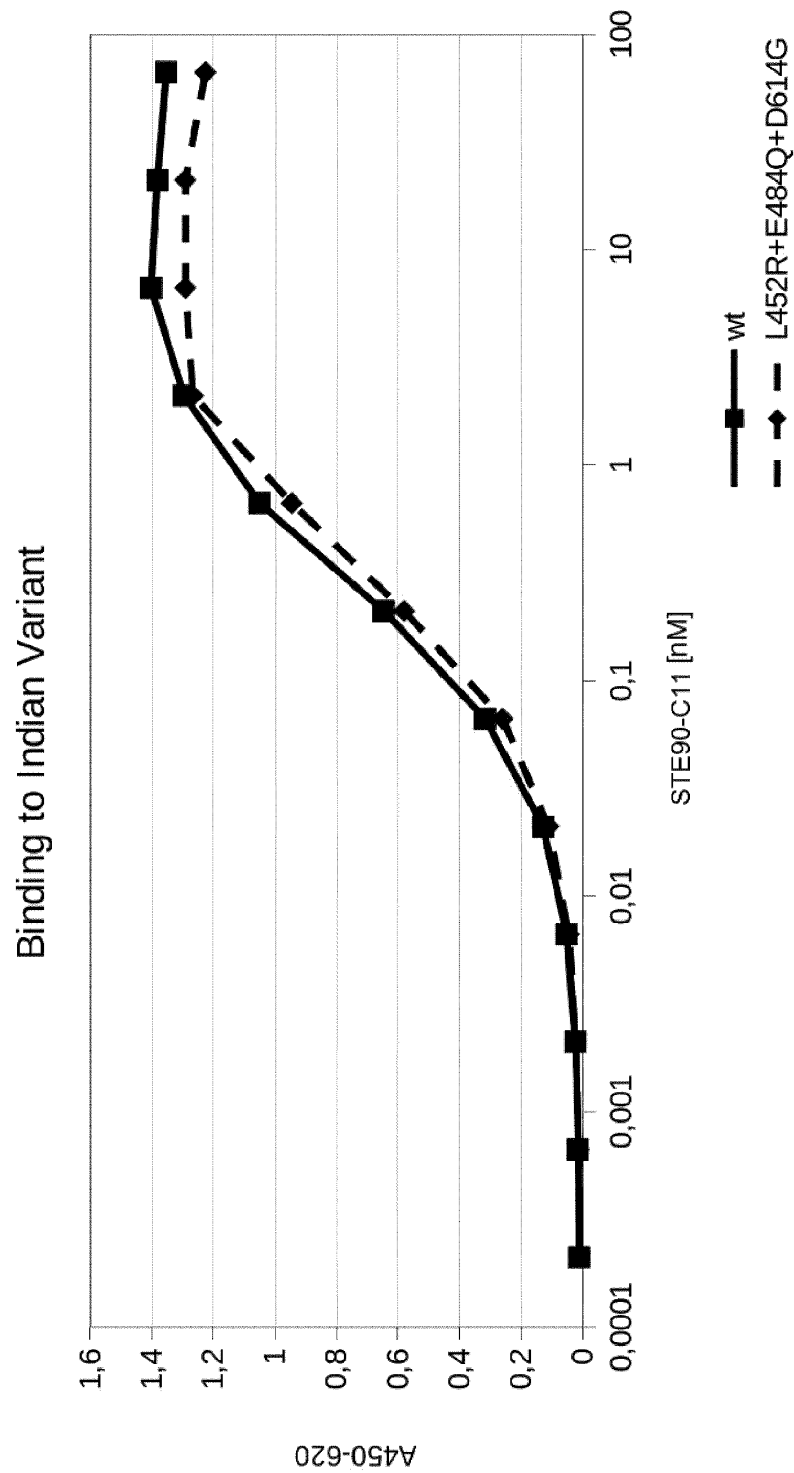


Fig. 45

