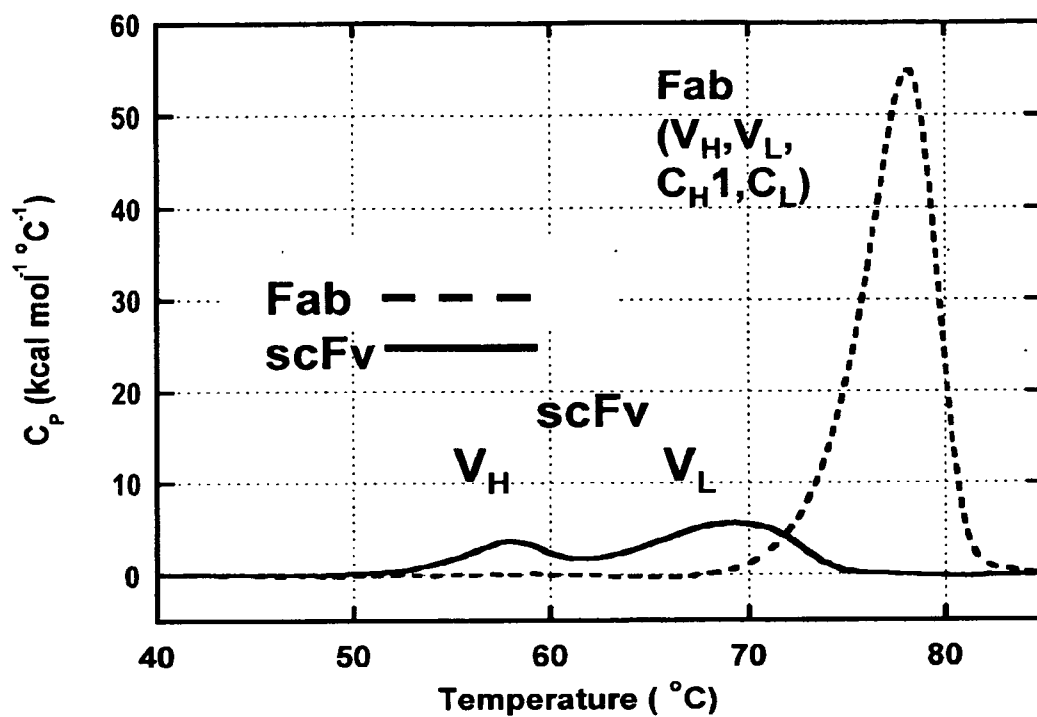
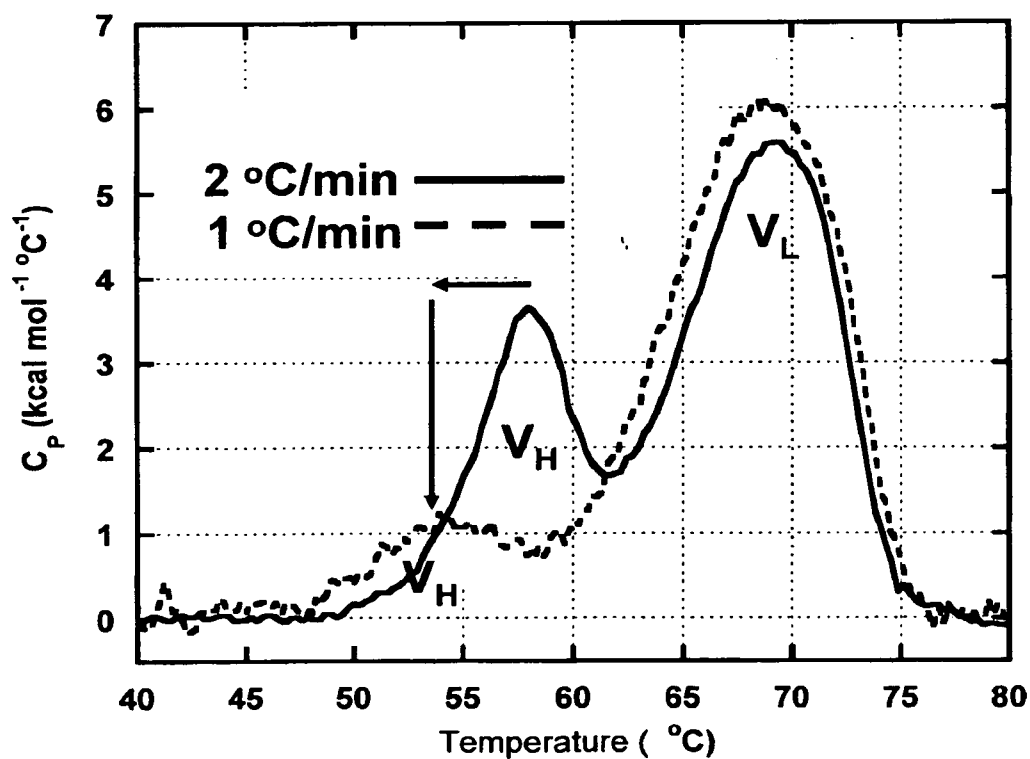


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 GTTCAAG GGCAG GGTCACA ATCAC TGCAGAC AAATC CACCAGC ACAG
 CCTACAT GGAGC TCAGCAG CCTGA GGTCTGA AGATA CTGCGGT CTAT
 TACTGTG CAAGA TCCTGGG AAGGT TTTCTTT ACTGG GGCCAAG GGAC
 CACGGTC ACCGT CTCCTCA GGTGGGGGCGGATCTGGGGGCGGCGGAT
CCGGTGGTGGTGGTAGTGA CATTG AGATGAC CCAGT CTCCTAG CTCC
 CTGTCCG CCTCA GTAGGAG ACAGG GTCACCA TCACC TGCAAGG CCAG
 TCAGAAT GTGGG TATTAAT GTAGC CTGGTAT CAACA GAAACCA GGGA
 AGGCTCC TAAAT CACTGAT TTCCT CGGCCTC CTACC GGTACAG TGGA
 GTCCCTT CCAGA TTCAGCG GCAGT GGATCTG GGACA GATTTCA CTCT
 CACCATC AGCAG CCTCCAG CCTGA AGACTTC GCAAC CTATTTTC TGTC
 AGCAATA TGACA CCTATCC ATTCA CGTTCGG CCAGG GTACCAA GGTG
 GAGATCA AA (SEQ ID NO: 3)

Fig. 1A

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ G
 LEWMGWI YPGNV HAQYNEK FKGRV TITADKS TSTAY MELSSLR S
 EDTAVYY CARSW EGFPYWG QGTTV TVSSGGG GSGGGGSGGGGSD
 IQMTQSP SSLSA SVGDRVIT ITCKA SQNVGIN VAWYQ QKPGKAP K
 SLISSAS YRYSV VPSRFSG SSGGT DFTLTIS SLQPE DFATYFC Q
 QYDTPF TFGQG TKVEIK (SEQ ID NO: 4)

Fig. 1B

*Fig. 2A**Fig. 2B*

CAGGTCC AACTG GTGCAGT CTGGA GCTGAGG TGAAG AAGCCTG GGTC
 CTCAGTG AAGGT GTCCTGC AAGGC TTCTGGC TACAC TTTCACA ACCT
 ACTATTT GCACT GGGTGAG GCAGG CCCCTGG ACAGT GCCTTGA GTGG
 ATGGGAT GGATT TATCCTG GAAAT GTTCATG CTCAG TACAATG AGAA
 GTTCAAG GGCAG GGTCACA ATCAC TGCAGAC AAATC CACCAGC ACAG
 CCTACAT GGAGC TCAGCAG CCTGA GGTCTGA AGATA CTGCGGT CTAT
 TACTGTG CAAGA TCCTGGG AAGGT TTTCCTT ACTGG GGCCAAG GGAC
 CACGGTC ACCGT CTCCTCA GGTGGGGGCGGATCTGGGGGCGGCGGAT
CCGGTGGTGGTGGTAGTGACATTCAGATGACCCAGTCTCCTAGCTCC
 CTGTCCG CCTCA GTAGGAG ACAGG GTCACCA TCACC TGCAAGG CCAG
 TCAGAAT GTGGG TATTAAT GTAGC CTGGTAT CAACA GAAACCA GGGA
 AGGCTCC TAAAT CACTGAT TTCCT CGGCCTC CTACC GGTACAG TGGA
 GTCCCTT CCAGA TTCAGCG GCAGT GGATCTG GGACA GATTTCA CTCT
 CACCATC AGCAG CCTCCAG CCTGA AGACTTC GCAAC CTATTTT TGTC
 AGCAATA TGACA CCTATCC ATTCA CGTTCGG CTGCG GTACCAA GGTG
 GAGATCA AA (SEQ ID NO: 9)

Fig. 3A

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ **C**LE
 WMGWIYP GNVHA QYNEKFK GRVTI TADKSTS TAYME LSSLRSE DTA
 VYYCARS WEGFP YWGQGT VTVSS GGGGSGGGGSGGGGSDIQMTQS
 PSSLSAS VGDRV TIT **C**KASQNVGINVAWYQQKPGKAPKSLISSASY
 RYSGVPS RFSGS GSGTDFT LTISS LQPEDFA TYFCQ QYDTYPF TFG
 CGTKVEI K (SEQ ID NO:10)

Fig. 3B

CAGGTCC AACTG GTGCAGT CTGGA GCTGAGG TGAAG AAGCCTG GGTC
 CTCAGTG AAGGT GTCCTGC AAGGC TTCTGGC TACAC TTTTACA ACCT
 ACTATTT GCACT GGGTGAG GCAGG CCCCTGG ACAGG GACTTGA GTGG
 ATGGGAT GGATT TATCCTG GAAAT GTTCATG CTCAG TACAATG AGAA
 GTTCAAG GGCAG GGTCACA ATCAC TGCAGAC AAATC CACCAGC ACAG
 CCTACAT GGAGC TCAGCAG CCTGA GGTCTGA AGATA CTGCGGT CTAT
 TACTGTG CAAGA TCCTGGG AAGGT TTTCTTT ACTGG GGCCAAG GGAC
 CACGGTC ACCGT CTCCTCA **GGCGGTGGAGGGTCCGGTGGGGGCGGAT**
CTGGGGGCGGCGGATCCGGTGGTGGTGGTAGTGACA TTCAGAT GACC
 CAGTCTC CTAGC TCCCTGT CCGCC TCAGTAG GAGAC AGGGTCA CCAT
 CACCTGC AAGGC CAGTCAG AATGT GGGTATT AATGT AGCCTGG TATC
 AACAGAA ACCAG GGAAGGC TCCTA AATCACT GATTT CCTCGGC CTCC
 TACCGGT ACAGT GGAGTCC CTTCC AGATTCA GCGGC AGTGGAT CTGG
 GACAGAT TTCAC TCTCACC ATCAG CAGCCTC CAGCC TGAAGAC TTCC
 CAACCTA TTTCT GTCAGCA ATATG ACACCTA TCCAT TCACGTT CGGC
 CAGGGTA CCAAG GTGGAGA TCAAA (SEQ ID NO:14)

Fig. 4A

QVQLVQS GA EVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ GL
 EWMGWIY PGNVH AQYNEKF KGRVT ITADKST STAYM ELSSLRS ED
 TAVYYCA RSWEG FPYWGQG TTVTV SS**GGGGS GGGGS GGGGS GGGG**
SDIQMTQ SPSSL SASVGDR VTITC KASQNVG INVAW YQQKPGK AP
 KSLISSA SYRYS GVPSRFS GSGSG TDFTLTI SSLQP EDFATYF CQ
 QYDTYPF TFGQG TKVEIK (SEQ ID NO:15)

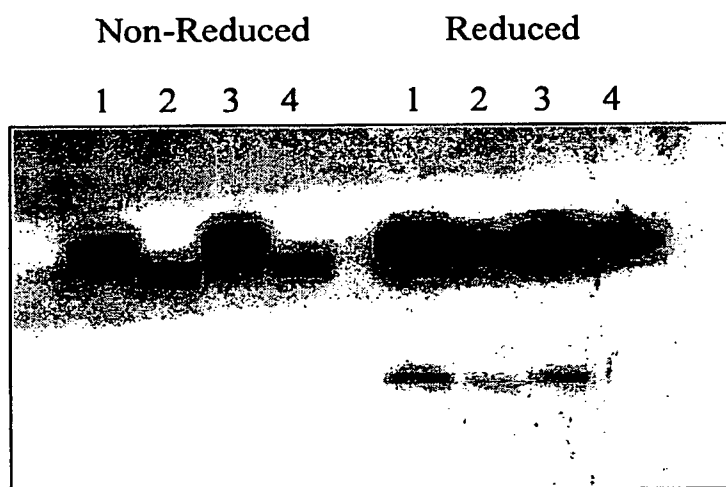
Fig. 4B

CAGGTCC AACTG GTGCAGT CTGGA GCTGAGG TGAAG AAGCCTG GGTCC
 TCAGTGA AGGTG TCCTGCA AGGCT TCTGGCT ACACT TTCACAA CCTAC
 TATTTGC ACTGG GTGAGGC AGGCC CCTGGAC AGGGA CTTGAGT GGATG
 GGATGGA TTTAT CCTGGAA ATGTT CATGCTC AGTAC AATGAGA AGTTC
 AAGGGCA GGGTC ACAATCA CTGCA GACAAAT CCACC AGCACAG CCTAC
 ATGGAGC TCAGC AGCCTGA GGTCT GAAGATA CTGCG GTCTATT ACTGT
 GCAAGAT CCTGG GAAGGTT TTCCT TACTGGG GCCAA GGGACCA CGGTC
 ACCGTCT CCTCA GGAGGGGGCGGTTTCAGGCGGTGGAGGGTCCGGTGGG
GGCGGATCTGGGGGGCGGCGGATCCGGTGGTGGTGGTAGTGACA TTCAG
 ATGACCC AGTCT CCTAGCT CCCTG TCCGCCT CAGTA GGAGACA GGGTC
 ACCATCA CCTGC AAGGCCA GTCAG AATGTGG GTATT AATGTAG CCTGG
 TATCAAC AGAAA CCAGGGA AGGCT CCTAAAT CACTG ATTTCTT CGGCC
 TCCTACC GGTAC AGTGGAG TCCCT TCCAGAT TCAGC GGCAGTG GATCT
 GGGACAG ATTTT ACTCTCA CCATC AGCAGCC TCCAG CCTGAAG ACTTC
 GCAACCT ATTTT TGTCAGC AATAT GACACCT ATCCA TTCACGT TCGGC
 CAGGGTA CCAAG GTGGAGA TCAAA (SEQ ID NO:16)

Fig. 5A

QVQLVQSGAEVKKPGSSVKVSCKASGYTFTTYYLHWVRQAPGQGLEWMGWIYPGN
 VHAQYNEKFKGRVTITADKSTSTAYMELSSLRSED TAVYYCARSWEGFPYWGQGTT
 VTVSSGGGGSGGGSGGGSGGGSGGGSGGGSDIQMTQSPSSLSASVGRVTITCKA
 SQNVGINVAWYQQKPGKAPKSLISSASYRYSQVPSRFSGSGSGTDFTLTISLQPEDFA
 TYFCQQYDTPFTFGQGTKVEIK (SEQ ID NO:17)

Fig. 5B



Lane

- 1 – conventional BHA10 scFv
- 2 – BHA10 scFv V_H44/V_L100
- 3 – BHA10 scFv $(Gly_4Ser)_4$ linker
- 4 – BHA10 scFv V_H44/V_L100
and $(Gly_4Ser)_4$ linker

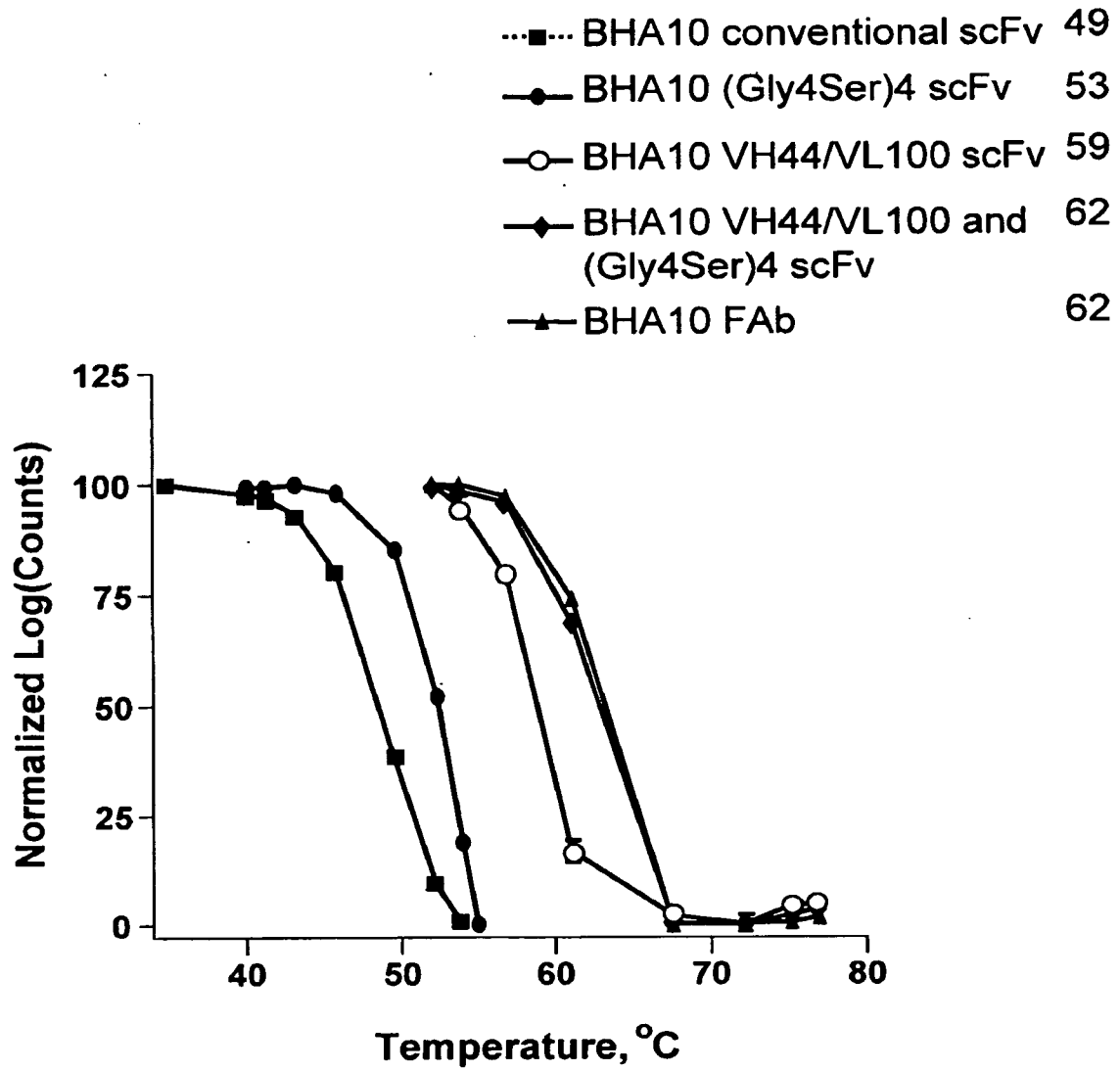
Fig. 6

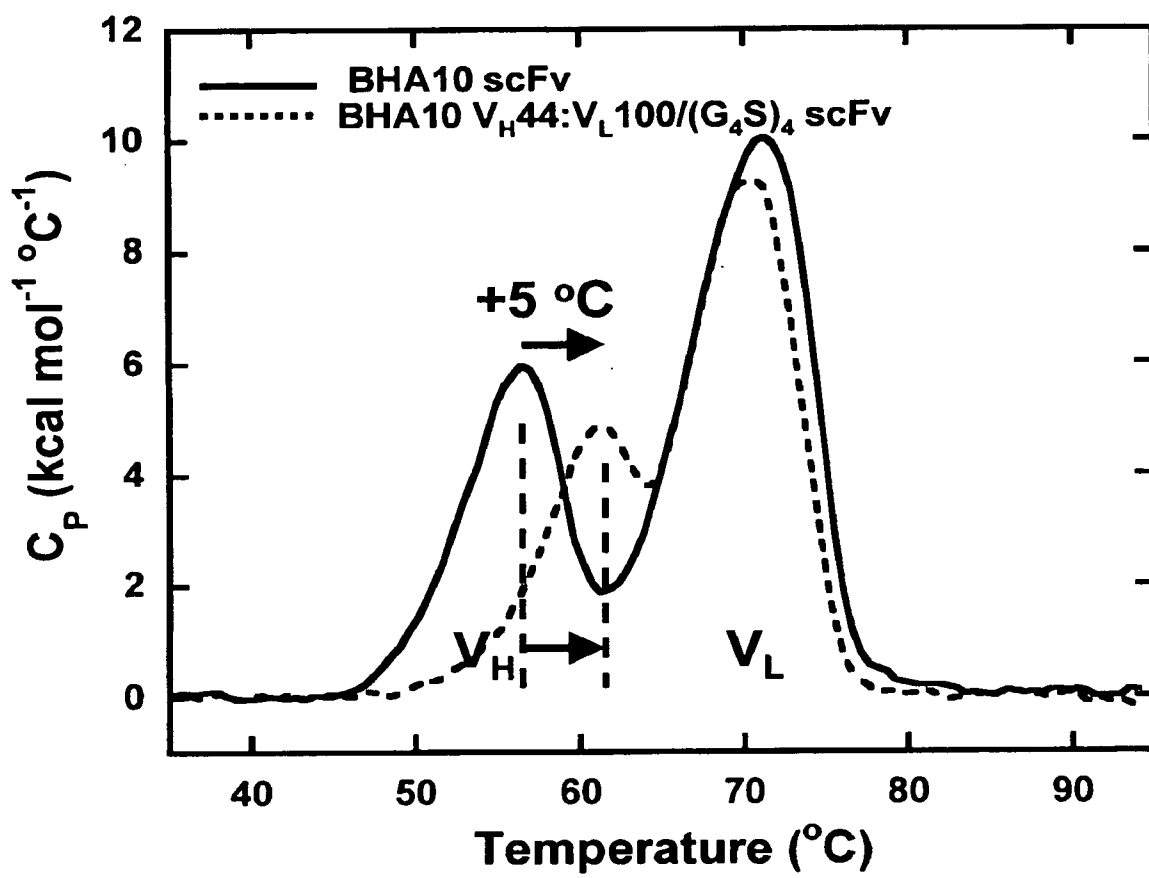
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 ATGGGAT GGATT TATCCTG GAAAT GTTCATG CTCAG TACAATG AGAA
 GTTCAAG GGCAG GGTCACA ATCAC TGCAGAC AAATC CACCAGC ACAG
 CCTACAT GGAGC TCAGCAG CCTGA GGTCTGA AGATA CTGCGGT CTAT
 TACTGTG CAAGA TCCTGGG AAGGT TTTCCTT ACTGG GGCCAAG GGAC
 CACGGTC ACCGT CTCCTCA **GGCGGTGGAGGGTCCGGTGGGGGCGGAT**
CTGGGGGCGGCGGATCCGGTGGTGGTGGTAGTGACA TTCAGAT GACC
 CAGTCTC CTAGC TCCCTGT CCGCC TCAGTAG GAGAC AGGGTCA CCAT
 CACCTGC AAGGC CAGTCAG AATGT GGGTATT AATGT AGCCTGG TATC
 AACAGAA ACCAG GGAAGGC TCCTA AATCACT GATTT CCTCGGC CTCC
 TACCGGT ACAGT GGAGTCC CTTCC AGATTCA GCGGC AGTGGAT CTGG
 GACAGAT TTCAC TCTCACC ATCAG CAGCCTC CAGCC TGAAGAC TTCG
 CAACCTA TTTCT GTCAGCA ATATG ACACCTA TCCAT TCACGTT CGGC
 TCGGGTA CCAAG GTGGAGA TCAAA (SEQ ID NO:18)

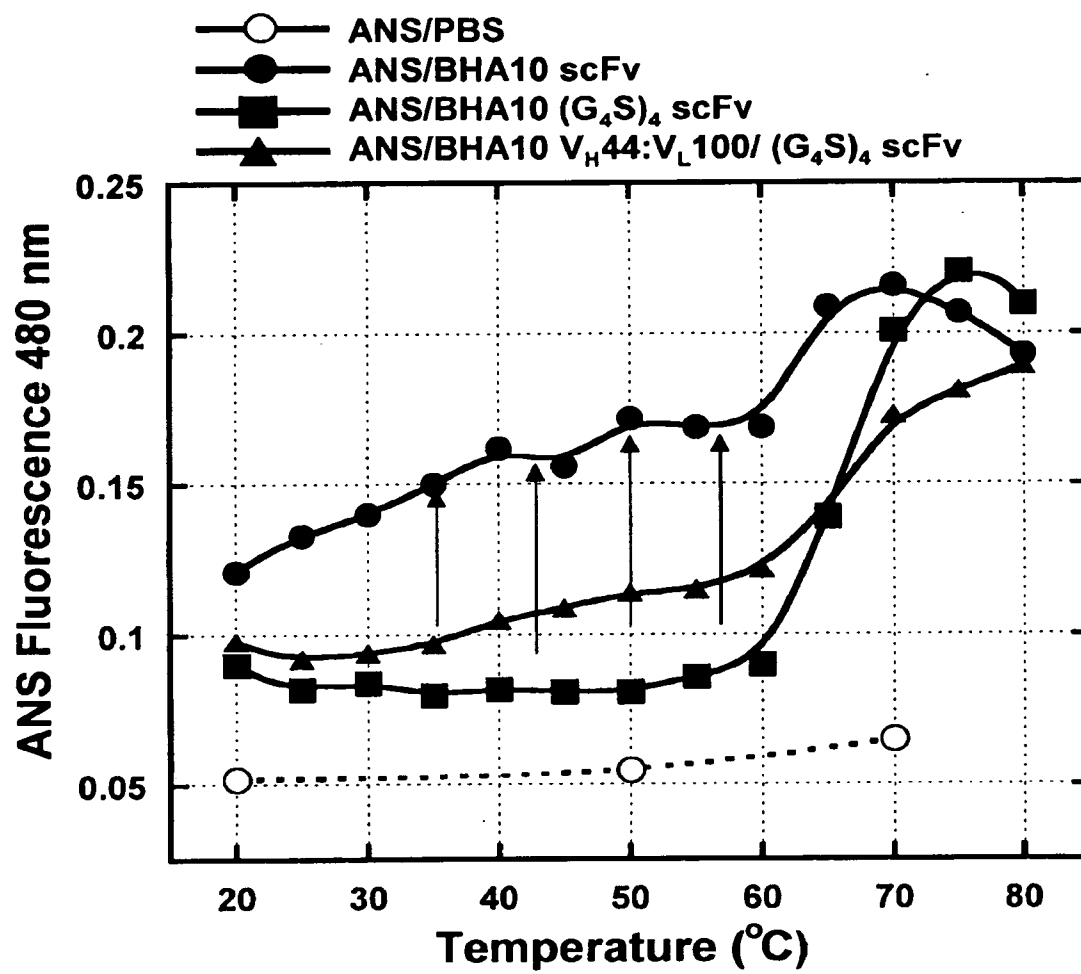
Fig. 7A

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ **CL**
 EWMGWIY PGNVH AQYNEKF KGRVT ITADKST STAYM ELSSLRS ED
 TAVYYCA RSWEG FPYWGQG TTVTV SS**GGGGS GGGGS GGGGS GGGG**
SDIQMTQ SPSSL SASVGDR VTIT **CKASQNVGINVAWYQQKPGKAP**
 KSLISSA SYRYS GVPSRFS GSGSG TDFTLTI SSLQP EDFATYF CQ
 QYDTPF TFGCG TKVEIK (SEQ ID NO:19)

Fig. 7B

T_{50} *Fig. 8*

*Fig. 9*

*Fig. 10*

Pos#	MFR	P(i)	SMFR	P(i)	SR	S(i)	SR/MFR	Kabat#	VHlcons	Chothia
9	G	0.593	P	0.220	A	0.169	0.285	9	A	no data
11	L	0.745	V	0.186	V	0.186	0.25	11	V	P(7),A(7),T(3), S(32),V(10),L(41)
12	V	0.796	K	0.101	K	0.101	0.127	12	K	T(3), G(3),K(6),A(22),V(57),L(4)
16	G	0.491	Q	0.152	S	0.033	0.068	16	S	D(15), R(2),E(26),Q(17),G(19),A(14)
18	L	0.728	V	0.186	V	0.186	0.255	18	V	A(14),I(2),S(4),T(2), V(52),L(29)
20	L	0.813	V	0.101	V	0.101	0.125	20	V	V(4),L(42),I(38),M(14)
45	K	0.830	Q	0.135	Q	0.135	0.163	43	Q	S(3),T(7), R(6),K(38),Q(33),N(2),H(3),G(3)
50	V	0.559	I	0.186	M	0.084	0.151	48	M	W(7), V(15),L(41),I(30),M(9)
74	F	0.610	A	0.118	V	0.118	0.194	67	V	I(4), A(17),T(4),V(8),L(4),F(61)
78	R	0.559	K	0.169	A	0.118	0.212	71	A	G(34),A(9),S(3), R(22),K(8),V(16),L(4)
80	N	0.627	T	0.203	K	0.118	0.189	73	K	G(42), K(17),D(3),N(15),T(18)
82	K	0.661	S	0.118	T	0.033	0.051	75	T	no data
87	L	0.847	M	0.118	M	0.118	0.14	80	M	L(76),M(20),F(3)
88	Q	0.694	E	0.067	E	0.067	0.097	81	E	E(7),Q(40),K(13),N(2),S(2),T(33)

Fig. 11A

Pos#	MFR	P(i)	SMFR	P(i)	SR	S(i)	SR/MFR	Kabat#	Vklcons	Chothia
3	V	0.72	Q	0.16	Q	0.16	0.222	3	Q	no data
13	V	0.64	A	0.16	A	0.16	0.25	13	A	K(6),G(4), A(22),T(3),V(51),L(4)
48	Q	0.82	K	0.16	K	0.16	0.195	42	K	R(6),H(3), K(40), (Q33),G(3),T(7)
52	L	0.76	R	0.08	S	0.02	0.026	46	L	Y(2),W(53), R(6),G(2),T(4),V(15),L(32)
55	Y	0.88	E	0.04	S	0.02	0.022	49	Y	no data
56	W	0.3	L	0.12	S	0.12	0.4	50	A	no data
70	D	0.68	S	0.18	S	0.18	0.264	60	S	G(34),D(22),N(2),A(12),S(27),V(2)
95	V	0.58	T	0.16	T	0.16	0.275	85	T	L(3),D(6),T(27),V(44),I(8),M(9)
97	Y	0.84	F	0.14	F	0.14	0.166	87	Y	Y(79),F(19)

Fig. 11B

12/96

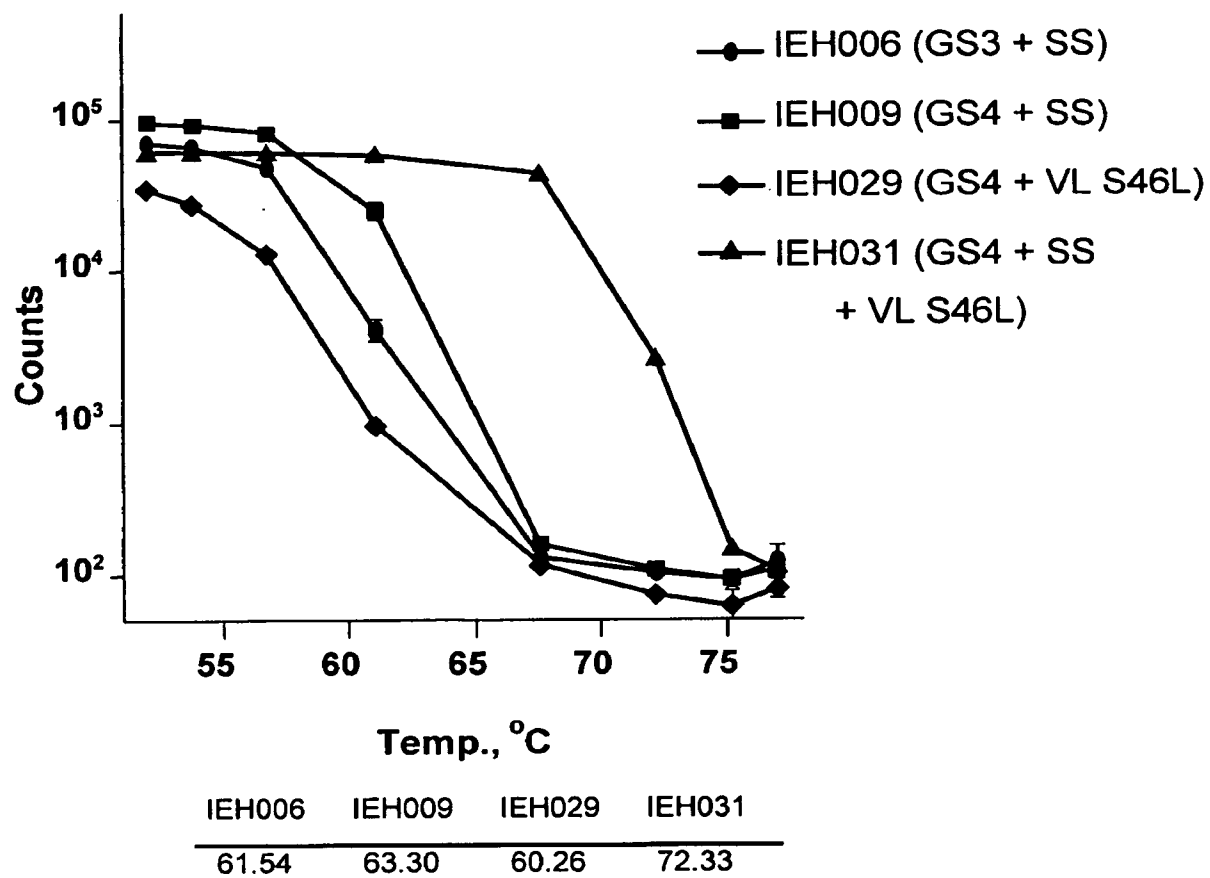
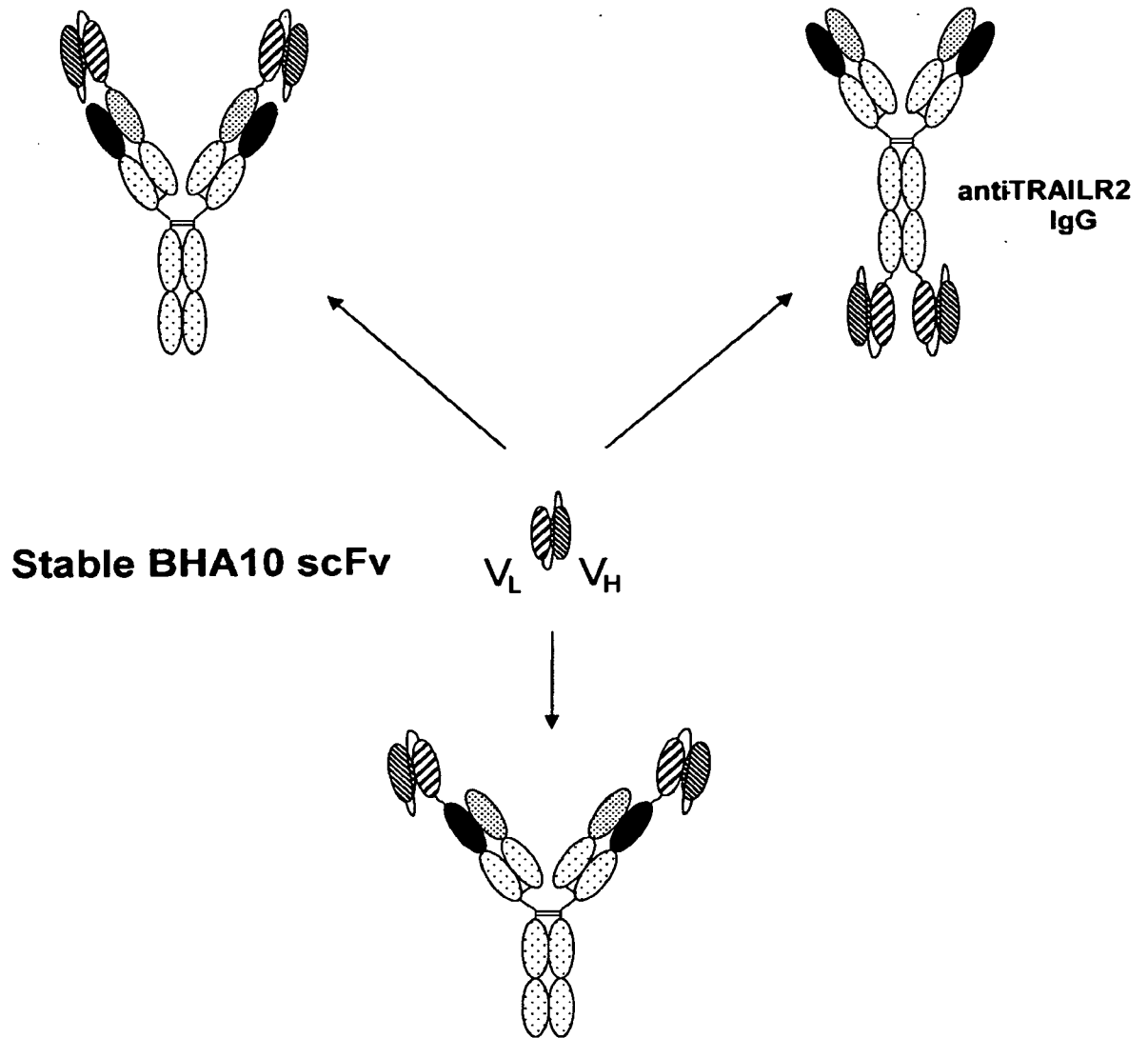


Fig. 12

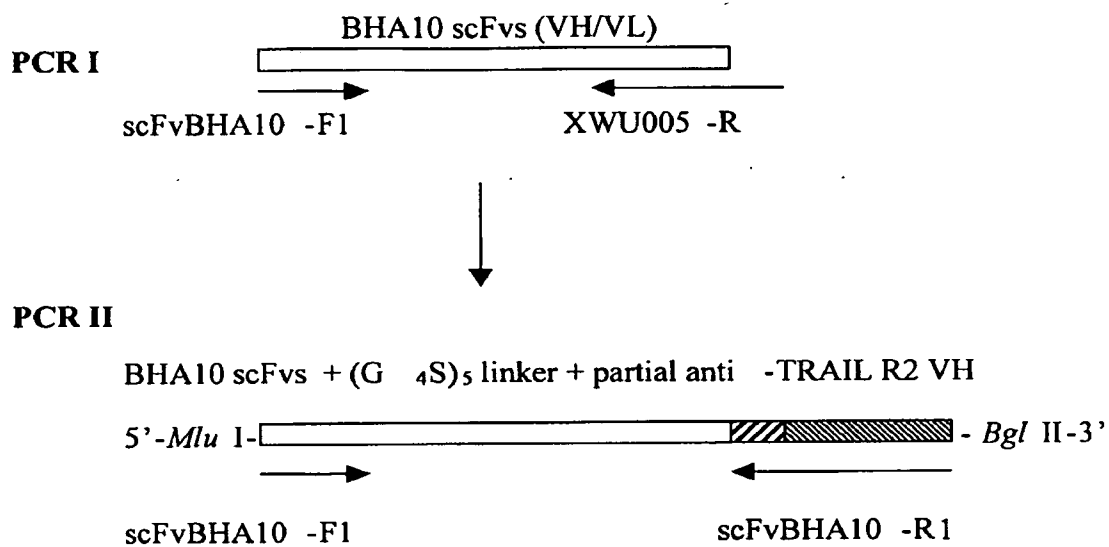
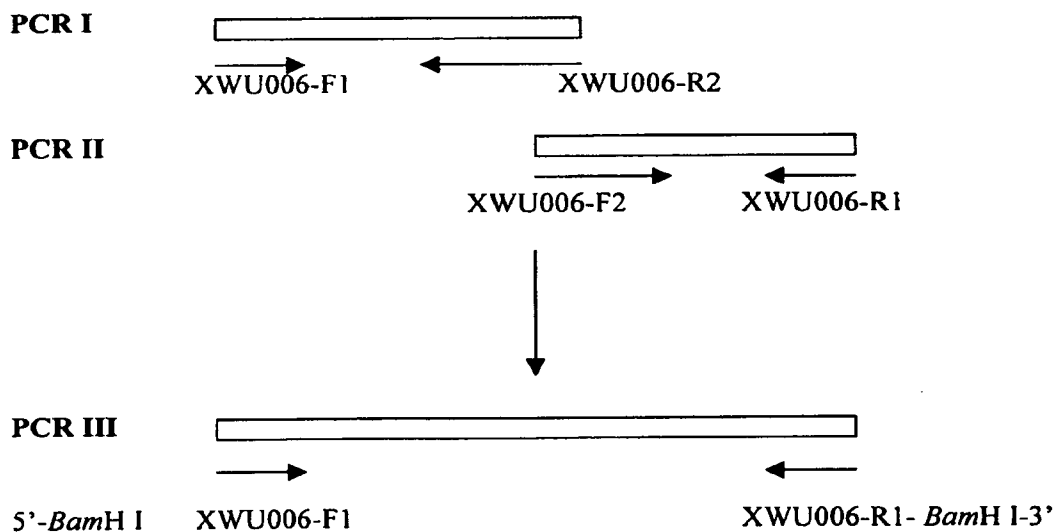
N_L-terminal LTβR/TRAILR2
"N_L-Hercules"

C-terminal LTβR/TRAILR2
"C-Hercules"



N_H-terminal LTβR/TRAILR2
"N_H-Hercules"

Fig. 13

*Fig. 14A**Fig. 14B*

CAACTTG TGCTC ACTCAGT CATCT TCAGTCT CTTTC TCCCTGG GAGC
CTCAGCA AAACCT CACGTGC ACCTT GAGTAGT CAGCA CAGTACG TACA
CCATTGA ATGGT ATCAGCA ACAGC CCCTCAA GCCTC CTAAGTA TGTG
ATGGAGC TTAAG AAAGATG GAAGC CACAGCA CAGGT GATGGGA TTCC
TGATCGC TTCTC TGGATCC AGCTC TGGTGCT GATCG CTACCTT AGCA
TTTCCAA CATCC AGCCTGA AGATG AAGCAAT ATACA TCTGTGG TGTG
GGTGATA CAATT AAGGAAC AATTT GTGTATG TTTTC GGCGGTG GAAC
CAAGGTC GAAAT CAAACGT ACGGT GGCTGCA CCATC TGTCTTC ATCT
TCCCGCC ATCTG ATGAGCA GTTGA AATCTGG AACTG CCTCTGT TGTG
TGCCTGC TGAAT AACTTCT ATCCC AGAGAGG CCAAA GTACAGT GGAA
GGTGGAT AACGC CCTCCAA TCGGG TAACTCC CAGGA GAGTGTC ACAG
AGCAGGA CAGCA AGGACAG CACCT ACAGCCT CAGCA GCACCCT GACG
CTGAGCA AAGCA GACTACG AGAAA CACAAAG TCTAC GCCTGCG AAGT
CACCCAT CAGGG CCTGAGC TCGCC CGTCACA AAGAG CTTCAAC AGGG
GAGAGTG TTGA (SEQ ID NO:28)

Fig. 15A

QLVLTQS SSVSF SLGASAK LTCTL SSQHSTY TIEWY QQQPLKP PK
YVMELKK DGSHS TGDGIPD RFSGS SSGADRY LSISN IQPEDEA IY
ICGVGDT IKEQF VYVFGGG TKVEI KRTVAAP SVFIF PPSDEQL KS
GTASVVC LLNNF YPREAKV QWKVD NALQSGN SQESV TEQDSKD ST
YSLSSTL TLSKA DYEKHKV YACEV THQGLSS PVTKS FNRGEC
(SEQ ID NO:29)

Fig. 15B

CAGGTCCAACCTGGTGCAGTCTGGAGCTGAGGTGAAGAAGCCTGGGTCCTCAGTGAAGGT
 GTCCTGCAAGGCTTCTGGCTACACTTTCACAACCTACTATTTGCACTGGGTGAGGCAGG
 CCCCTGGACAGGGACTTGAGTGGATGGGATGGATTTATCCTGGAAATGTTTCATGCTCAG
 TACAATGAGAAGTTCAAGGGCAGGGTCACAATCACTGCAGACAAATCCACCAGCACAGC
 CTACATGGAGCTCAGCAGCCTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGAT
 CCTGGGAAGGTTTTCTTACTGGGGCCAAGGGACCACGGTCACCGTCTCCTCAGGTGGG
 GCGGATCTGGGGGCGGCGGATCCGGTGGTGGTGGTAGTGACATTCAGATGACCCAGTC
 TCCTAGCTCCCTGTCCGCCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCCAGTC
 AGAATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCTAAATCA
 CTGATTTCCCTCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTACAGCGGCAGTGG
 ATCTGGGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGACTTCGCAACCT
 ATTTCTGTGCAATATGACACCTATCCATTACGTTCCGGCCAGGGTACCAAGGTGGAG
 ATCAAAGGCGGTGGAGGGTCCGGTGGAGGGGGCTCTGGAGGGGGCGGTTAGGGGGCGG
 TGGATCGGGGGGAGGTGGCTCCAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGA
 AGCCTGGAGAGACAGTCAAGATCTCCTGCAAGGCTTCTGGTTTTTACCTTCACAGACTAT
 TCAATACACTGGGTGAAACAGGCTCCAGGAAAGGGTTTAAAGTGATGGGCTGGATAAA
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 GCTACATTTTTCTGTGCTAGATTTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGG
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 CCCACCGTGCCAGCACCTGAACTCCTGGGGGGACCGTCACTCTTCTCTTCCCCC
 AAACCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGAC
 GTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCA
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 TCCTCACCGTCTCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCC
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 GCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATCGCCGTGGAGTGGGAGAGC
 AATGGGCAGCCGGAGAACAACCTACAAGACCACGCTCCCGTGCTGGACTCCGACGGCTC
 CTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCT
 TCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCC
 CTGTCTCCGGGTGA (SEQ ID NO:30)

Fig. 16

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ GL
 EWMGWIY PGNVH AQYNEKF KGRVT ITADKST STAYM ELSSLRS ED
 TAVYYCA RSWEF FPYWGQG TTVTV SSGGGGS GGGGS GGGGSDI QM
 TQSPSSL SASVG DRVTITC KASQN VGINVAW YQQKP GKAPKSL IS
 SASYRYS GVPSR FSGSGSG TDFTL TISSLQP EDFAT YFCQQYD TY
 PFTFGQG TKVEI KGGGGSG GGGSG GGGSGGG GSGGG GSQIQLV QS
 GPELKKP GETVK ISCKASG FTFTD YSIHWVK QAPGK GLKWMGW IN
 TETGEPT YTDDF KGRFAFS LVTSA TTAYLQI NNLNN EDTATFF CA
 RFIYDPY WGFAY WGQGTLV TVSAA STKGPSV FPLAP SSKSTSG GT
 AALGCLV KDYFP EPVTVSW NSGAL TSGVHTF PAVLQ SSGLYSL SS
 VVTVPSS SLGTQ TYICNVN HKPSN TKVDKKV EPKSC DKTHTCP PC
 PAPELLG GPSVF LFPPKPK DTLMI SRTPEVT CVVVD VSHEDPE VK
 FNWYVDG VEVHN AKTKPRE EQYNS TYRVVSV LTVLH QDWLNGK EY
 KCKVSNK ALPAP IEKTISK AKGQP REPQVYT LPPSR DELTKNQ VS
 LTCLVKG FYPST IAVEWES NGQPE NNYKTP PVLDS DGSFFLY SK
 LTVDKSR WQQGN VFSCSVM HEALH NHYTQKS LSLSP G (SEQ ID
 NO:31)

Fig. 17

CAGGTCCAACCTGGTGCAGTCTGGAGCTGAGGTGAAGAAGCCTGGGTCCTCAGTGAAGGTG
 TCCTGCAAGGCTTCTGGCTACACTTTCACAACCTACTATTTGCACTGGGTGAGGCAGGCC
 CCTGGACAGGGACTTGAGTGGATGGGATGGATTTATCCTGGAAATGTTTCATGCTCAGTAC
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 GCCAGTCAGAAATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCT
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 AGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGACTTCGCA
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 ACATTTTTCTGTGCTAGATTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAG
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 TCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCCCAGCAACACC
 AAGGTGGACAAGAAAGTTGAGCCCAAATCTTGTGACAAAACCTCACACATGCCACCGTGC
 CCAGCACCTGAACTCCTGGGGGGACCGTCAGTCTTCTCTTCCCCCCTTCAAGGAC
 ACCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTGGTGGACGTGAGCCACGAA
 GACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACA
 AAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAAGCTCCTCACCGTCTG
 CACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCA
 GCCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTAC
 ACCCTGCCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTC
 AAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAAC
 AACTACAAGACCACGCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAG
 CTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCAT
 GAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTTGA
 (SEQ ID NO:32)

Fig. 18

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ GLEW
MGWIYPG NVHAQ YNEKFKG RVTIT ADKSTST AYMEL SSLRSED TAVY
YCARSWE GFPYW GQGTTVT VSSGG GGSGGGG SGGGG SGGGGSD IQMT
QSPSSLS ASVGD RVTITCK ASQNV GINVAWY QQKPG KAPKSLI SSAS
YRYSGVP SRFSG SGSGTDF TLTIS SLQPEDF ATYFC QQYDTYP FTFG
QGTKVEI KGGGG SGGGGSG GGGSG GGGSGGG GSQIQ LVQSGPE LKKP
GETVKIS CKASG FTFTDYS IHWVK QAPGKGL KWMGW INTETGE PTYT
DDFKGRF AFSLV TSATTAY LQINN LNNEDTA TFFCARFIYDPY WGFA
YWGQGTL VTVSA ASTKGPS VFPLA PSSKSTS GGTAALGCLVKD YFPE
PVTVSWN SGALT SGVHTFP AVLQS SGLYSLS SVVTV PSSSLGT QTYI
CNVNHKP SNTKV DKKVEPK SCDKT HTCPCP APPELL GGPSVFL FPPK
PKDTLMI SRTPE VTCVVVD VSHED PEVKFNW YVDGV EVHNAKT KPRE
EQYNSTY RVVSV LTVLHQD WLNGK EYKCKVS NKALP APIEKTI SKAK
QQPREPQ VYTLPSRDELT KNQVS LTCLVKG FYPSD IAVEWES NGQP
ENNYKTT PPVLD SDGSFFL YSKLT VDKSRWQ QGNVF SCSVMHE ALHN
HYTQKSL SLSPG (SEQ ID NO:33)