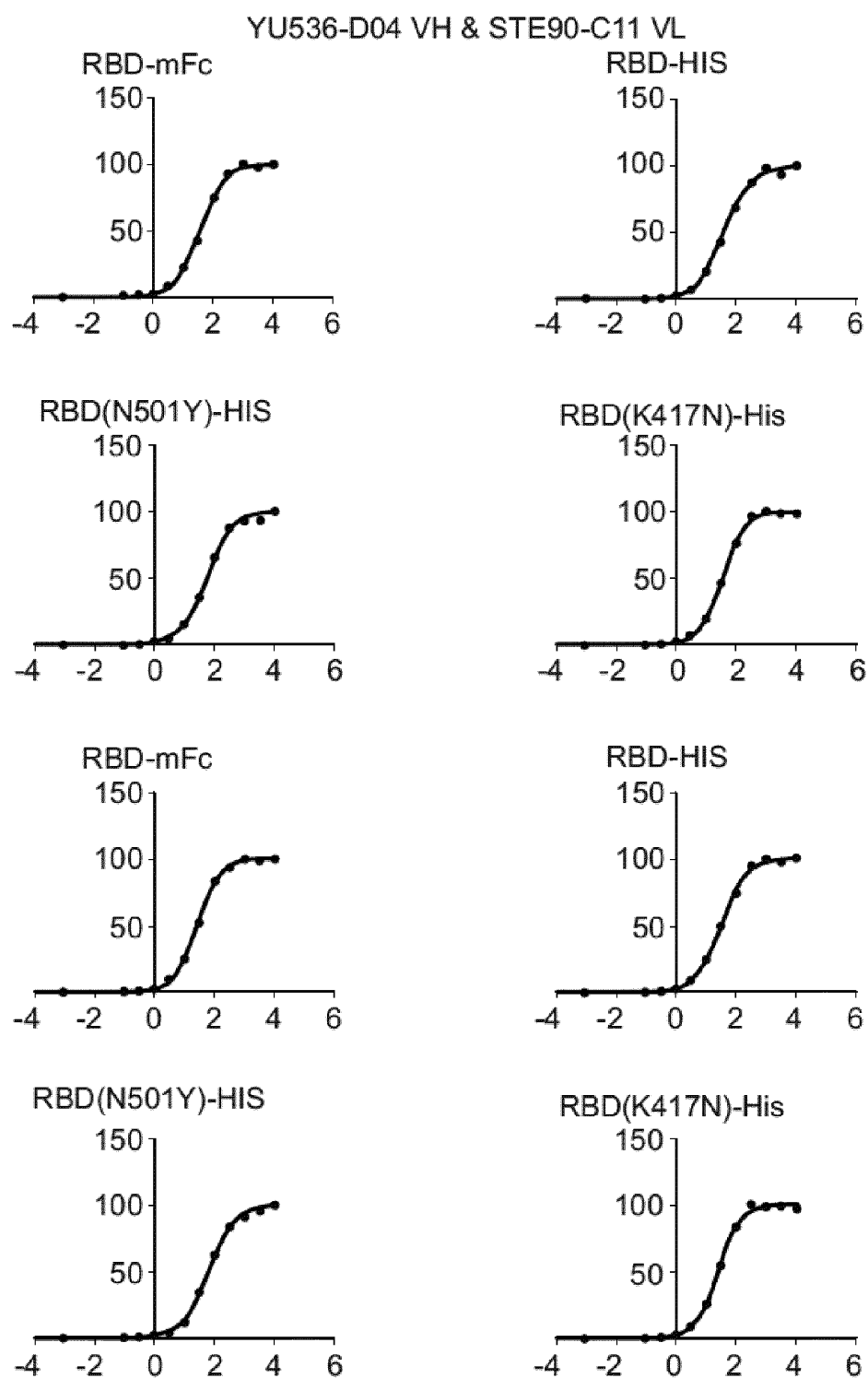


Fig. 46

SUBSTITUTE SHEET (RULE 26)