Fig. 19

CAGGTCC AACTGGTGCAGTCT GGAGCTGAGGTGAA GAAGCCTGGGTCCT CAGTG
 AAGGTGT CCTGCAAGGCTTCT GGCTACACTTTCAC AACC TACTATTTGC ACTGG
 GTGAGGC AGGC CCC TGGACAG TGCC TTGAGTGGAT GGGATGGATTTATC CTGGA
 AATGTTT ATGC TCAGTACAAT GAGAAGT TCAAGGG CAGGGTCAACAATCA CTGCA
 GACAAAT CCAC CAGCACAGCC TACA TGGAGCTCAG CAGC CTGAGGTCTG AAGAT
 ACTGCGG TCTA TTA CTGTGCA AGAT CCTGGGAAGG TTTT CCTTACTGGG GCCAA
 GGGACCA CGGT CACCGTCTCC TCAGGTGGGGGCGG ATCTGGGGGCGGCG GATCC
 GGTGGTG GTGG TAGTGACATT CAGATGACCCAGTC TCCTAGCTCCCTGT CCGCC
 TCAGTAG GAGA CAGGGTCACC ATCA CCTGCAAGGC CAGT CAGAATGTGG GTATT
 AATGTAG CCTG GTA TCAACAG AAAC CAGGGAAGGC TCCTAAA TCACTGA TTTCC
 TCGGCCT CCTA CCGGTACAGT GGAGTCCCTTCCAG ATTCAGCGGCAGTG GATCT
 GGGACAG ATTT CACTCTCACC ATCAGCAGCCTCCA GCCTGAAGACTTCG CAACC
 TATTTCT GTCA GCAATATGAC ACCTATC CATTAC GTTC GGCTGCGGTA CCAAG
 GTGGAGA TCAAAGGCGGTGGA GGGTCCGGTGGAGG GGGC TCTGGAGGGG GCGGT
 TCAGGGG GCGG TGGATCGGGG GGAGGTGGCTCCCA GATC CAGTTGGTGC AGTCT
 GGACCTG AGCT GAAGAAGCCT GGAGAGACAGTCAA GATC TCCTGCAAGG CTTC T
 GGTTTTA CCTT CACAGACTAT TCAA TACACTGGGT GAAA CAGGCTCCAG GAAAG
 GGTTTAA AGTG GATGGGCTGG ATAAACACTGAGAC TGGT GAGCCAACAT ATACA
 GATGACT TCAAGGGACGATTT GCCTTCTCTTTGGT GACCTCTGCCACCA CTGCC
 TATTTGC AGAT CAACAACCTC AACAATGAGGACAC GGCTACATTTTTCT GTGCT
 AGATTCA TCTA TGA TCCTTAT TGGGGGTTTGCTTA CTGGGGC CAGGGGA CTCTG
 GTCACTG TCTC CGCAGCTAGC ACCAAGGGCCCATC GGTC TTCCCCCTGG CACCC
 TCCTCCA AGAG CACCTCTGGG GGCA CAGCGGCCCT GGGC TGCCTGGTCA AGGAC
 TACTTCC CCGA ACCGGTGACG GTGT CGTGGAAGTC AGGC GCCCTGACCA GCGGC
 GTGCACA CCTT CCCGGCTGTC CTACAGT CCTCAGG ACTC TACTCCCTCA GCAGC
 GTGGTGA CCGT GCCCTCCAGC AGCT TGGGCACCCA GACC TACATCTGCA ACGTG
 AATCACA AGCC CAGCAACACC AAGG TGGACAAGAA AGTT GAGCCCAAAT CTTGT
 GACAAAA CTCA CACATGCCCA CCGT GCCCAGCACC TGAA CTCCTGGGGG GACCG
 TCAGTCT TCCT CTTCCCCCA AAAC CCAAGGACAC CCTCATGATCTCCC GGACC
 CCTGAGG TCACATGCGTGGTG GTGGACGTGAGCCA CGAAGACCCTGAGG TCAAG
 TTCAACT GGTA CGTGGACGGC GTGGAGGTGCATAA TGCCAAGACAAAGC CGCGG
 GAGGAGC AGTA CAACAGCACG TACCGTGTGGTCAG CGTC CTCACCGTCC TGCA C
 CAGGACT GGCT GAATGGCAAG GAGTACAAGTGCAA GGTC TCCAAC
 (SEQ ID NO:34)

Fig. 20

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ CLE
WMGWIYP GNVHA QYNEKFK GRVTI TADKSTS TAYME LSSLRSE DTA
VYYCARS WEGFP YWGQGTT VTVSS GGGGSGG GGS GGSDIQM TQS
PSSLSAS VGDRV TITCKAS QNVGI NVAWYQQ KPGKA PKSLISS ASY
RYSGVPS RFSGS GSGTDFT LTISS LQPEDFA TYFCQ QYDTYPF TFG
CGTKVEI KGGGG SGGGSGG GGGSG GGGSGGG GSQIQ LVQSGPE LKK
PGETVKI SCKAS GFTFTDY SIHWV KQAPGKG LKWMG WINTETG EPT
YTDDFKG RFAFS LVTSATT AYLQI NNLNED TATFF CARFIYD PYW
GFAYWGQ GTLVT VSAASTK GPSVF PLAPSSK STSGG TAALGCL VKD
YFPEPVT VSWNS GALTSGV HTFPA VLQSSGL YSLSS VVTVPSS SLG
TQTYICN VNHKP SNTKVDK KVEPK SCDKTHT CPPCP APELLGG PSV
FLFPPKP KDTLM ISRTPEV TCVVV DVSHEDP EVKFN WYVDGVE VHN
AKTKPRE EQYNS TYRVVSV LTVLH QDWLNGK EYKCK VSNKALP API
EKTISKA KGQPR EPQVYTL PPSRD ELTKNQV SLTCL VKGFYPS DIA
VEWESNG QPENN YKTTTPV LDSDG SFFLYSK LTVDK SRWQQGN VFS
CSVMHEA LHNHY TQKSLSL SPG

(SEQ ID NO:35)

Fig. 21

CAGGTCCAACCTGGTGCAGTCTGGAGCTGAGGTGAAGAAGCCTGGGTCTCAGTGAAGGTGT
 CCTGCAAGGCTTCTGGCTACACTTTCACAACCTACTATTTCGACTGGGTGAGGCAGGCCCC
 TGGACAGTGCCTTGAGTGGATGGGATGGATTTTATCCTGGAAATGTTTCATGCTCAGTACAAT
 GAGAAGTTCAAGGGCAGGGTCACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGG
 AGCTCAGCAGCCTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGG
 TTTTCCTTACTGGGGCCAAGGGACCACGGTCACCGTCTCCTCAGGCGGTGGAGGGTCCGGT
 GGGGGCGGATCTGGGGGCGGCGGATCCGGTGGTGGTGGTAGTGACATTCAGATGACCCAGT
 CTCCTAGCTCCCTGTCCGCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCCAGTCA
 GAATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCTAAATCACTG
 ATTTCTCCTCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTCAGCGGCAGTGGATCTG
 GGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGACTTCGCAACCTATTTCTG
 TCAGCAATATGACACCTATCCATTACAGTTCGGCTGCGGTACCAAGGTGGAGATCAAAGGC
 GGTGGAGGGTCCGGTGGAGGGGGCTCTGGAGGGGGCGGTTTCAGGGGGCGGTGGATCGGGGG
 GAGGTGGCTCCCAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGAC
 AGTCAAGATCTCCTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTG
 AAACAGGCTCCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAACTGAGACTGGTGAGC
 CAACATATACAGATGACTTCAAGGGACGATTTGCCTTCTCTTTGGTGACCTCTGCCACCAC
 TGCCTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTCTGTGCTAGA
 TTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACTCTGGTCACTGTCT
 CCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCTCCTCCAAGAGCACCTC
 TGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTG
 TCGTGGAACCTCAGGCGCCCTGACCAGCGGCGTGACACCTTCCCGGCTGTCTACAGTCCT
 CAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGAC
 CTACATCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAAAGTTGAGCCC
 AAATCTTGTGACAAAACCTCACACATGCCACCGTGCCACGACCTGAACTCCTGGGGGGAC
 CGTCAGTCTTCTCTTCCCCCCTCAAGGACACCTCATGATCTCCCGGACCCCTGA
 GGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCTGAGGTCAAGTTCAACTGGTAC
 GTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCA
 CGTACCGTGTGGTGCAGCGTCTCACCCTGTCACCAGGACTGGCTGAATGGCAAGGAGTA
 CAAGTGCAAGGTCTCCAACAAAGCCCTCCAGCCCCCATCGAGAAAACCATCTCCAAGCC
 AAAGGGCAGCCCCGAGAACCACAGGTGTACACCTGCCCCCATCCCGGGATGAGCTGACCA
 AGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATCGCCGTGGA
 GTGGGAGAGCAATGGGCAGCCGGAGAACAACCTACAAGACCACGCCTCCCGTGCTGGACTCC
 GACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGA
 ACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCT
 CTCCCTGTCTCCGGGTGA (SEQ ID NO:36)

Fig. 22

QVQLVQS GAEVK KPGSSVK VSCKA SGYTFTT YYLHW VRQAPGQ CLEW
MGWIYPG NVHAQ YNEKFKG RVTIT ADKSTST AYMEL SSLRSED TAVY
YCARSWE GFPYW GQGTTVT VSSGG GSGGGG SGGGG SGGGGSD IQMT
QSPSSL ASVGD RVTITCK ASQNV GINVAWY QQKPG KAPKSLI SSAS
YRYS MVP SRFSG SSGGTDF TLTIS SLQPEDF ATYFC QQYDTYP FTFG
CGTKVEI KGGGG SGGGGSG GGGSG GGGSGGG GSQIQ LVQSGPE LKKP
GETVKIS CKASG FTFTDYS IHWVK QAPGKGL KWMGW INTETGE PTYT
DDFKGRF AFSLV TSATTAY LQINN LNNEDTA TFFCA RFIYDPY WGFA
YWGQGT VTVSA ASTKGPS VFPLA PSSKSTS GGTA LGCLVKD YFPE
PVTVSWN SGALT SGVHTFP AVLQS SGLYSL SVVTV PSSSLGT QTYI
CNVNHKP SNTKV DKKVEPK SCDKT HTCPCP APELL GGPSVFL FPPK
PKDTLMI SRTPE VTCVVVD VSHED PEVKFNW YVDGV EVHNAKT KPRE
EQYNSTY RVVSV LTVLHQD WLNGK EYKCKVS NKALP APIEKTI SKAK
GQPREPQ VYTL PPSRDELT KNQVS LTCLVKG FYPSP IAVEWES NGQP
ENNYKTT PPVLD SDGSFFL YSKLT VDKSRWQ QGNVF SCSVMHE ALHN
HYTQKSL SLSPG (SEQ ID NO:37)

Fig. 23

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAG
 ATCTCCTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAA
 CAGGCTCCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAACACTGAGACTGGTGAG
 CCAACATATACAGATGACTTCAAGGGACGATTTGCCTTCTCTTTGGTGACCTCTGCC
 ACCACTGCCCTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTC
 TGTGCTAGATTTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACT
 CTGGTCACTGTCTCCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCC
 TCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTAC
 TTCCCCGAACCGGTGACGGTGTCTGGAACCTCAGGCGCCCTGACCAGCGGCGTGAC
 ACCTTCCCGGCTGTCTACAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACC
 GTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCCC
 AGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCTTGAGCAAACTCACACA
 TGCCCAACCGTGCCAGCACCTGAACTCCTGGGGGGACCGTCAGTCTTCTCTTCCCC
 CCAAACCCAAGGACACCCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTG
 GTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTG
 GAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGT
 GTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAG
 TGCAAGGTCTCCAACAAAGCCCTCCAGCCCCCATCGAGAAAACCATCTCCAAGGCC
 AAAGGGCAGCCCCGAGAACCACAGGTGTACACCCCTGCCCCCATCCCGGGATGAGCTG
 ACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATC
 GCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACACTACAAGACCACGCCTCCC
 GTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGC
 AGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAAC
 CACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCGGGGGTGGATCC
 GGTGGAGGGGGCTCCGGCGGTGGCGGGTCCCAGGTCCAACCTGGTGCAGTCTGGAGCT
 GAGGTGAAGAAGCCTGGGTCTCAGTGAAGGTGTCTTGCAAGGCTTCTGGCTACACT
 TTCACAACCTACTATTTGCACTGGGTGAGGCAGGCCCCTGGACAGGGACTTGAGTGG
 ATGGGATGGATTTATCCTGGAAATGTTTCATGCTCAGTACAATGAGAAGTTCAAGGGC
 AGGGTCACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGGAGCTCAGCAGC
 CTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGGTTTTCTT
 TACTGGGGCCAAGGGACACGGTCACCGTCTCCTCAGGTGGGGGCGGATCTGGGGGC
 GGCGGGTCCGGTGGTGGTGGTAGTGACATTCAGATGACCCAGTCTCCTAGCTCCCTG
 TCCGCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCCAGTCAGAATGTGGGT
 ATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCTAAATCACTGATTTCC
 TCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTCAGCGGCAGTGGATCTGGG
 ACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGACTTCGCAACCTATTTTC
 TGTCAGCAATATGACACCTATCCATTACGTTCCGCCAGGGTACCAAGGTGGAGATC
 AAATGA (SEQ ID NO:44)

Fig. 24

QIQLVQS GPELK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK G
 LKWMGWI NTETG EPTYTDD FKGRF AFSLVTS ATTAY LQINNLN N
 EDTATFF CARFI YDPYWGF AYWGQ GTLVTVS AASTK GPSVFPL A
 PSSKSTS GGTAALGCLVKD YFPEP VTVSWNS GALTS GVHTFPA V
 LQSSGLY SLSSV VTPVSSS LGTQT YICNVNH KPSNT KVDKKVE P
 KSCDKTH TCPPC PAPELLG GPSVF LFPPKPK DTLMI SRTPEVT C
 VVVDVSH EDPEV KFNWYVD GVEVH NAKTKPR EEQYN STYRVVS V
 LTVLHQD WLNGK EYKCKVS NKALP APIEKTI SKAKG QPREPQV Y
 TLPPSRD ELTKN QVSLTCL VKGFY PSDIAVE WESNG QPENNYK T
 TPPVLDS DGSFF LYSKLTV DKSRW QQGNVFS CSVMH EALHNHY T
 QKSLSLS PGKSG GGGSGGG GSGGG GSQVQLV QSGAE VKKPGSS V
 KVSCKAS GYTFT TYYLHWV RQAPG QGLEWMG WIYPG NVHAQYN E
 KFKGRVT ITADK STSTAYM ELSSL RSED TAV YYCAR SWEGFPY W
 GQGTTVT VSSGG GSGGGGG SGGGG SDIQMTQ SPSSL SASVGDR V
 TITCKAS QNVGI NVAWYQQ KPGKA PKSLISS ASYRY SGVPSRF S
 GSGSGTD FTLTI SSLQPED FATYF CQQYDTY PFTFG QGTKVEI K
 (SEQ ID NO:45)

Fig. 25

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAGATC
 TCCTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAACAGGCT
 CCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAAACACTGAGACTGGTGAGCCAACATAT
 ACAGATGACTTCAAGGGACGATTTGCCTTCTCTTTGGTGACCTCTGCCACCACTGCCTAT
 TTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTCTGTGCTAGATTTCATC
 TATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACTCTGGTCACTGTCTCCGCA
 GCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCTCCTCCAAGAGCACCTCTGGG
 GGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTGCG
 TGGAACCTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCGGCTGTCTTACAGTCCTCA
 GGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGACC
 TACATCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGAAAGTTGAGCCC
 AAATCTTGAGCAAACTCACACATGCCACCGTGCCAGCACCTGAACCTCTGGGGGGA
 CCGTCAGTCTTCTCTTCCCCCAAACCCAAGGACACCTCATGATCTCCCGGACCCCT
 GAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGG
 TACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAAC
 AGCAGTACCGTGTGGTCAGCGTCTCACCCTGCTGACCAGGACTGGCTGAATGGCAAG
 GAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCAGCCCCATCGAGAAAACCATCTCC
 AAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAG
 CTGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATC
 GCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAATAAGACCACGCCTCCCGTG
 CTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGCAGGTGG
 CAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAACCACTACACG
 CAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCGGGGGTGGATCCGGTGGAGGGGGC
 TCCGGCGGTGGCGGGTCCCAGGTCCAACCTGGTGCAGTCTGGAGCTGAGGTGAAGAAGCCT
 GGGTCCTCAGTGAAGGTGTCTGCAAGGCTTCTGGCTACACTTTCACAACCTACTATTTG
 CACTGGGTGAGGCAGGCCCCCTGGACAGGGACTTGAGTGGATGGGATGGATTTATCCTGGA
 AATGTTTCATGCTCAGTACAATGAGAAGTTCAAGGGCAGGGTCACAATCACTGCAGACAAA
 TCCACCAGCACAGCCTACATGGAGCTCAGCAGCCTGAGGTCTGAAGATACTGCGGTCTAT
 TACTGTGCAAGATCCTGGGAAGGTTTTCTTACTGGGGCCAAGGGACCACGGTCACCGTC
 TCCTCAGGCGGTGGAGGGTCCGGTGGGGGCGGATCTGGGGGCGGCGGGTCCGGTGGTGGT
 GGTAGTGACATTCAGATGACCCAGTCTCCTAGCTCCCTGTCCGCCTCAGTAGGAGACAGG
 GTCACCATCACCTGCAAGGCCAGTCAGAATGTGGGTATTAATGTAGCCTGGTATCAACAG
 AAACCAGGGAAGGCTCCTAAATCACTGATTTCTCGGCCTCCTACCGGTACAGTGGAGTC
 CCTTCCAGATTCAGCGGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGCCTC
 CAGCCTGAAGACTTCGCAACCTATTTCTGTGTCAGCAATATGACACCTATCCATTCACGTT
 GGCCAGGGTACCAAGGTGGAGATCAAATGA (SEQ ID NO:46)

Fig. 26

QIQLVQS GPELK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK GLKW
MGWINTE TGEPT YTDDFKG RFAFS LVTSATT AYLQI>NNLNED TATF
FCARFIY DPYWG FAYWGQG TLVTV SAASTKG PSVFP LAPSSKS TSGG
TAALGCL VKDYF PEPVTVS WNSGA LTSGVHT FPAVL QSSGLYS LSSV
VTVPSSS LGTQT YICNVNH KPSNT KVDKKVE PKSCD KTHTCPP CPAP
ELLGGPS VFLFP PKPKDTL MISRT PEVTCVV VDVSH EDPEVKF NWWYV
DGVEVHN AKTKP REEQYNS TYRVV SVLTVLH QDWLN GKEYKCK VSNK
ALPAPIE KTISK AKGQPRE PQVYT LPPSRDE LTKNQ VSLTCLV KGFY
PSDIAVE WESNG QPENNYK TTPPV LDSDGSF FLYSK LTVDKSR WQQG
NVFSCSV MHEAL HNHYTQK SLSLS PGKSGGG GSGGG GSGGGGS QVQL
VQSGAEV KKPGS SVKVSCK ASGYT FTTYYLH WVRQA PGQGLEW MGWI
YPGNVHA QYNEK FKGRVTI TADKS TSTAYME LSSLR SEDTAVY YCAR
SWEGFPY WGQGT TVTVSSG GGGSG GGGSGGG GSGGG GSDIQMT QSPS
SLSASVG DRVTI TCKASQN VGINV AWYQQKP GKAPK SLISSAS YRYS
GVPSRFS GSGSG TDFTLTI SSLQP EDFATYF CQQYD TYPFTFG QGTK
VEIK (SEQ ID NO:47)

Fig. 27

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAGAT
 CTCTTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAACAGG
 CTCCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAAACACTGAGACTGGTGAGCCAACA
 TATACAGATGACTTCAAGGGACGATTTGCCTTCTCTTTGGTGACCTCTGCCACCACTGC
 CTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTCTGTGCTAGAT
 TCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACTCTGGTCACTGTC
 TCCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCTCTCTCCAAGAGCAC
 CTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGA
 CGGTGTCGTGGAACCTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCGGCTGTCTTA
 CAGTCCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGG
 CACCCAGACCTACATCTGCAACGTGAATCACAAGCCAGCAACCAAGGTGGACAAGA
 AAGTTGAGCCCAAATCTTGTGACAAAACCTCACACATGCCACCGTGCCAGCACCTGAA
 CTCTTGGGGGGACCGTCAGTCTTCTCTTCCCCCAAAACCAAGGACACCCTCATGAT
 CTCCCGGACCCCTGAGGTCACATGCGTGGTGGTGGACGTGAGCCACGAAGACCTTGAGG
 TCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGG
 GAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGCGTCCTCACCGTCCTGCACCAGGA
 CTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCA
 TCGAGAAAACCATCTCCAAGCCAAAGGGCAGCCCCGAGAACCACAGGTGTACACCCCTG
 CCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGG
 CTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACCT
 ACAAGACCACGCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTC
 ACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGA
 GGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCG
 GGGGTGGATCCGGTGGAGGGGGCTCCGGCGGTGGCGGGTCCAGGTCCAACCTGGTGCAG
 TCTGGAGCTGAGGTGAAGAAGCCTGGGTCCTCAGTGAAGGTGTCCTGCAAGGCTTCTGG
 CTACACTTTTACAACCTACTATTTGCACTGGGTGAGGCAGGCCCTGGACAGTGCCTTG
 AGTGATGGGATGGATTTATCCTGGAAATGTTTATGCTCAGTACAATGAGAAGTTCAAG
 GGCAGGGTCAACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGGAGCTCAGCAG
 CCTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGGTTTTCTTT
 ACTGGGGCCAAGGGACCACGGTCACCGTCTCCTCAGGTGGGGGCGGATCTGGGGGCGGC
 GGGTCCGGTGGTGGTGGTAGTGACATTGAGATGACCCAGTCTCCTAGCTCCCTGTCCGC
 CTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCCAGTCAGAATGTGGGTATTAATG
 TAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCTAAATCACTGATTTCTCTCGGCCTCC
 TACCGGTACAGTGGAGTCCCTTCCAGATTGAGCGGCAGTGGATCTGGGACAGATTTTAC
 TCTACCATCAGCAGCCTCCAGCCTGAAGACTTCGCAACCTATTTCTGTGAGCAATATG
 ACACCTATCCATTCACGTTCCGGCTGCGGTACCAAGGTGGAGATCAAATGA
 (SEQ ID NO:48)

Fig. 28

QIQLVQS GPELK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK GLK
WMGWINT ETGEP TYTDDFK GRFAF SLVTSAT TAYLQ INNLNNE DTA
TFFCARF IYDPY WGFAYWG QGTLV TVSAAST KGPSV FPLAPSS KST
SGGTAAL GCLVK DYFPEPV TVSWN SGALTSG VHTFP AVLQSSG LYS
LSSVVTV PSSSL GTQTYIC NVNHK PSNTKVD KKVEP KSCDKTH TCP
PCPAPEL LGGPS VFLFPPK PKDTL MISRTPE VTCVV VDVSHED PEV
KFNWYVD GVEVH NAKTKPR EEQYN STYRVVS VLTVL HQDWLNG KEY
KCKVSNK ALPAP IEKTISK AKGQP REPQVYT LPPSR DELTKNQ VSL
TCLVKGF YPSDI AVEWESN GQPEN NYKTTTP VLDSD GSFFLYS KLT
VDKSRWQ QGNVF SCSVMHE ALHNNH YTQKSLS LSPGK SGGGGSG GGG
SGGGGSQ VQLVQ SGAEVKK PGSSV KVSCKAS GYTFT TYYLHWV RQA
PGQCLEW MGWIY PGNVHAQ YNEKF KGRVTIT ADKST STAYMEL SSL
RSED TAV YYCAR SWEGFPY WGQGT TVTVSSG GGGSG GGGSGGG GSD
IQMTQSP SSLSA SVGDRVT ITCKA SQNVGIN VAWYQ QKPGKAP KSL
ISSASYR YSGVP SRFSGSG SGTDF TLTISSL QPEDF ATYFCQQ YDT
YPFTFGC GTKVE IK (SEQ ID NO:49)

Fig. 29

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAG
 ATCTCCTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAA
 CAGGCTCCAGGAAAGGGTTTAAAGTGATGGGCTGGATAAACACTGAGACTGGTGAG
 CCAACATATACAGATGACTTCAAGGGACGATTGCGCTTCTCTTTGGTGACCTCTGCC
 ACCACTGCCTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTC
 TGTGCTAGATTTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACT
 CTGGTCACTGTCTCCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCC
 TCCTCCAAGAGCACCTCTGGGGGACAGCGGCCCTGGGCTGCCTGGTCAAGGACTAC
 TTCCCCGAACCGGTGACGGTGTCGTGGAACCTCAGGCGCCCTGACCAGCGGCGTGAC
 ACCTTCCCGGCTGTCCTACAGTCTTCAGGACTCTACTCCCTCAGCAGCGTGGTGACC
 GTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCCC
 AGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCTTGTGACAAAACCTCACACA
 TGCCCAACCGTGCCACAGCACCTGAACTCCTGGGGGGACCGTCAGTCTTCTCTTCCCC
 CCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTCAATGCGTGTTG
 GTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTG
 GAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGT
 GTGGTCAGCGTCCTCACCGTCCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAG
 TGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAGCC
 AAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG
 ACCAAGAACCAGGTCAGCCTGACCTGCCCTGGTCAAAGGCTTCTATCCCAGCGACATC
 GCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACCTACAAGACCACGCCTCCC
 GTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGC
 AGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAAC
 CACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCGGGGGTGGATCC
 GGTGGAGGGGGCTCCGGCGGTGGCGGGTCCCAGGTCCAACCTGGTGCAGTCTGGAGCT
 GAGGTGAAGAAGCCTGGGTCTCAGTGAAGGTGTCTGCAAGGCTTCTGGCTACACT
 TTCACAACCTACTATTTGCACTGGGTGAGGCAGGCCCTGGACAGTGCCTTGAGTGG
 ATGGGATGGATTTATCCTGGAAATGTTTATGCTCAGTACAATGAGAAGTTCAAGGGC
 AGGGTCACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGGAGCTCAGCAGC
 CTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGGTTTTCT
 TACTGGGGCCAAGGGACCAACGGTCACCGTCTCCTCAGGCGGTGGAGGGTCCGGTGGG
 GCGGATCTGGGGGCGGCGGGTCCGGTGGTGGTGGTAGTGACATTCAGATGACCCAG
 TCTCCTAGCTCCCTGTCCGCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCC
 AGTCAGAAATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCT
 AAATCACTGATTTCCTCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTTCAGC
 GGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGAC
 TTCGCAACCTATTTCTGTGTCAGCAATATGACACCTATCCATTACGTTCCGGCTGCGGT
 ACCAAGGTGGAGATCAAATGA (SEQ ID NO:50)

Fig. 30

QIQLVQS GPELK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK GLK
WMGWINT ETGEP TYTDDFK GRFAF SLVTSAT TAYLQ INNLNNE DTA
TFFCARF IYDPY WGFAYWG QGTLV TVSAAST KGPSV FPLAPSS KST
SGGTAAL GCLVK DYFPEPV TVSWN SGALTSG VHTFP AVLQSSG LYS
LSSVTV PSSSL GTQTYIC NVNHK PSNTKVD KKVEP KSCDKTH TCP
PCPAPEL LGGPS VFLFPPK PKDTL MISRTPE VTCVV VDVSHED PEV
KFNWYVD GVEVH NAKTKPR EEQYN STYRVVS VLTVL HQDWLNG KEY
KCKVSNK ALPAP IEKTISK AKGQP REPQVYT LPPSR DELTKNQ VSL
TCLVKGF YPSDI AVEWESN GQPEN NYKTTPP VLDSD GSFFLYS KLT
VDKSRWQ QGNVF SCSVMHE ALHNH YTQKSLS LSPGK SGGGGSG GGG
SGGGGSQ VQLVQ SGAEVKK PGSSV KVSCKAS GYTFT TYYLHWV RQA
PGQCLEW MGWIY PGNVHAQ YNEKF KGRVTIT ADKST STAYMEL SSL
RSED TAV YYCAR SWEGFPY WGQGT TVTVSSG GGGSG GGGSGGG GSG
GGGSDIQ MTQSP SSLSASV GDRV T ITCKASQ NVGIN VAWYQQK PGK
APKSLIS SASYR YSGVPSR FSGSG SGTDFTL TISSL QPEDFAT YFC
QQYDTYP FTFGC GTKVEIK

(SEQ ID NO:51)

Fig. 31

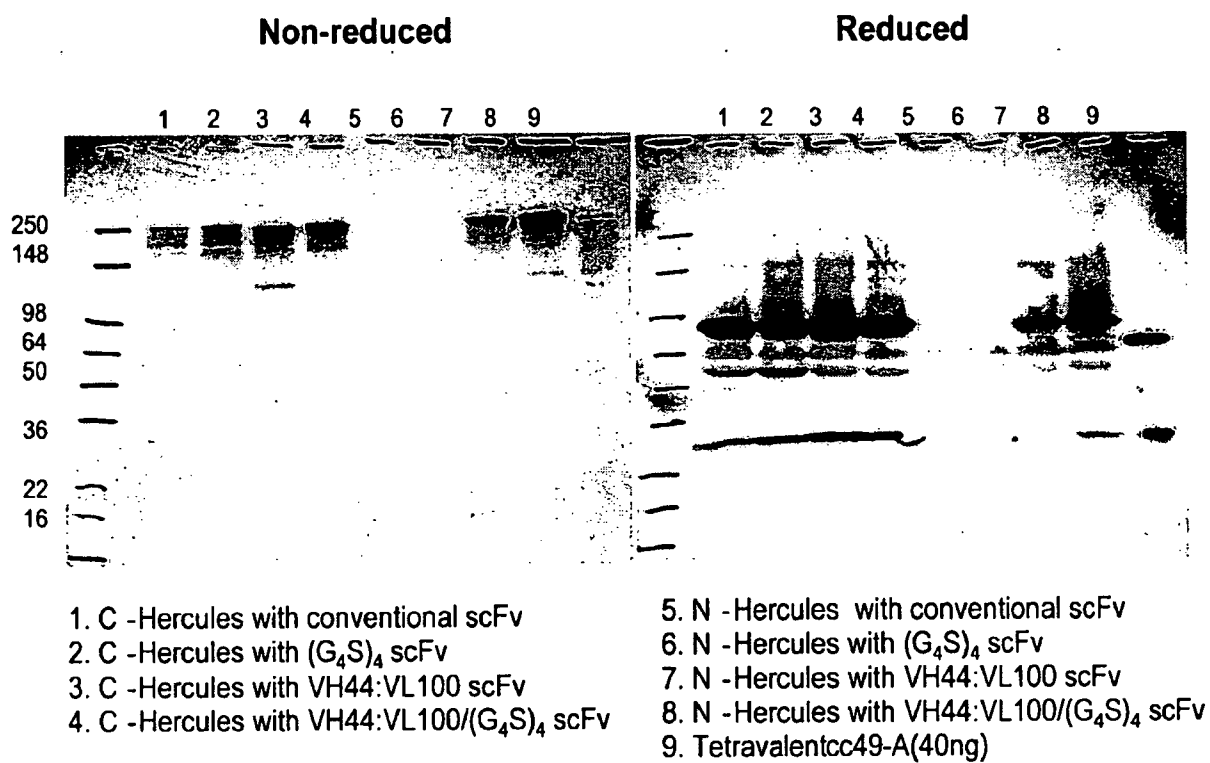
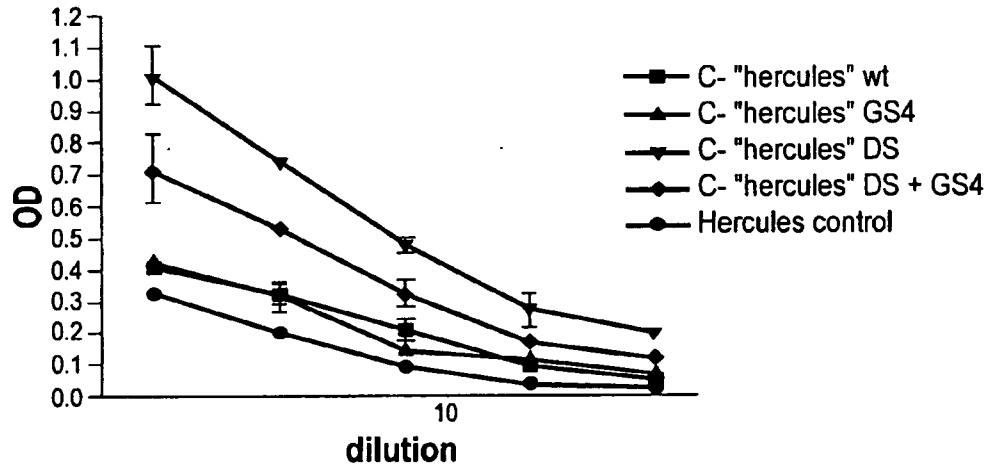
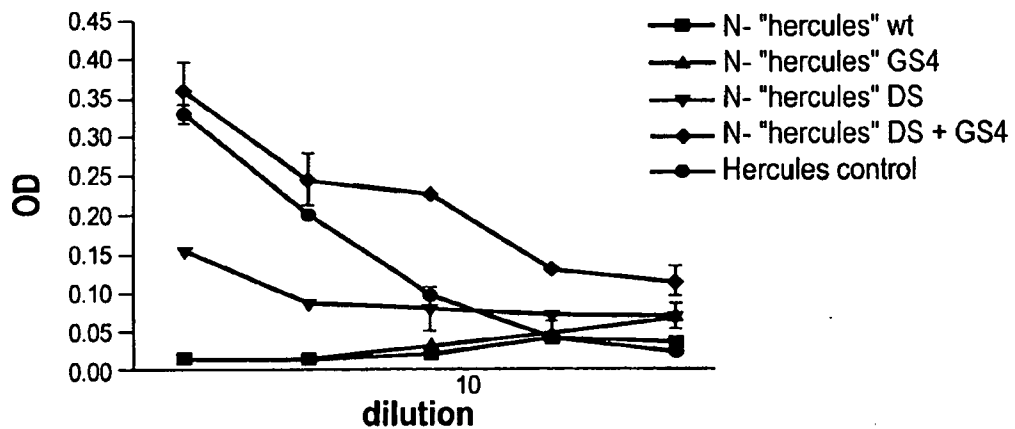


Fig. 32

LTBR-Ig Binding Activity of C-ter "Hercules" constructs

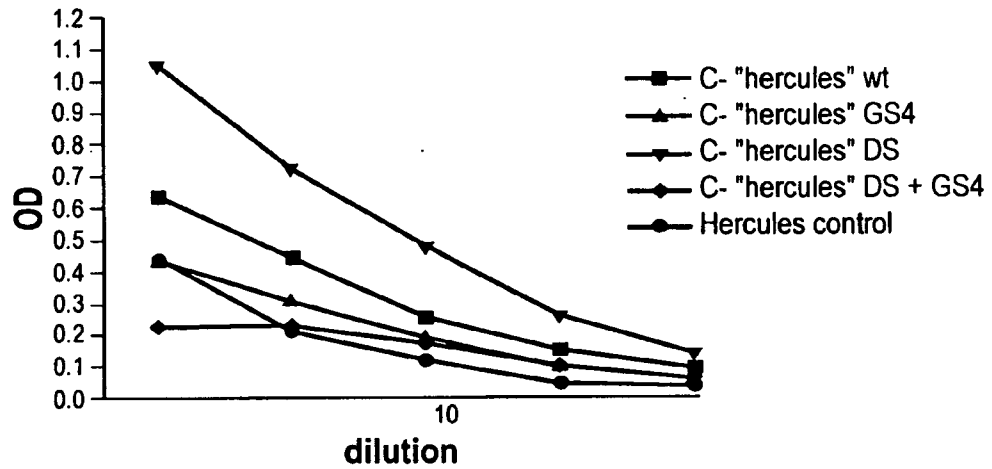
Coated plate with 2ug/ml LTBR-Ig
2°-Ab anti-hu Kappa-HRP(10,000)

Fig. 33A

LTBR-Ig Binding Activity of N-ter "Hercules" constructs

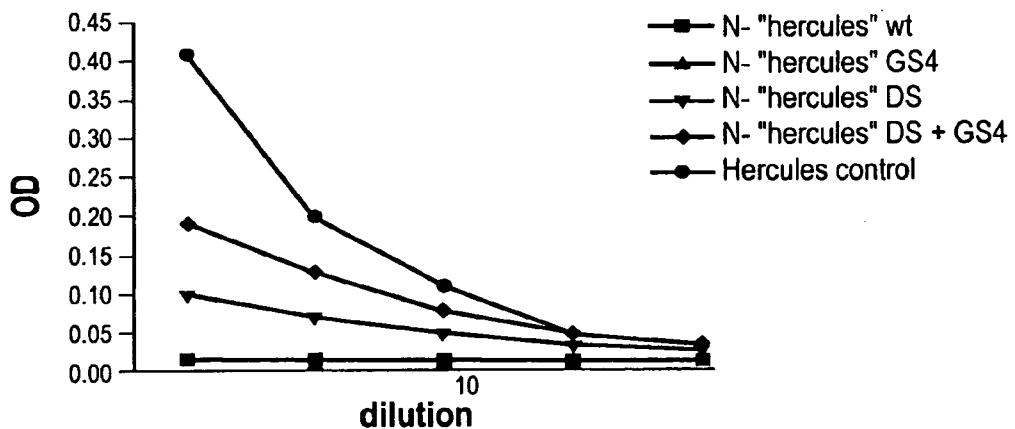
Coated plate with 2ug/ml LTBR-Ig
2°-Ab anti-hu Kappa-HRP(10,000)

Fig. 33B

TRAIL-R2 Binding Activity of C-ter "Hercules" constructs

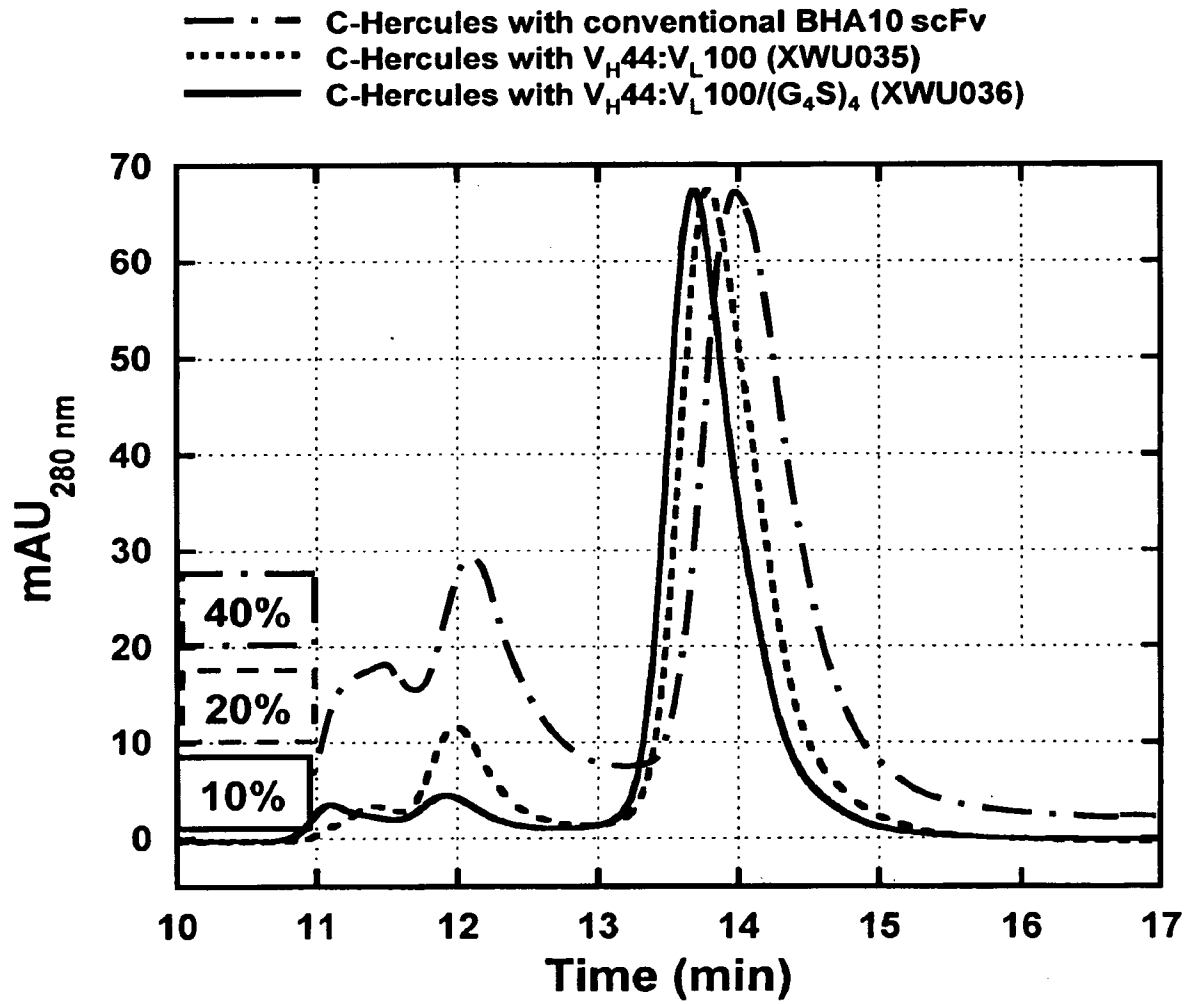
Added 100ng/ml TRAIL-R2/F c/His to Ni-NTA HisSorb plate
2°-Ab anti-hu Kappa-HRP(10,000)

Fig. 34A

TRAIL-R2 Binding Activity of N-ter "Hercules" constructs

Added 100ng/ml TRAIL-R2/F c/His to Ni-NTA HisSorb plate
2°-Ab anti-hu Kappa-HRP(10,000)

Fig. 34B

*Fig. 35*

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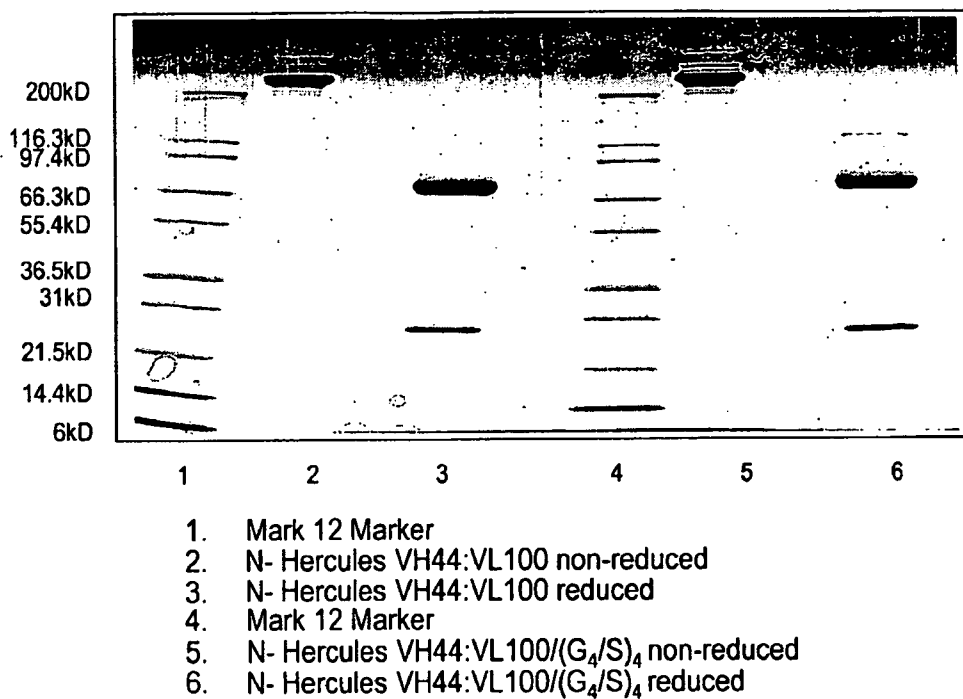


Fig. 36A

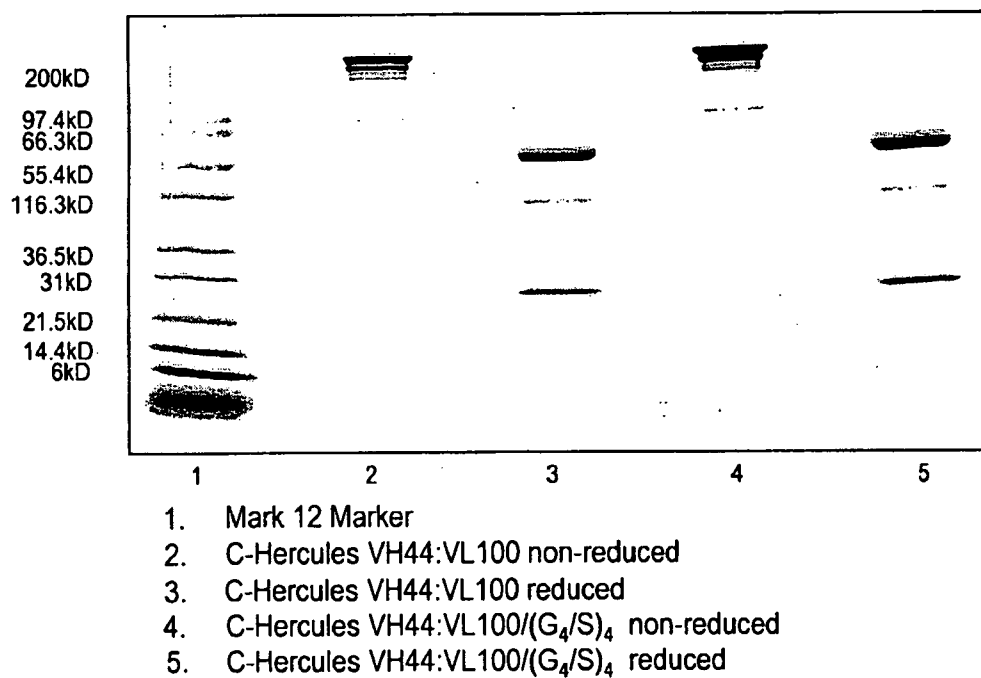


Fig. 36B

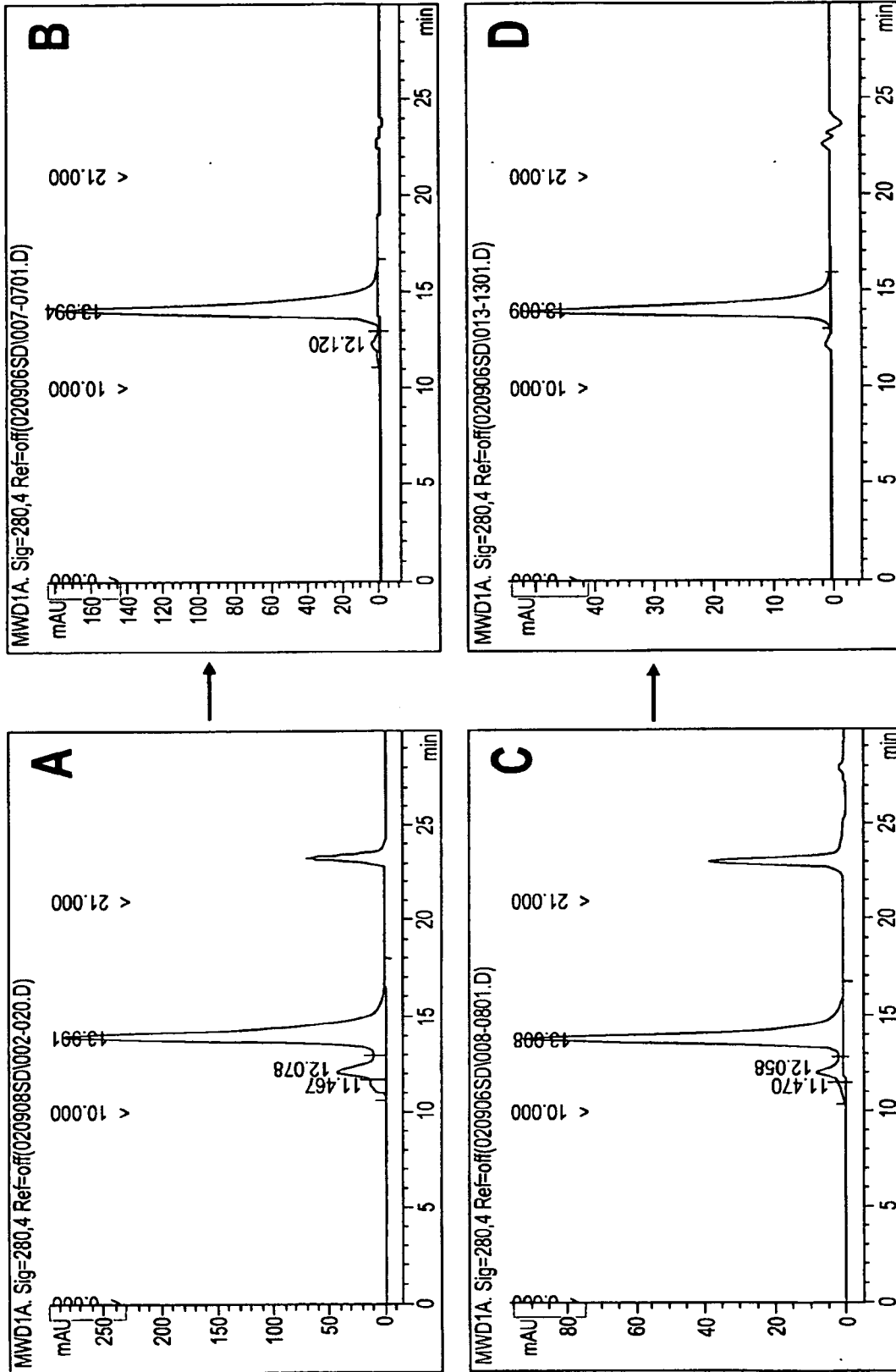


Fig. 37

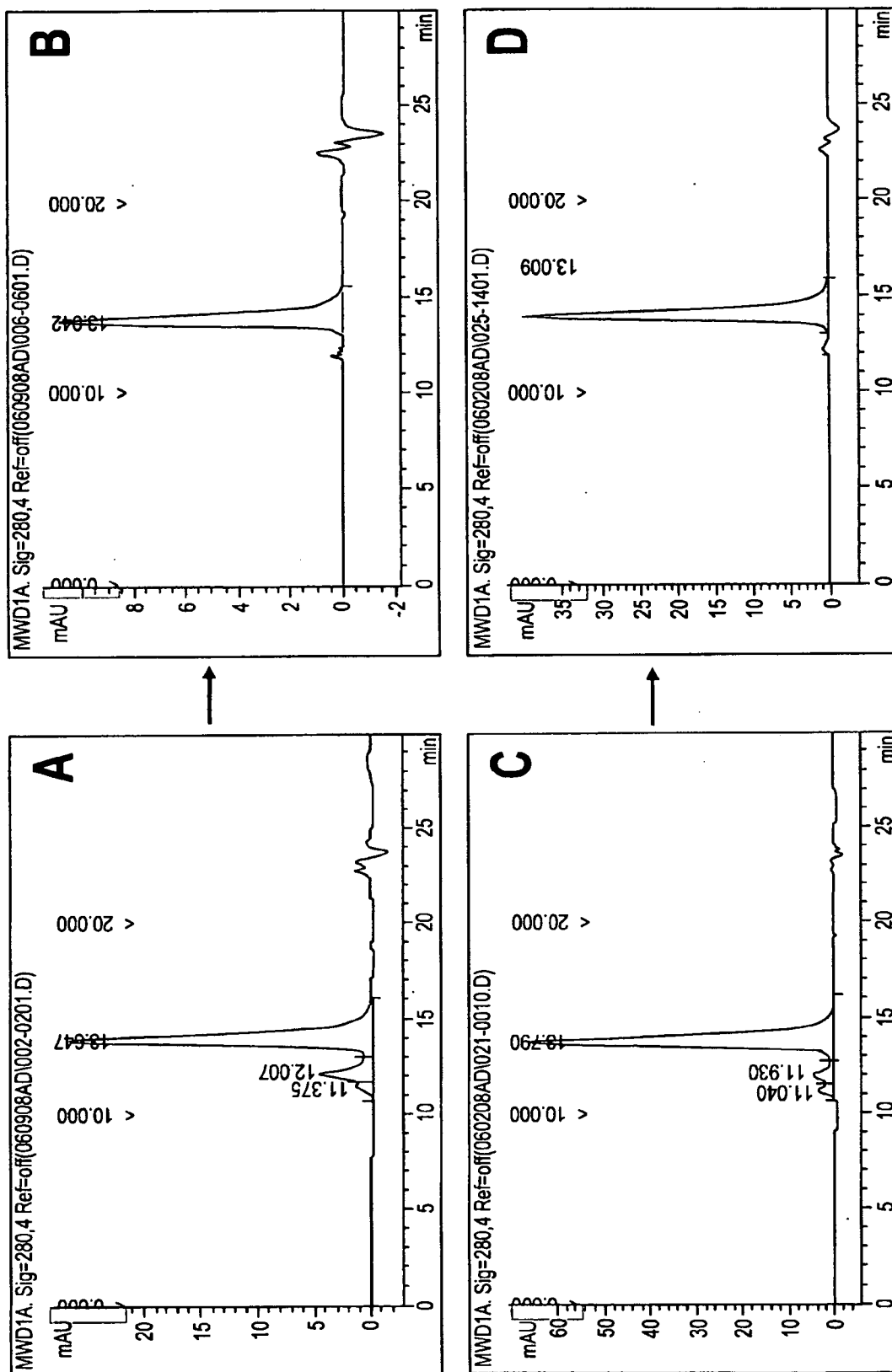
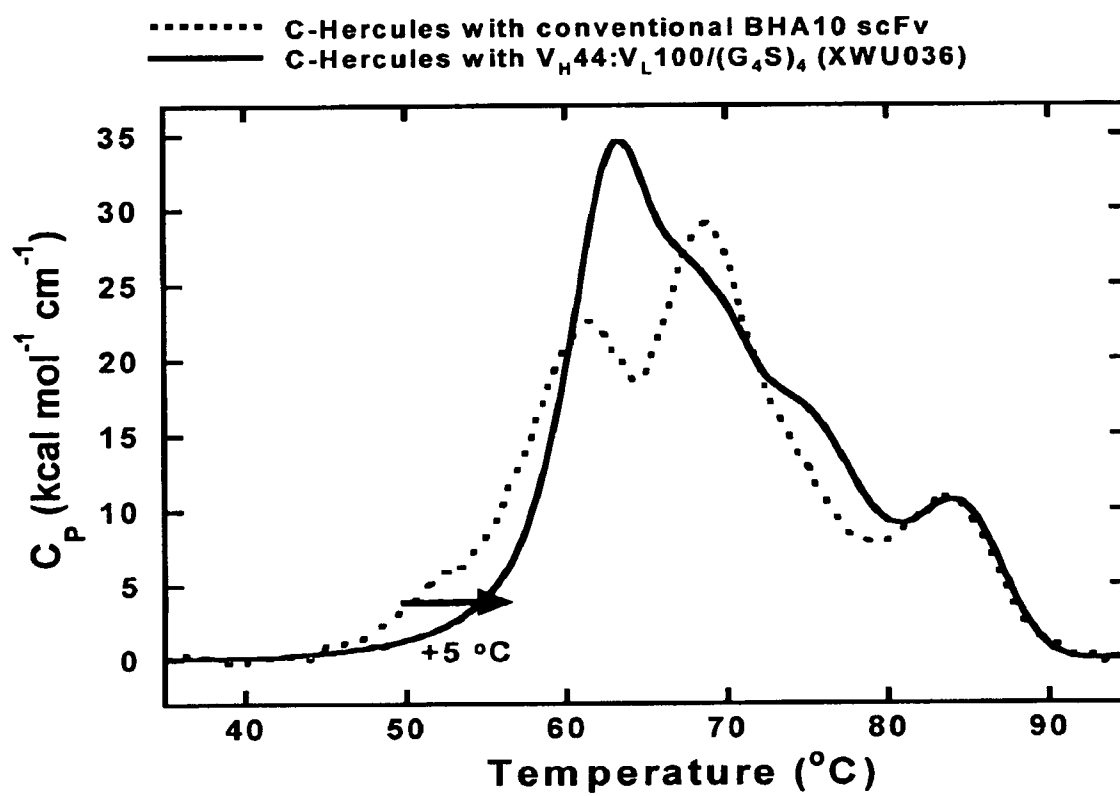


Fig. 38

*Fig. 39*

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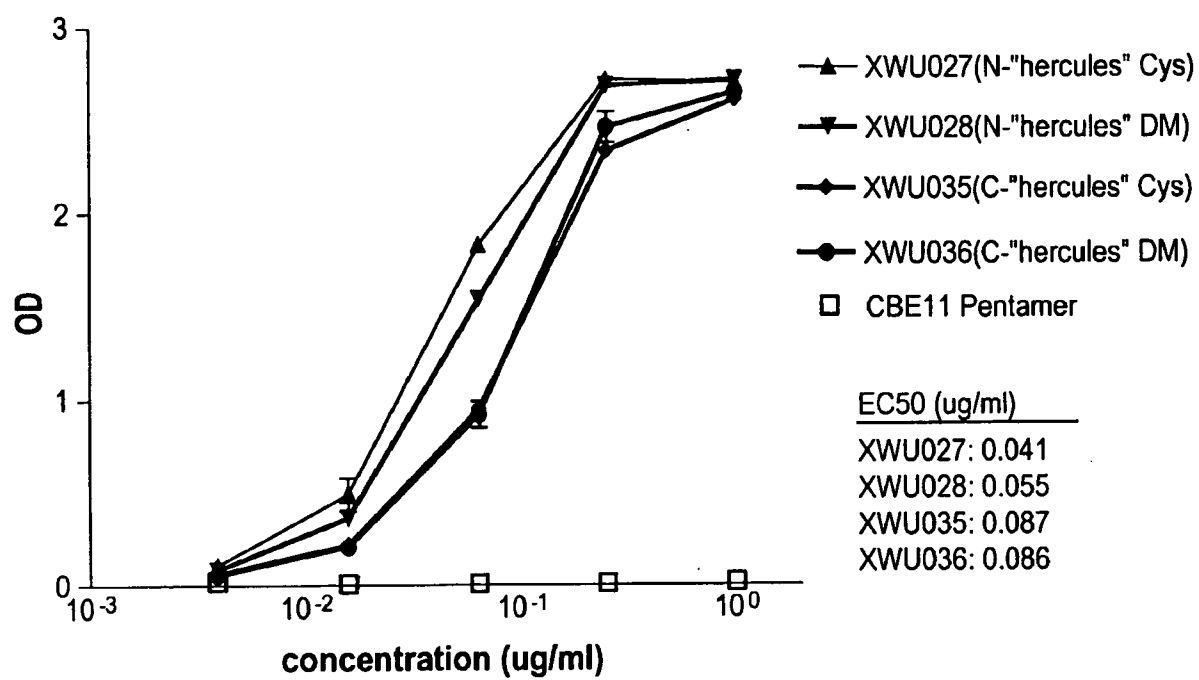


Fig. 40

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WiDr MTT Assay

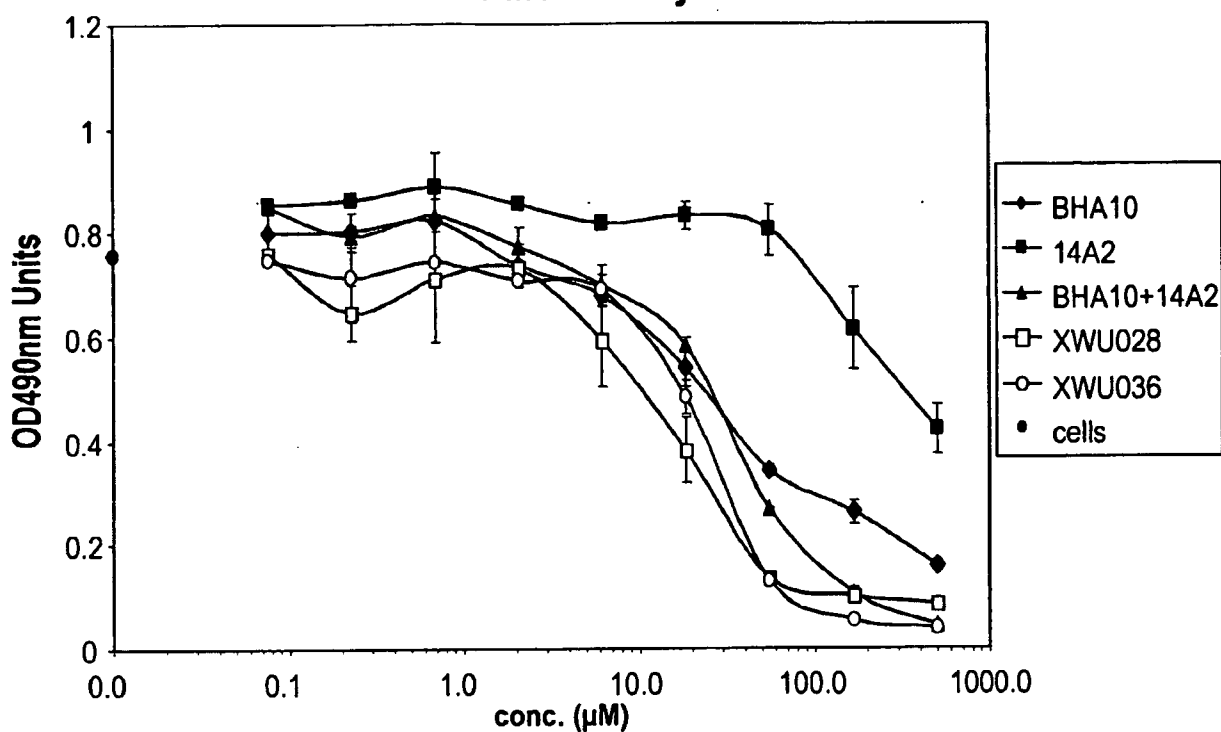


Fig. 41A

Me180 MTT Assay

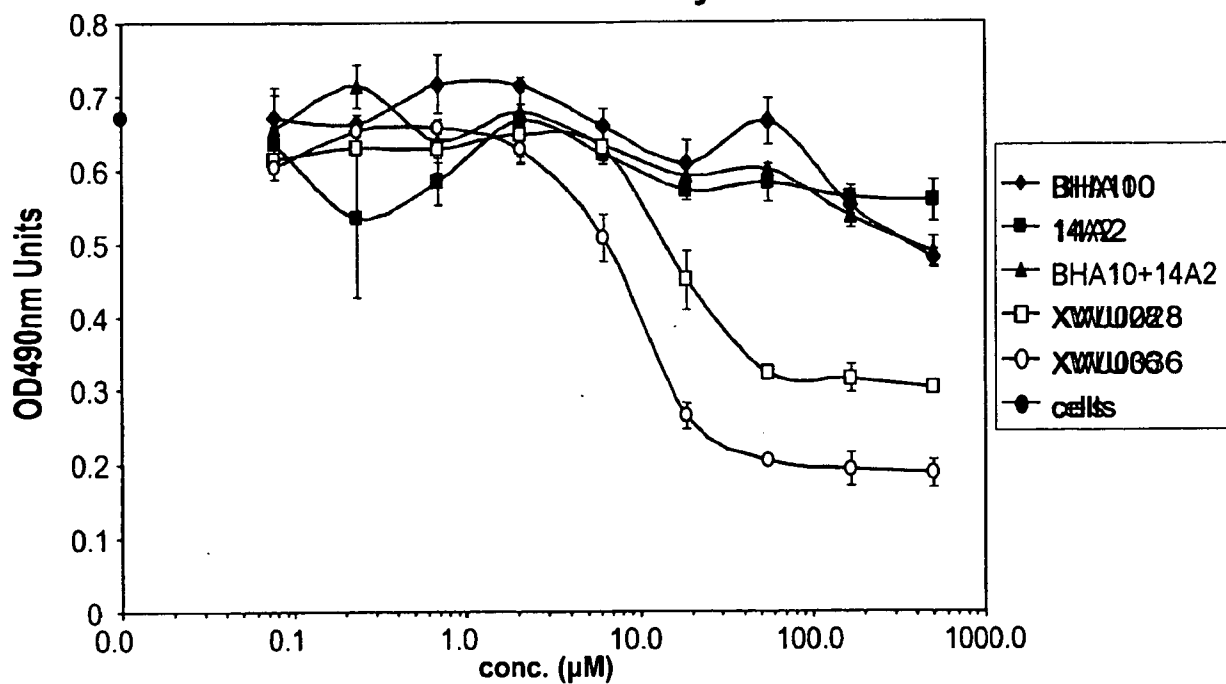


Fig. 41B

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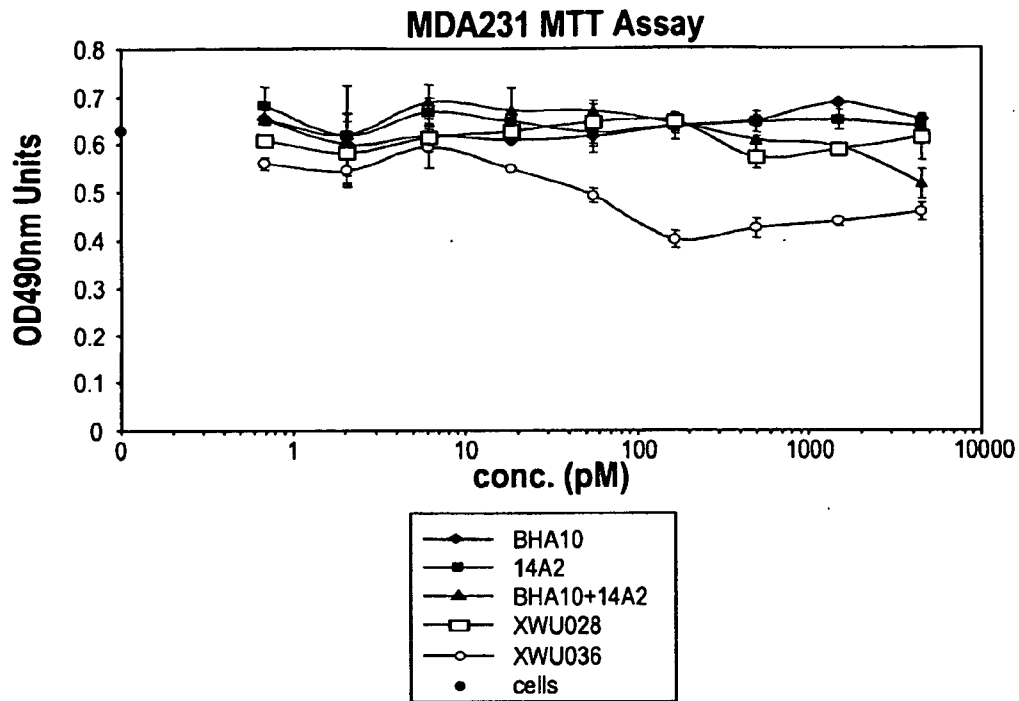


Fig. 41C

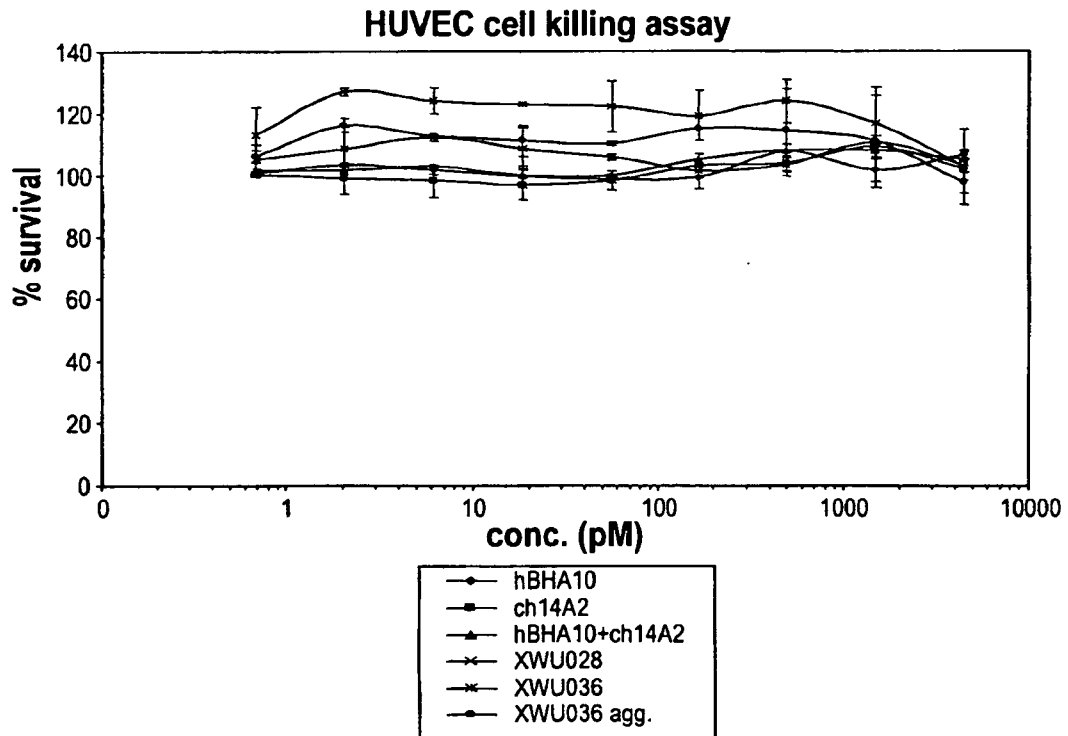
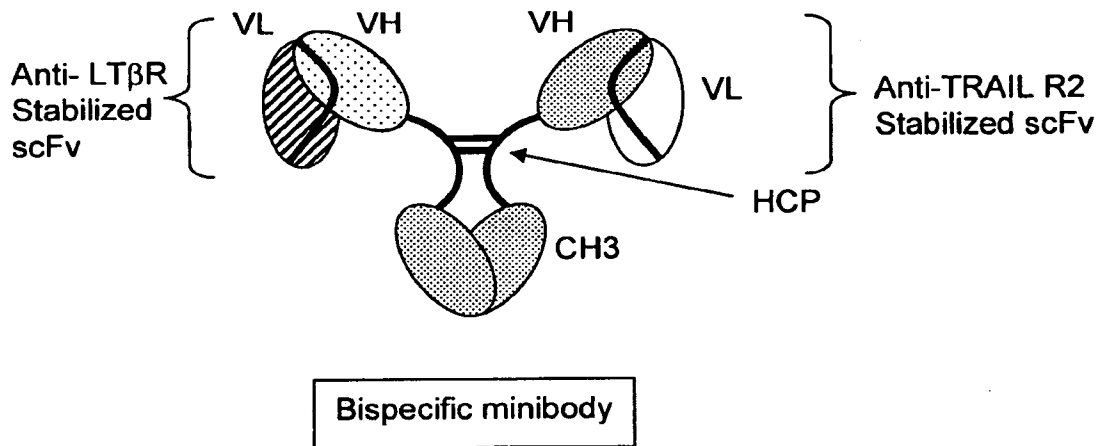


Fig. 41D



V = Variable
 C = Constant
 L = Light
 H = Heavy
 HCP = Hinge Connecting Peptide
 λ = (G₄S)₄ linker
 λ = (G₄S)₄G₃AS flexible linker

Fig. 42

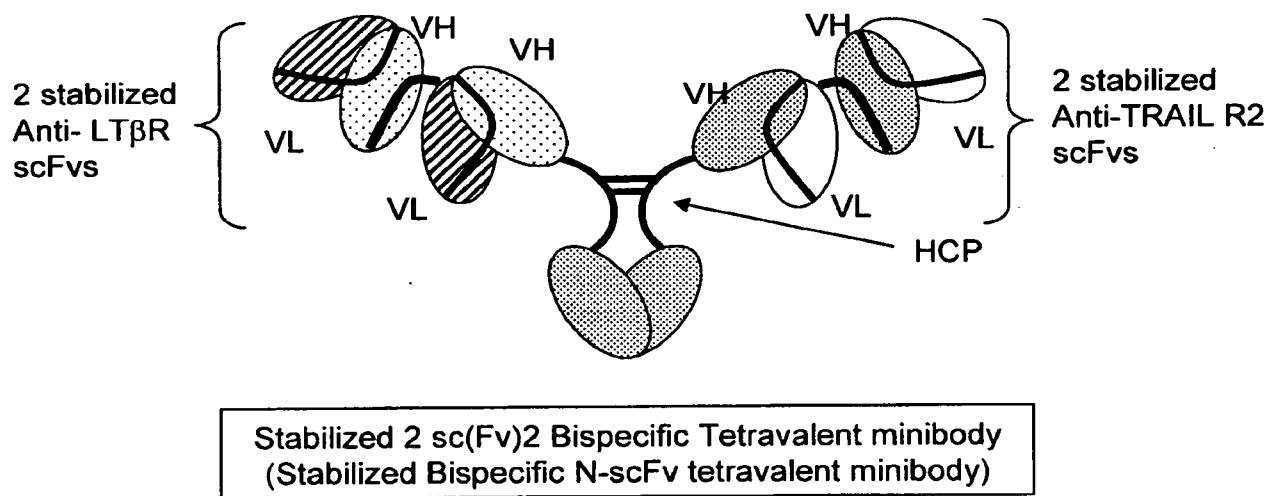
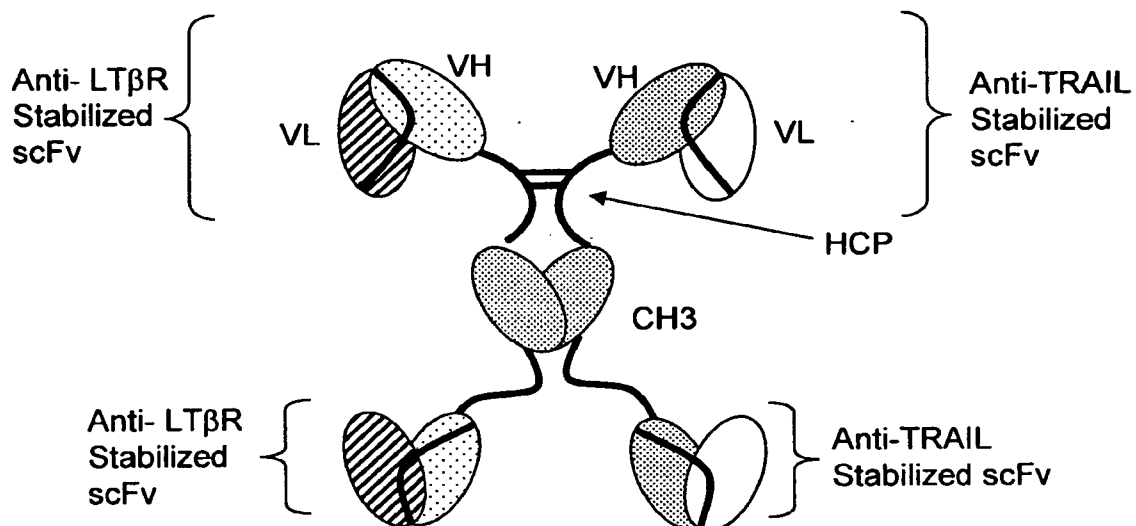


Fig. 43



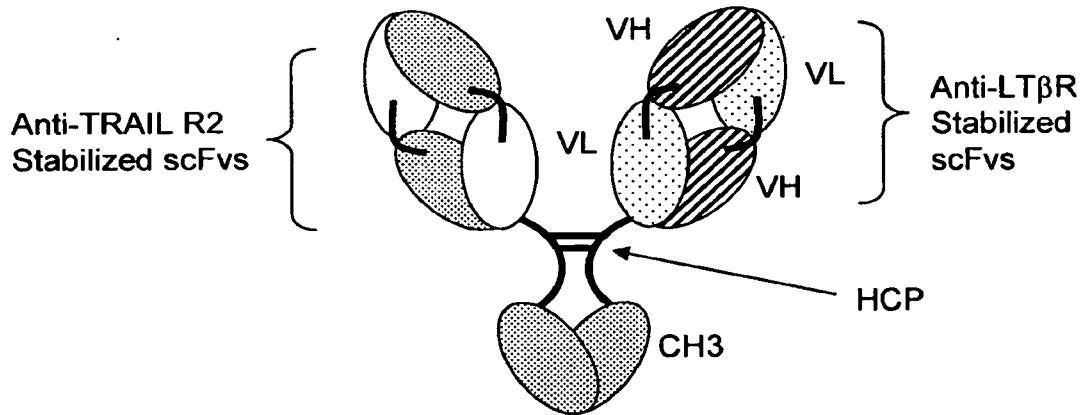
Stabilized 2 sc(Fv)₂ Bispecific Tetraivalent Minibody
(Stabilized Bispecific C-scFv tetraivalent minibody)

V = Variable
C = Constant
L = Light
H = Heavy
HCP = Hinge Connecting Peptide

 = (G₄S)₄ flexible linker

 = (G₄S)₄G₃AS flexible linker

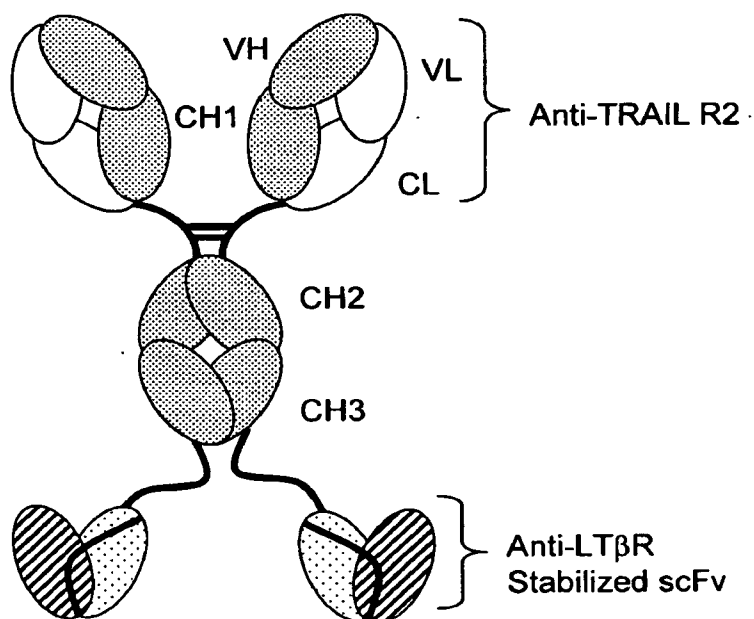
Fig. 44



Stabilized Bispecific
diabody

V = Variable
C = Constant
L = Light
H = Heavy
HCP = Hinge Connecting Peptide
J = (Gly4Ser) linker

Fig. 45

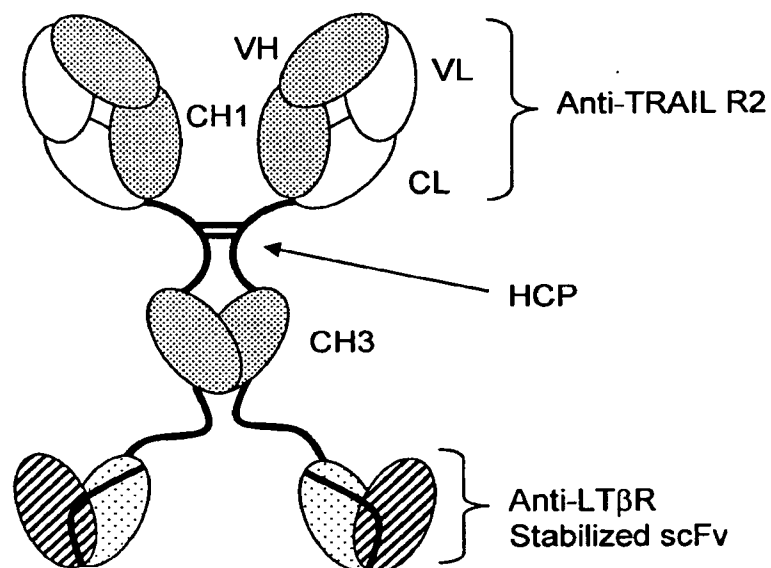


Stabilized Bispecific sc(Fv)2 Tetraivalent Antibody
(Stablized Bispecific C-scFv Tetraivalent Antibody)

V = Variable
C = Constant
L = Light
H = Heavy
HCP = Hinge Connecting Peptide

 = (G₄S)₄ linkers

Fig. 46

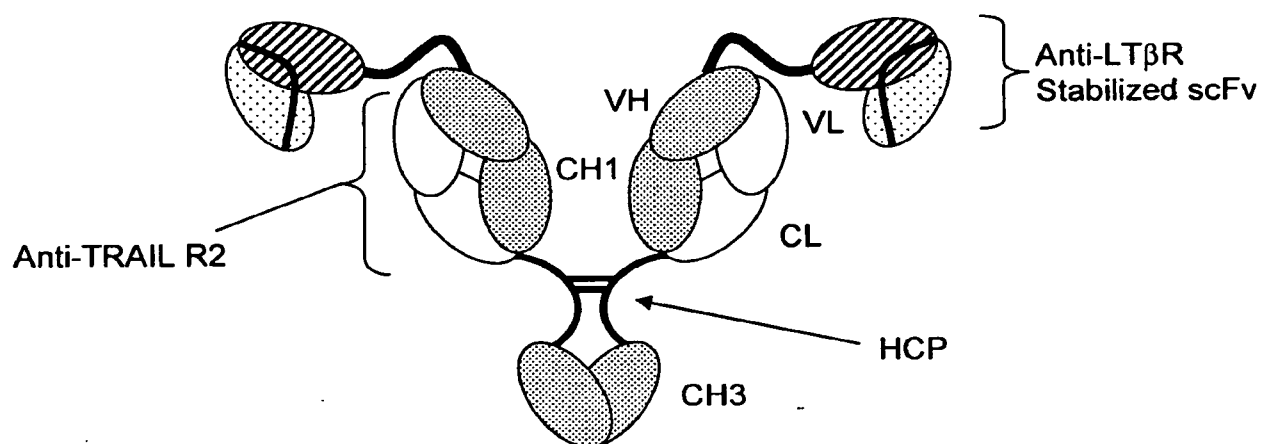


Stabilized sc(Fv)₂ Tetravalent CH₂ Domain-Deleted Bispecific Antibody
 (Stabilized C-scFv Tetravalent CH₂ Domain- Deleted Bispecific Antibody)
 bispecific C-scFv Tetravalent CH₂ Domain Deleted antibody)

V = Variable
 C = Constant
 L = Light
 H = Heavy
 HCP = Hinge Connecting Peptide

 = (G₄S)₄ linkers

Fig. 47



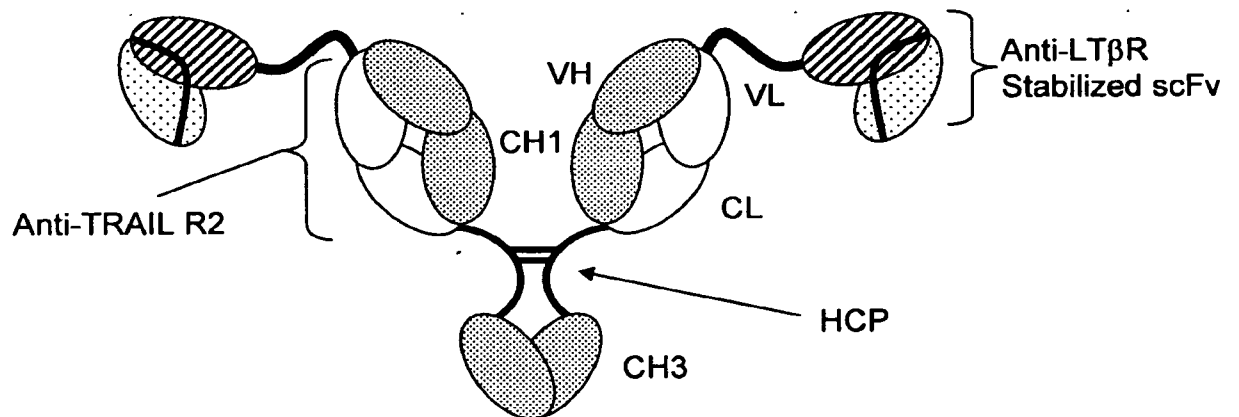
Stabilized N_H-scFv Tetravalent CH2 Domain-Deleted Bispecific Antibody

V = Variable
 C = Constant
 L = Light
 H = Heavy
 HCP = Hinge Connecting Peptide

 = (G₄S)₄ linker

 = (G₄S)₄G₃AS flexible linker

Fig. 48

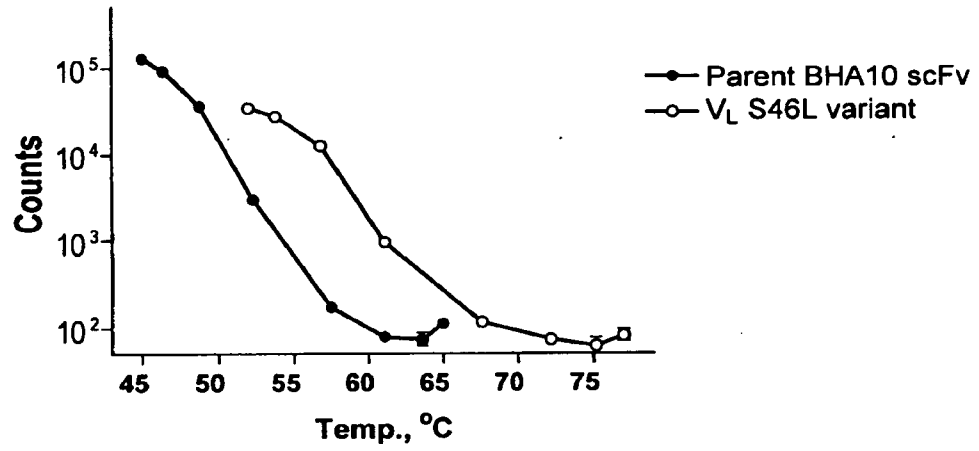


V = Variable
 C = Constant
 L = Light
 H = Heavy
 HCP = Hinge Connecting Peptide
 = (G₄S)₄ linker
 = (G₄S)₄G₃AS flexible linker

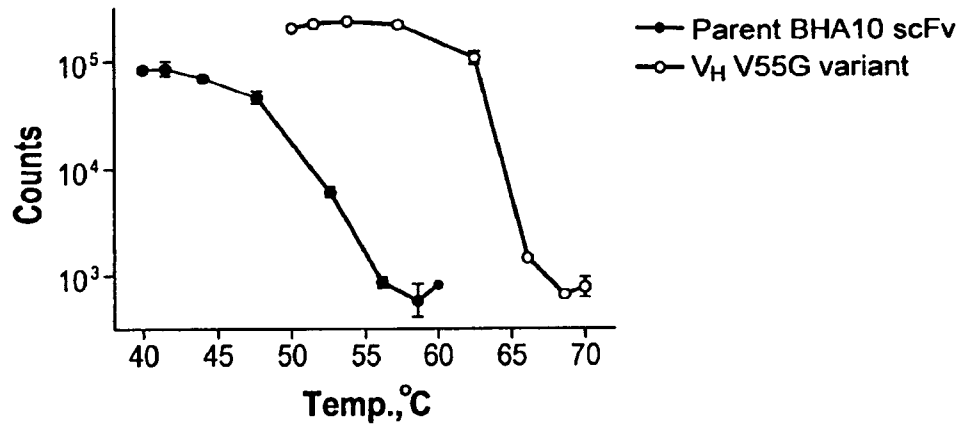
Fig. 49

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A.



B.



C.

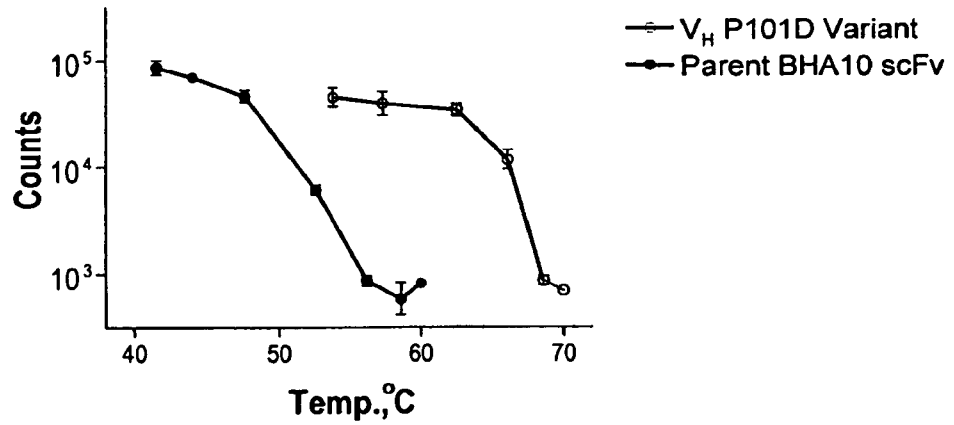


Fig. 50

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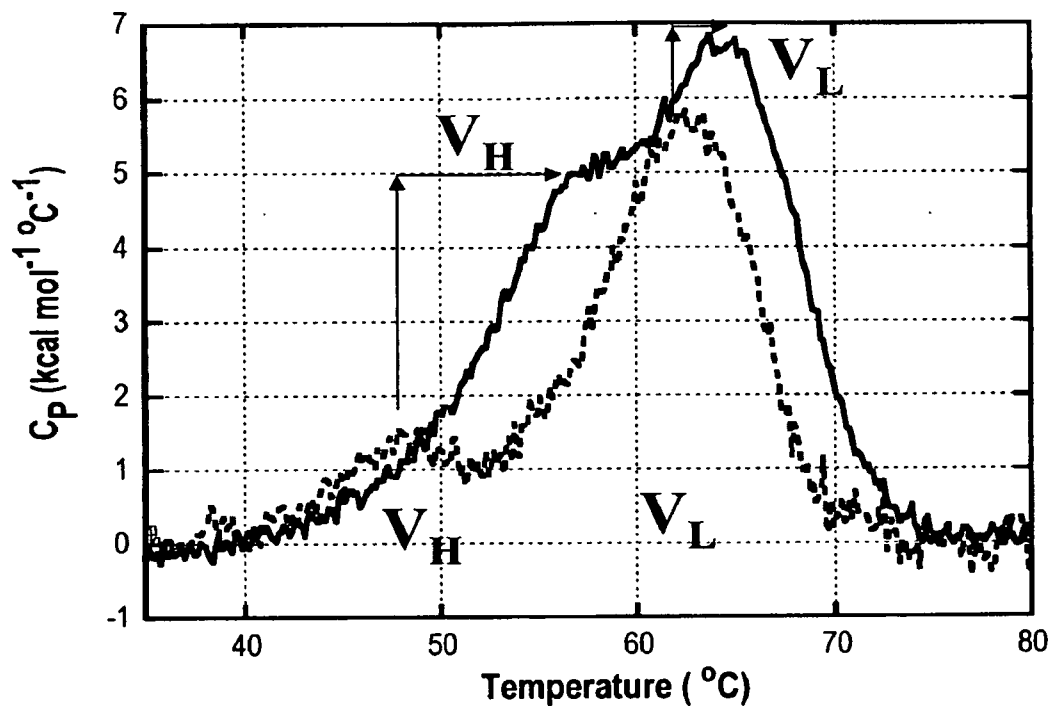


Fig. 51A

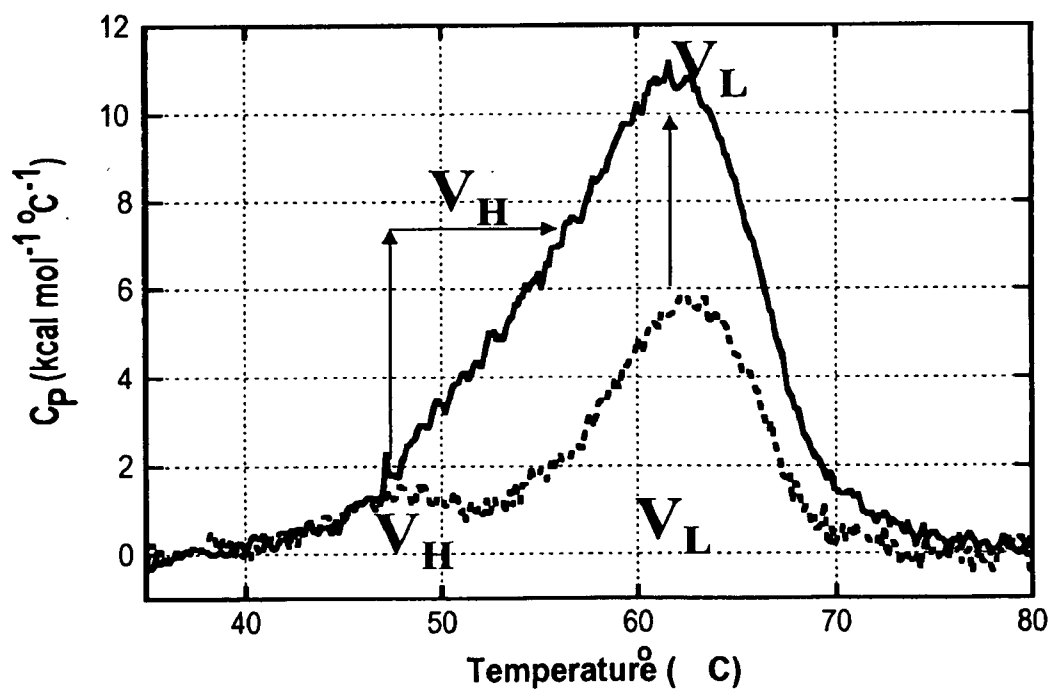
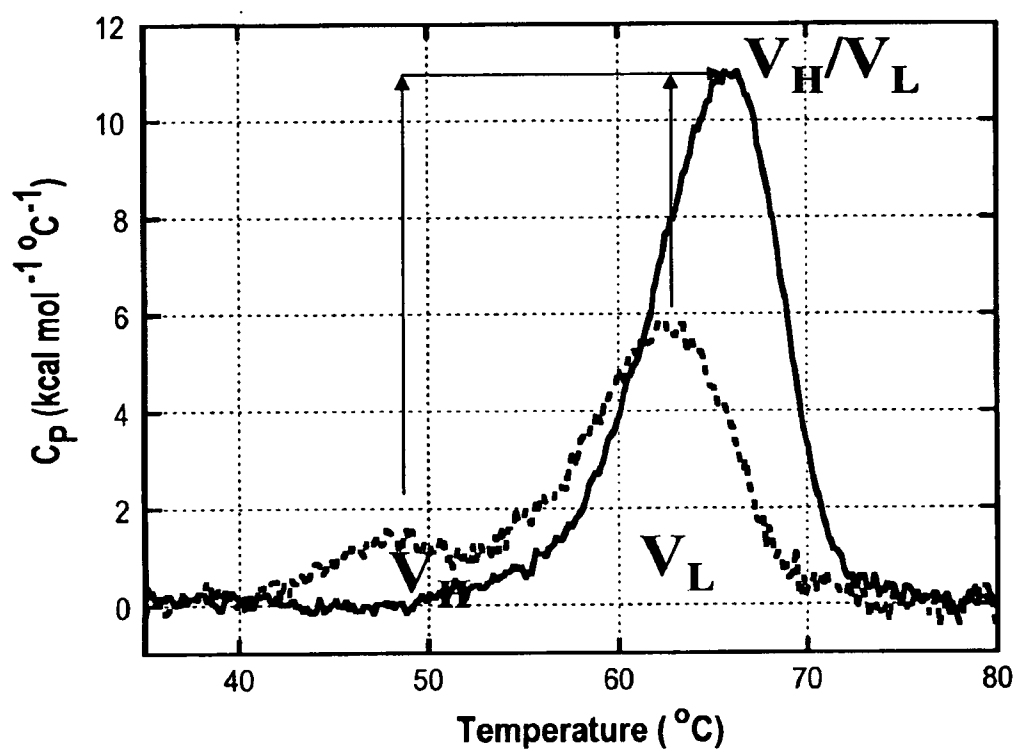
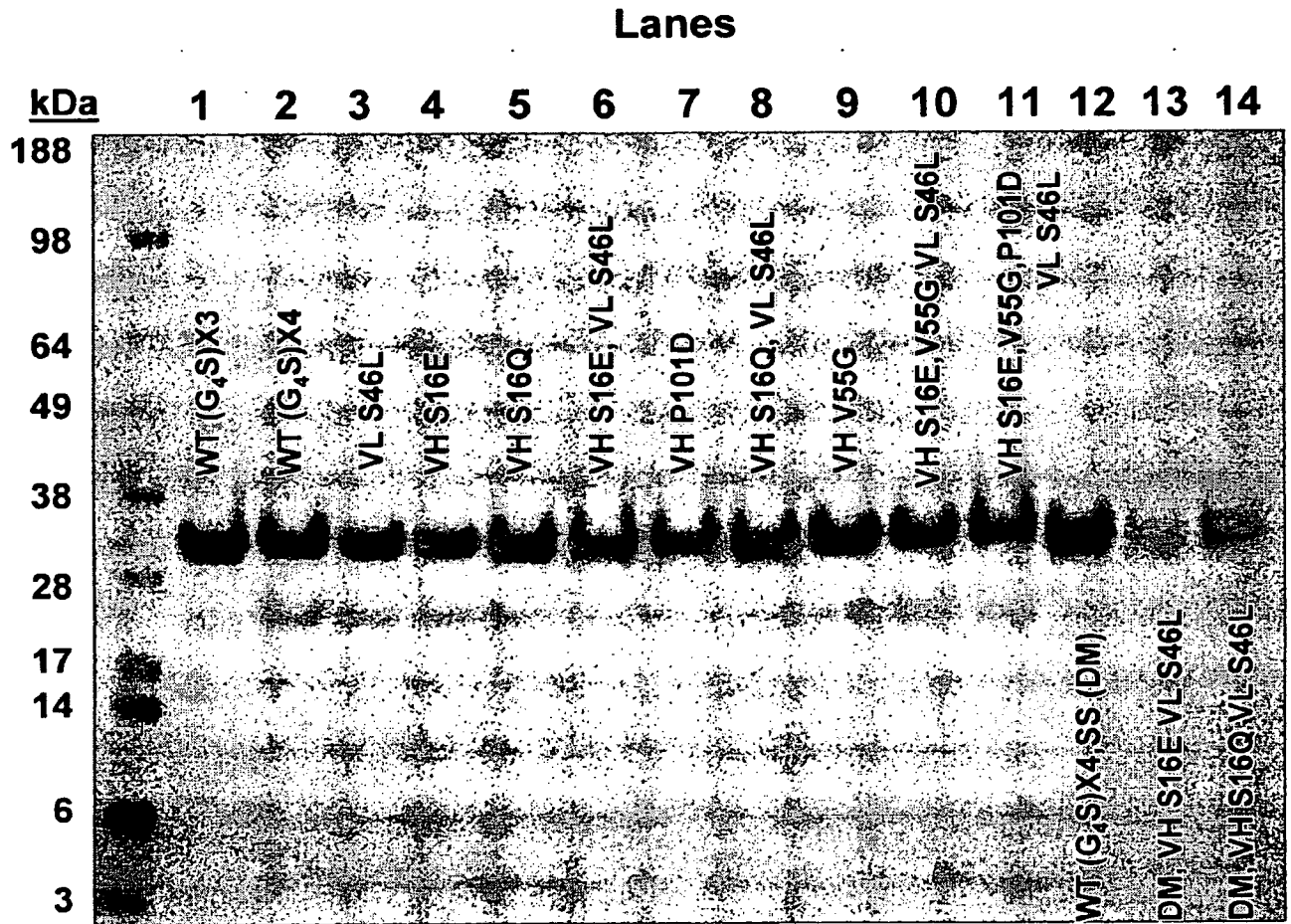
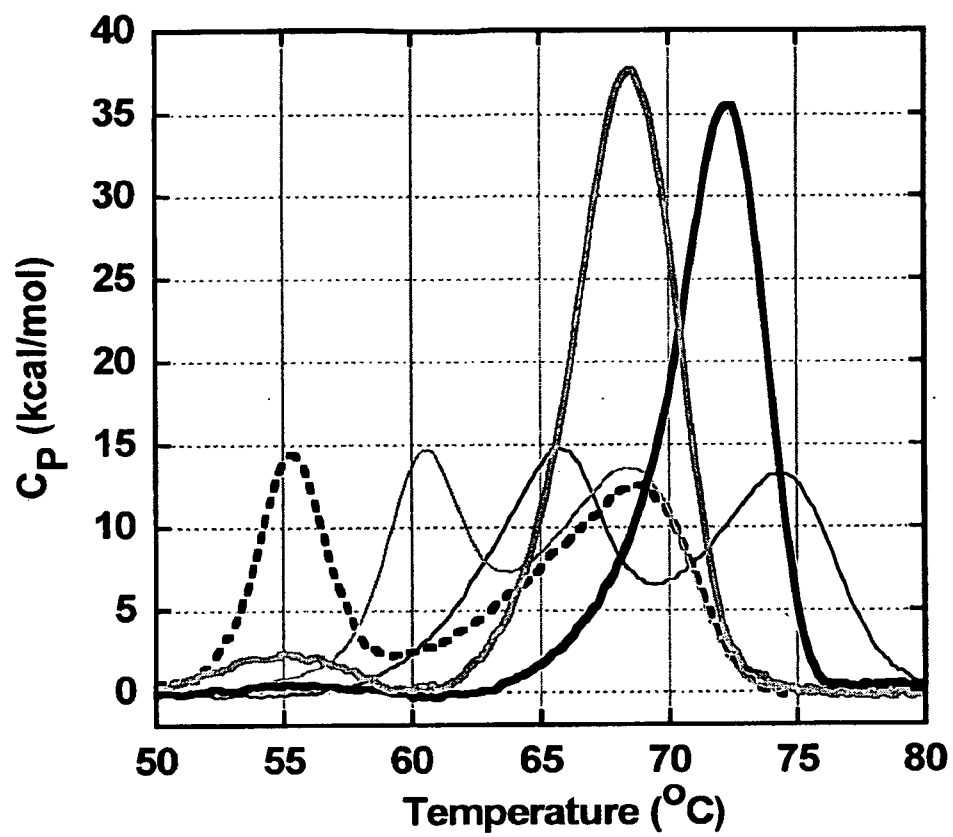
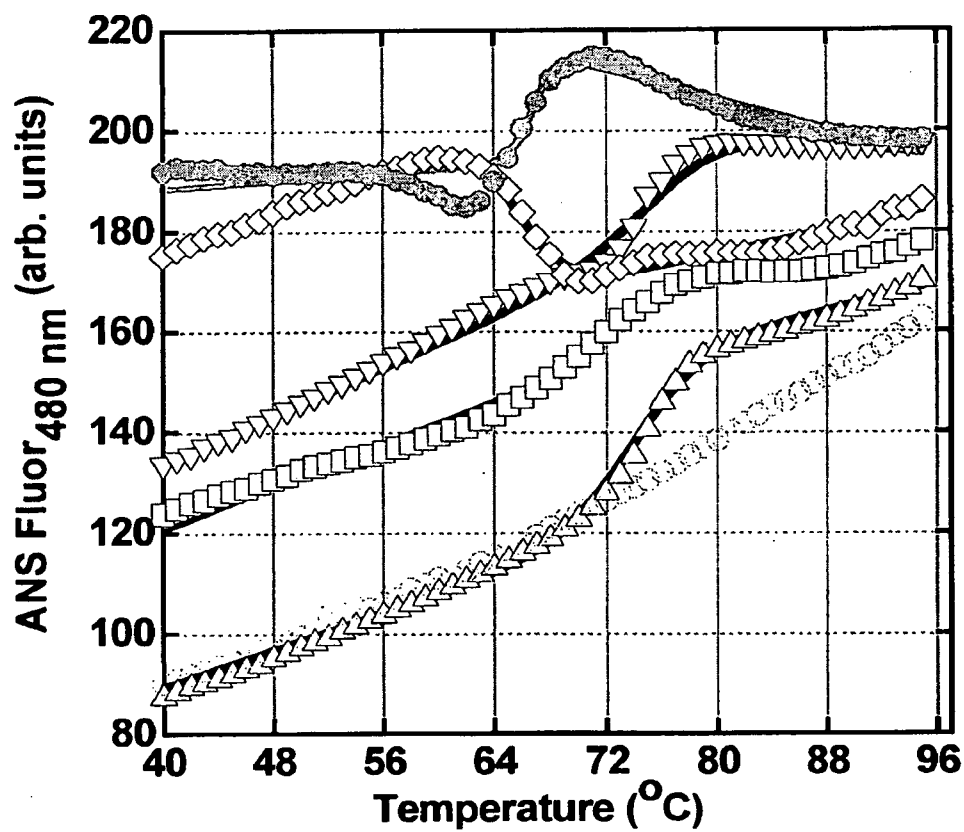


Fig. 51B

*Fig. 52*

*Fig. 53*

*Fig. 54A**Fig. 54B*

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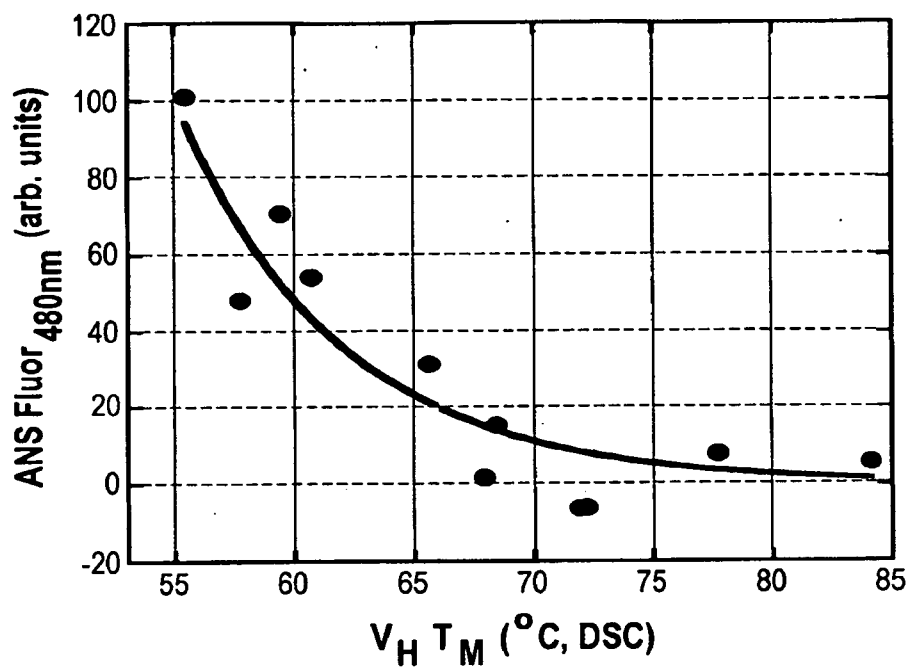


Fig. 55A

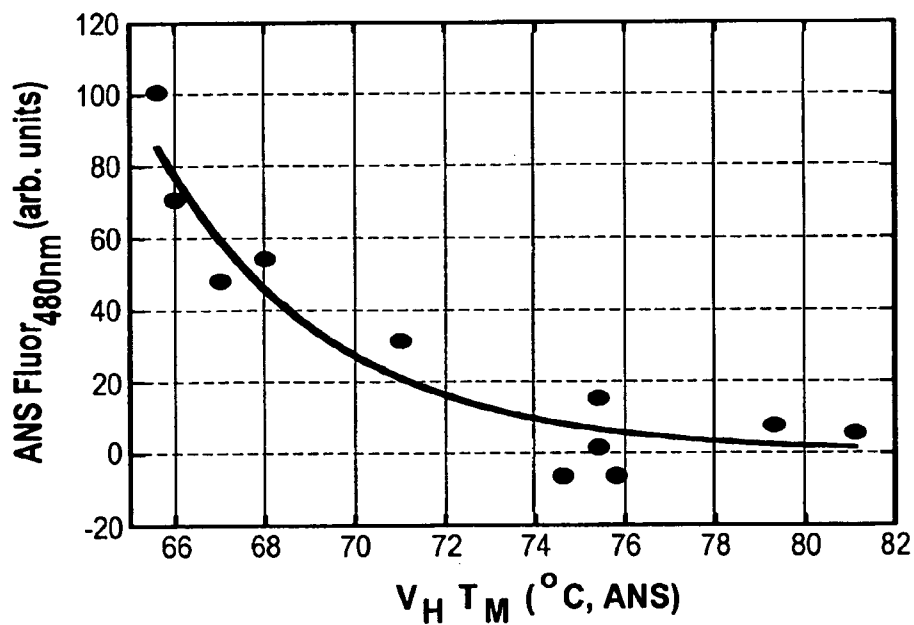
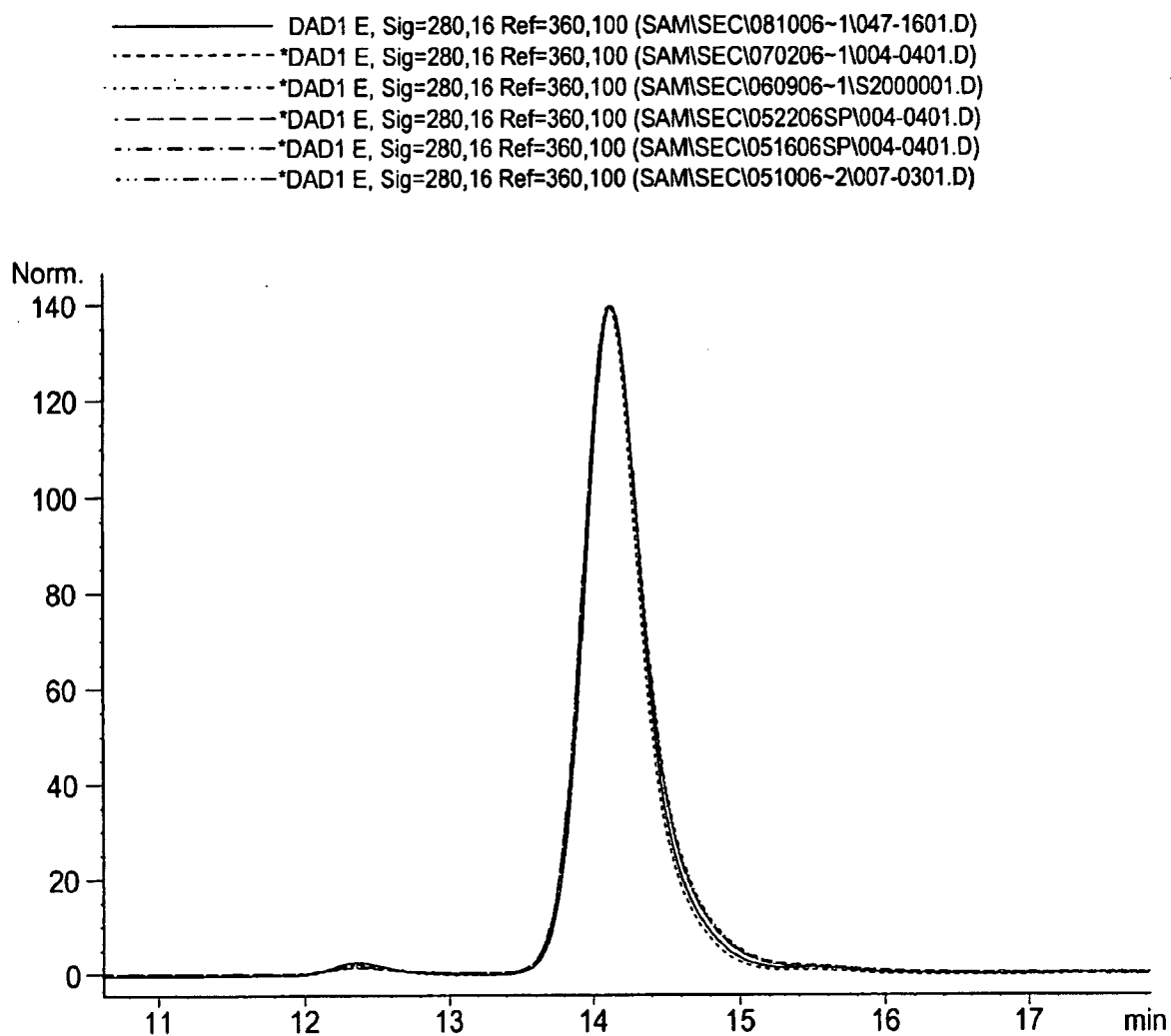


Fig. 55B

*Fig. 56A*

———— DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\081006~1\051-2001.D)
- - - - - *DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\070206~1\006-0601.D)
..... *DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\060906~1\S2000003.D)
- - - - - *DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\052206SP\006-0601.D)
- - - - - *DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\051606SP\006-0601.D)
- - - - - *DAD1 E, Sig=280,16 Ref=360,100 (SAM\SEC\051006~2\015-1101.D)

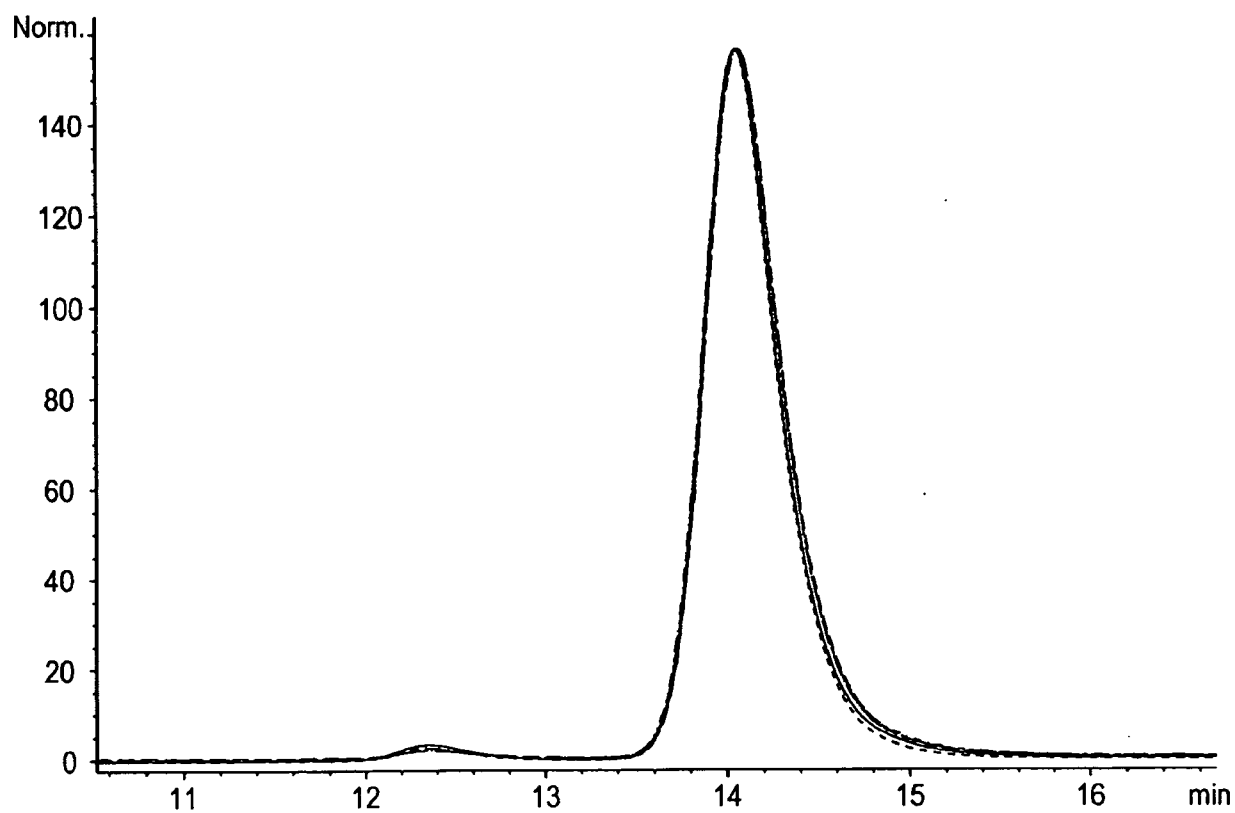
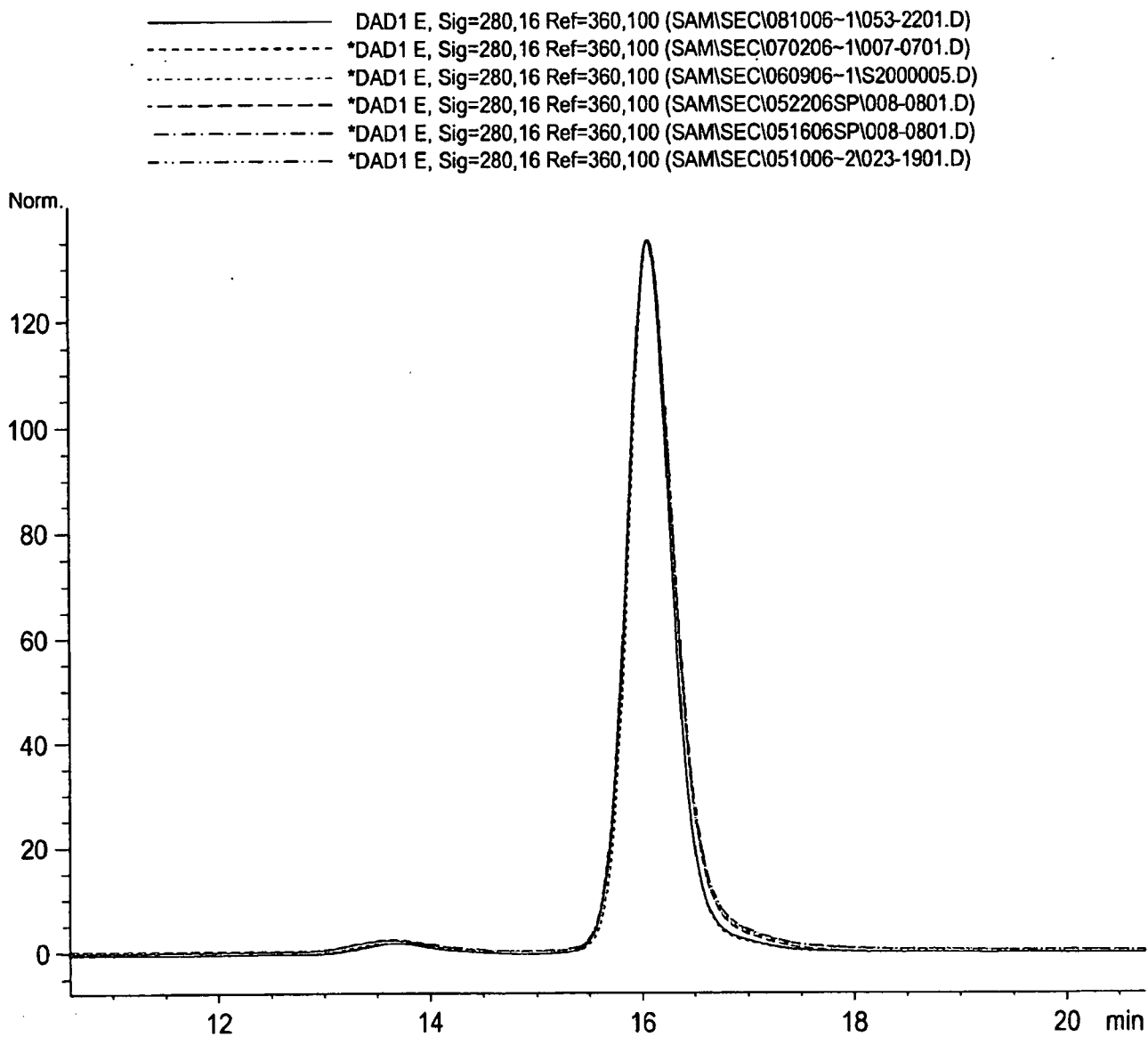


Fig. 56B

*Fig. 56C*

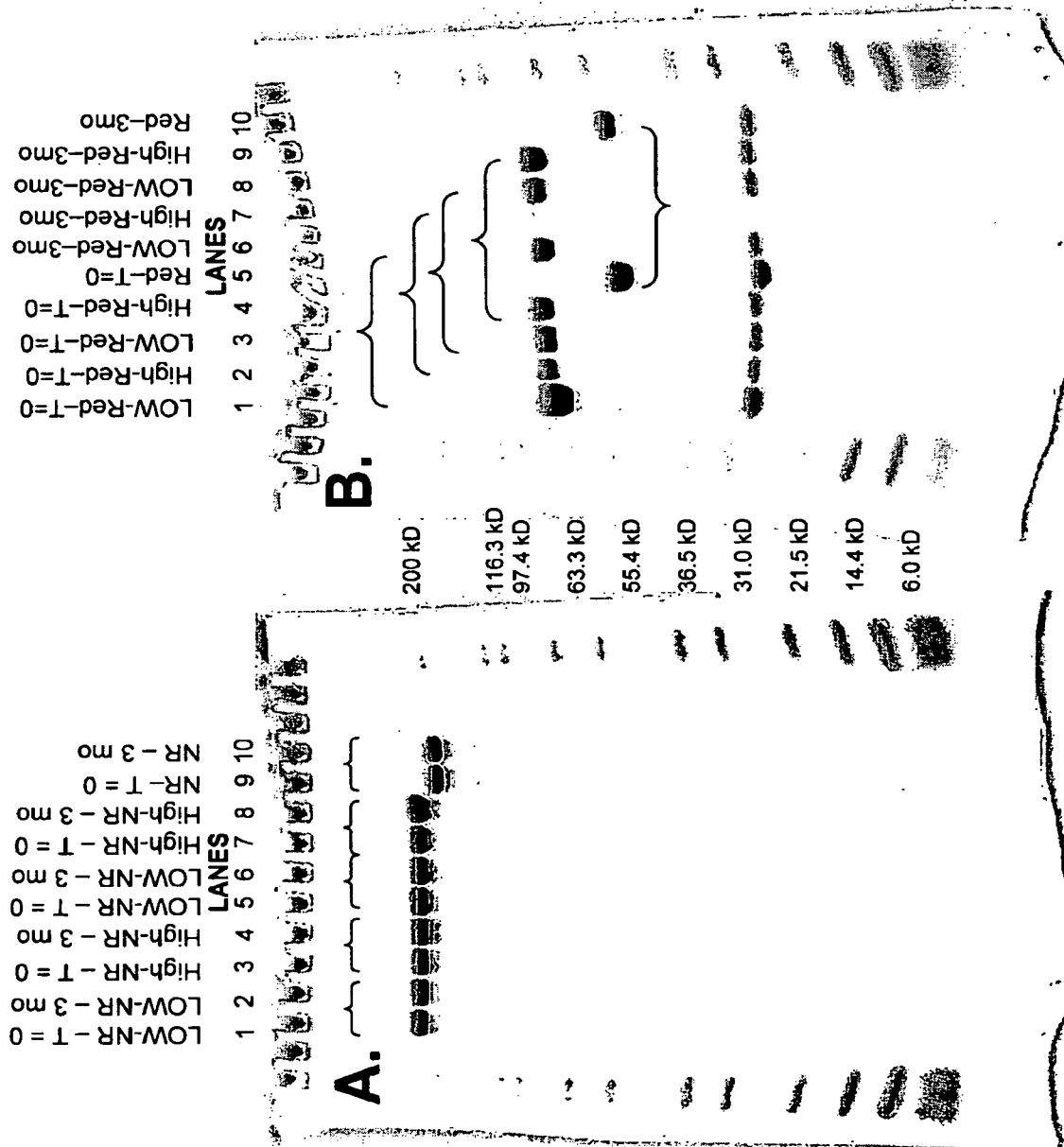


Fig. 57

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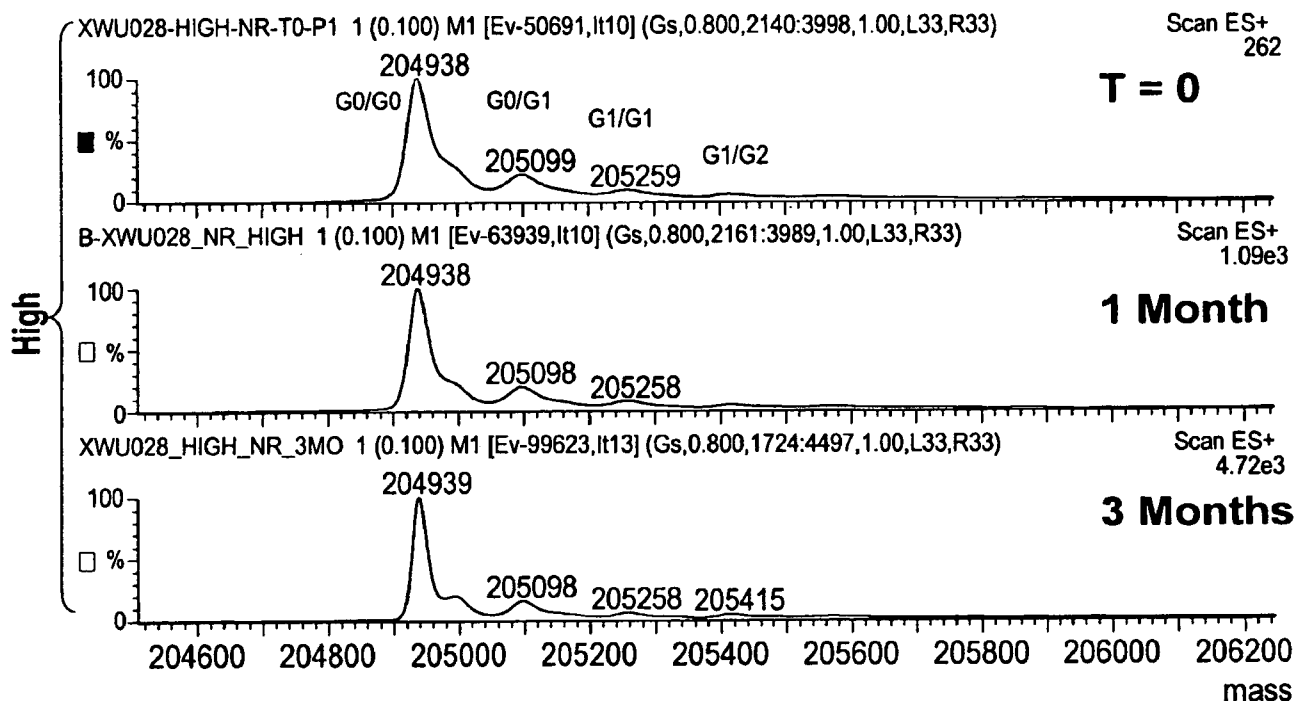


Fig. 58A

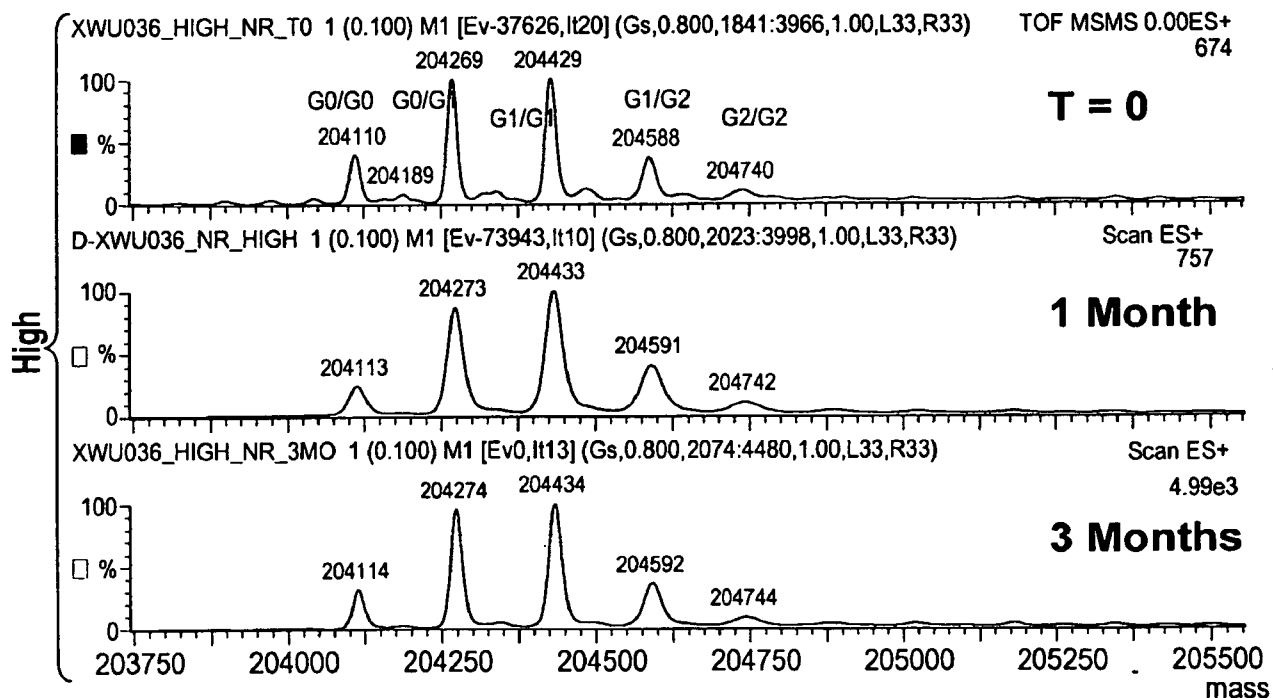


Fig. 58B

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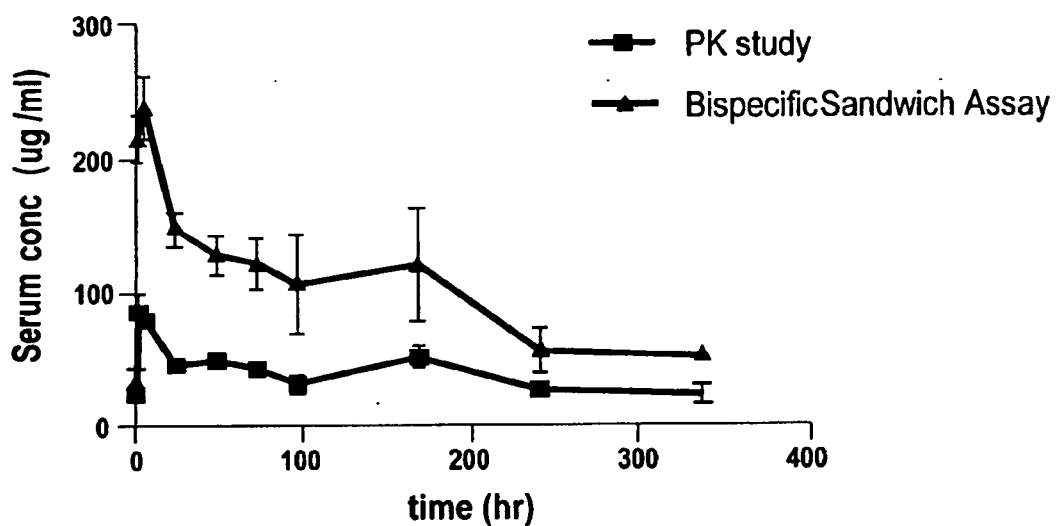


Fig. 59A

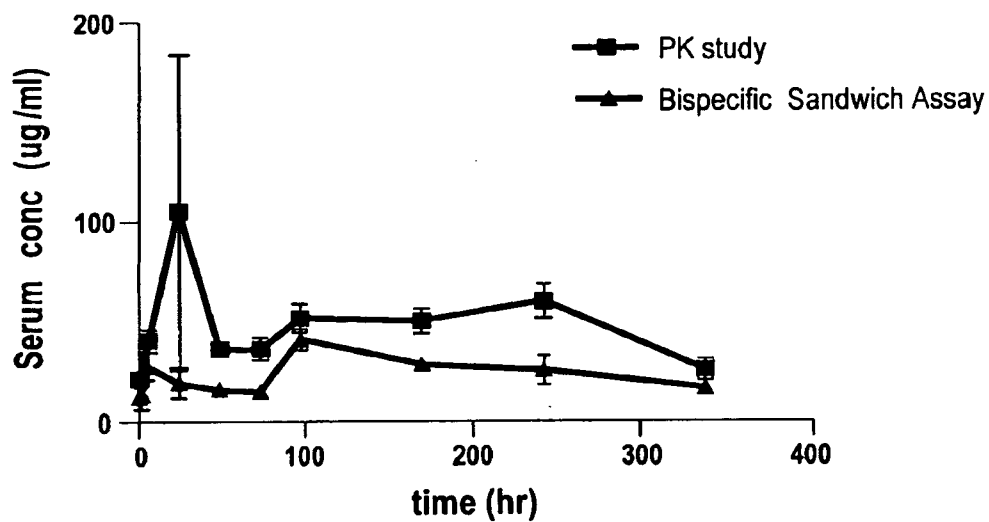
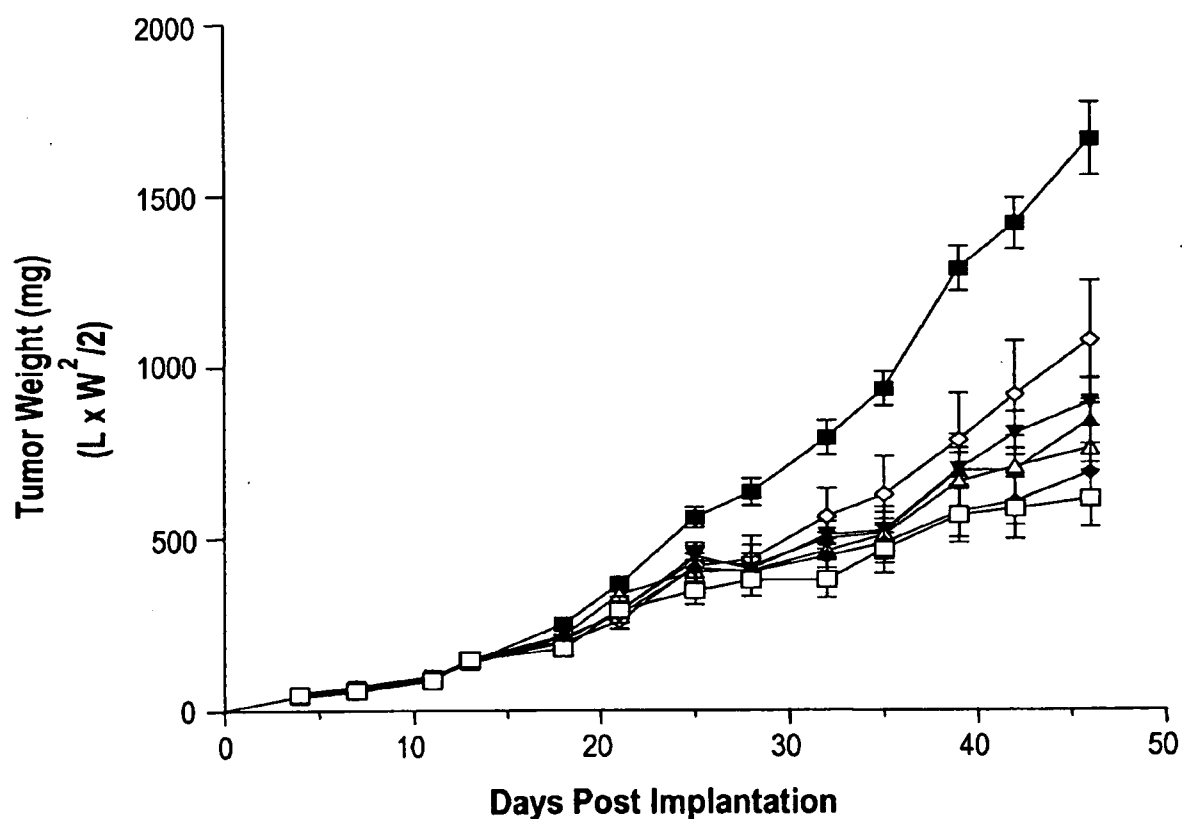


Fig. 59B

Dosing began Day 13hCBE11 vs VC: $P < 0.001$ hBHA10 vs VC: $P < 0.001$ ch14A2 vs VC: $P < 0.01$ Hercules-II XWU028 vs V.C.: $P < 0.001$ Hercules-II XWU028 vs hBHA10.: $P < 0.05$ Hercules-II XWU028 vs ch14A2.: $P < 0.05$ Hercules-II XWU036 vs V.C.: $P < 0.001$ Hercules-II XWU036 vs hBHA10.: $P < 0.01$ Hercules-II XWU036 vs ch14A2.: $P < 0.05$ Combo vs. V.C.: $P < 0.001$

- Vehicle Control (Pyrogen-free PBS), 10 ml/kg/inj, IP, 2x/wk
- ▲— hCBE11, 2 mg/kg/inj, IP, 1x/wk
- ▼— hBHA10, 2 mg/kg/inj, IP, 2x/wk
- ◇— ch14A2, 2 mg/kg/inj, IP, 2x/wk
- ◆— Hercules-II XWU028, 2 mg/kg/inj, IP, 1x/wk
- Hercules-II XWU036, 2 mg/kg/inj, IP, 1x/wk
- △— hBHA10, 1 mg/kg/inj, IP, 2x/wk
plus ch14A2, 1 mg/kg/inj, IP, 2x/wk

*Fig. 60*

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAGAT
 CTCTTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAACAGG
 CTCCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAACACTGAGACTGGTGAGCCAACA
 TATACAGATGACTTCAAGGGACGATTTGCCTTCTCTTTGGTGACCTCTGCCACCACTGC
 CTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTCTGTGCTAGAT
 TCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGGCCAGGGGACTCTGGTCACTGTC
 TCCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCTCTCTCAAGAGCAC
 CTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGA
 CGGTGTCGTGGAACCTCAGGCGCCCTGACCAGCGGCGTGCACACCTTCCCGGCTGTCCTA
 CAGTCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGG
 CACCCAGACCTACATCTGCAACGTGAATCACAAGCCCAGCAACACCAAGGTGGACAAGA
 AAGTTGAGCCCAAATCTTGTGACAAAACCTCACACATGCCACCGTGCCAGCACCTGAA
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 CTCCCGGACCCCTGAGGTACATGCGTGGTGGTGGACGTGAGCCACGAAGACCTGAGG
 TCAAGTTCAACTGGTACGTGGACGGCGTGGAGGTGCATAATGCCAAGACAAAGCCGCGG
 GAGGAGCAGTACAACAGCACGTACCGTGTGGTGCAGCGTCCTACCGTCCTGCACCAGGA
 CTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCA
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 CCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGG
 CTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAACCT
 ACAAGACCACGCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTC
 ACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGA
 GGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCG
 GGGGTGGATCCGGTGGAGGGGGCTCCGGCGGTGGCGGGTCCCAGGTCCAACCTGGTGCAG
 TCTGGAGCTGAGGTGAAGAAGCCTGGGGAGTCAGTGAAGGTGTCCTGCAAGGCTTCTGG
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 AGTGGATGGGATGGATTTATCCTGGAAATGTTTCATGCTCAGTACAATGAGAAGTTCAAG
 GGCAGGGTCACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGGAGCTCAGCAG
 CCTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGGTTTTCTTT
 ACTGGGGCCAAGGGACCACGGTCACCGTCTCCTCAGGCGGTGGAGGGTCCGGTGGGGGC
 GGATCTGGGGGCGGCGGGTCCGGTGGTGGTGGTAGTGACATTGAGATGACCCAGTCTCC
 TAGCTCCCTGTCCGCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCCAGTCAGA
 ATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCTAAATTACTG
 ATTTCTCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTGAGCGGCAGTGGATC
 TGGGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGACTTCGCAACCTATT
 TCTGTCAGCAATATGACACCTATCCATTCACGTTCCGCCAGGGTACCAAGGTGGAGATC
 AAATGA (SEQ ID NO: 52)

Fig. 61

QIQLVQS GPCLK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK G
LKWMGWI NTETG EPTYTDD FKGRF AFSLVTS ATTAY LQINNLN N
EDTATFF CARFI YDPYWGF AYWGQ GTLVTVS AASTK GPSVFPL A
PSSKSTS GGTAALGCLVKD YFPEP VTVSWNS GALTS GVHTFPA V
LQSSGLY SLSSV VTPSSS LGTQT YICNVNH KPSNT KVDKKVE P
KSCDKTH TCPPC PAPELLG GPSVF LFPPKPK DTLMI SRTPEVT C
VVVDVSH EDPEV KFNWYVD GVEVH NAKTKPR EEQYN STYRVVS V
LTVLHQD WLNGK EYKCKVS NKALP APIEKT SKAKG QPREPQV Y
TLPPSRD ELTKN QVSLTCL VKGFY PSDIAVE WESNG QPENNYK T
TPPVLDS DGSFF LYSKLTVDKSRW QQGNVFS CSVMH EALHNHY T
QKSLSLS PGKSG GGGSGGG GSGGG GSQVQLV QSGAE VKKPGES V
KVSCKAS GYTFT TYYLHWV RQAPG QGLEWMG WIYPG NVHAQYN E
KFKGRVT ITADK STSTAYM ELSSL RSED TAV YYCAR SWEGFPY W
GQGTTVT VSSGG GSGGGG SGGGG SGGGGSD IQMTQ SPSSLSA S
VGDRVTI TCKAS QNVGINV AWYQQ KPGKAPK LLISS ASYRYSG V
PSRFSGS GSGTD FTLTISS LQPED FATYFCQ QYDTY PFTFGQG T
KVEIK (SEQ ID NO: 53)

Fig. 62

CAGATCCAGTTGGTGCAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAG
 ATCTCCTGCAAGGCTTCTGGTTTTACCTTCACAGACTATTCAATACACTGGGTGAAA
 CAGGCTCCAGGAAAGGGTTTAAAGTGGATGGGCTGGATAAACACTGAGACTGGTGAG
 CCAACATATACAGATGACTTCAAGGGACGATTTCGCTTCTCTTTGGTGACCTCTGCC
 ACCACTGCCTATTTGCAGATCAACAACCTCAACAATGAGGACACGGCTACATTTTTC
 TGTGCTAGATTTCATCTATGATCCTTATTGGGGGTTTGCTTACTGGGGCCAGGGGACT
 CTGGTCACTGTCTCCGCAGCTAGCACCAAGGGCCCATCGGTCTTCCCCCTGGCACCC
 TCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCCTGGGCTGCCTGGTCAAGGACTAC
 TTCCCCGAACCGGTGACGGTGTCGTGGAACCTCAGGCGCCCTGACCAGCGGCGTGAC
 ACCTTCCCCGGCTGTCTACAGTCTCAGGACTCTACTCCCTCAGCAGCGTGGTGACC
 GTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGAATCACAAGCCC
 AGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCTTGTGACAAAACCTCACACA
 TGCCACCGGTGCCAGCACCTGAACTCCTGGGGGGACCGTCAGTCTTCTCTTCCCC
 CAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTG
 GTGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTG
 GAGGTGCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGT
 GTGGTCAGCGTCTCACCGTCTGCACCAGGACTGGCTGAATGGCAAGGAGTACAAG
 TGCAAGGTCTCCAACAAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAGCC
 AAAGGGCAGCCCCGAGAACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTG
 ACCAAGAACCAGGTGAGCCTGACCTGCCTGGTCAAAGGCTTCTATCCAGCGACATC
 GCCGTGGAGTGGGAGAGCAATGGGCAGCCGGAGAACAATAACAAGACCACGCCTCCC
 GTGCTGGACTCCGACGGCTCCTTCTTCTCTACAGCAAGCTCACCGTGGACAAGAGC
 AGGTGGCAGCAGGGGAACGTCTTCTCATGCTCCGTGATGCATGAGGCTCTGCACAAC
 CACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTAAATCCGGCGGGGGTGGATCC
 GGTGGAGGGGGCTCCGGCGGTGGCGGGTCCCAGGTCCAACCTGGTGCAGTCTGGAGCT
 GAGGTGAAGAAGCCTGGGGAGTCAGTGAAGGTGTCTTGCAAGGCTTCTGGCTACACT
 TTCACAACCTACTATTTGCACTGGGTGAGGCAGGCCCTGGACAGTGCCTTGAGTGG
 ATGGGATGGATTTATCCTGGAAATGTTTCATGCTCAGTACAATGAGAAGTTCAAGGGC
 AGGGTCACAATCACTGCAGACAAATCCACCAGCACAGCCTACATGGAGCTCAGCAGC
 CTGAGGTCTGAAGATACTGCGGTCTATTACTGTGCAAGATCCTGGGAAGGTTTTCT
 TACTGGGGCCAAGGGACACGGTCCCGTCTCCTCAGGCGGTGGAGGGTCCGGTGGG
 GGCGGATCTGGGGGCGGCGGGTCCGGTGGTGGTGGTAGTGACATTCAGATGACCCAG
 TCTCCTAGCTCCCTGTCCGCCTCAGTAGGAGACAGGGTCACCATCACCTGCAAGGCC
 AGTCAGAATGTGGGTATTAATGTAGCCTGGTATCAACAGAAACCAGGGAAGGCTCCT
 AAATTACTGATTTCTCCTCGGCCTCCTACCGGTACAGTGGAGTCCCTTCCAGATTCAGC
 GGCAGTGGATCTGGGACAGATTTCACTCTCACCATCAGCAGCCTCCAGCCTGAAGAC
 TTCGCAACCTATTTCTGTGTCAGCAATATGACACCTATCCATTCACGTTCCGGCTGCGGT
 ACCAAGGTGGAGATCAAATGA (SEQ ID NO: 54)

Fig. 63

QIQLVQS GPELK KPGETVK ISCKA SGFTFTD YSIHW VKQAPGK GLK
WMGWINT ETGEP TYTDDFK GRFAF SLVTSAT TAYLQ INNLNNE DTA
TFFCARF IYDPY WGFAYWG QGTLV TVSAAST KGPSV FPLAPSS KST
SGGTAAL GCLVK DYFPEPV TVSWN SGALTSG VHTFP AVLQSSG LYS
LSSVVTV PSSSL GTQTYIC NVNHK PSNTKVD KKVEP KSCDKTH TCP
PCPAPEL LGGPS VFLFPPK PKDTL MISRTPE VTCVV VDVSHED PEV
KFNWYVD GVEVH NAKTKPR EEQYN STYRVVS VLTVL HQDWLNG KEY
KCKVSNK ALPAP IEKTISK AKGQP REPQVYT LPPSR DELTKNQ VSL
TCLVKGF YPSDI AVEWESN GQPEN NYKTPP VLDSG GSFFLYS KLT
VDKSRWQ QGNVF SCSVMHE ALHNH YTQKSLS LSPGK SGGGGSG GGG
SGGGGSQ VQLVQ SGAEVKK PGESV KVSCKAS GYTFT TYYLHWV RQA
PGQCLEW MGWIY PGNVHAQ YNEKF KGRVTIT ADKST STAYMEL SSL
RSED TAV YYCAR SWEGFPY WGQGT TVTVSSG GGGSG GGGSGGG GSG
GGGSDIQ MTQSP SSLSASV GDRVT ITCKASQ NVGIN VAWYQQK PGK
APKLLIS SASYR YSGVPSR FSGSG SGTDFTL TISSL QPEDFAT YFC
QQYDTYP FTFGC GTKVEIK

(SEQ ID NO: 55)

Fig. 64

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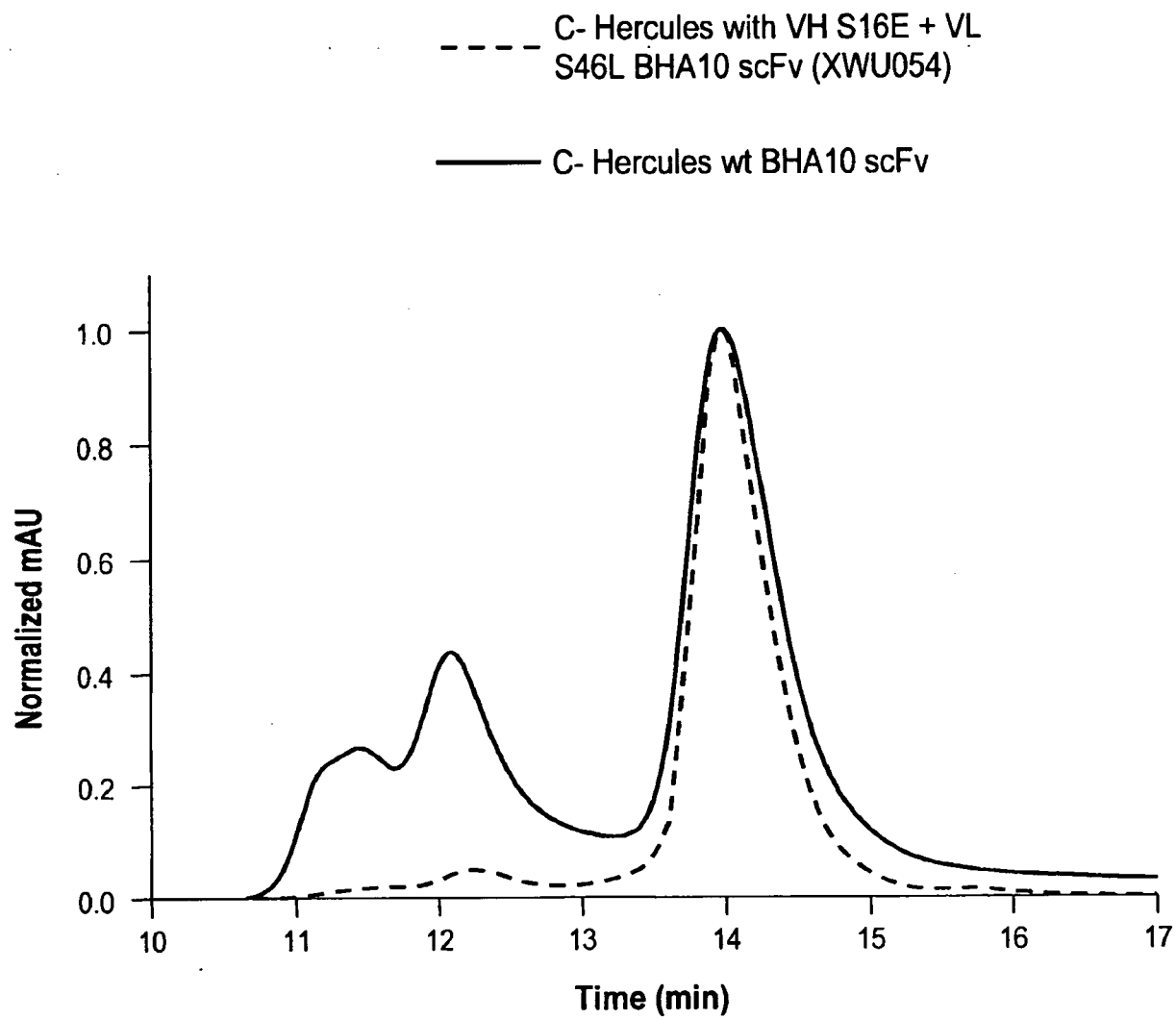
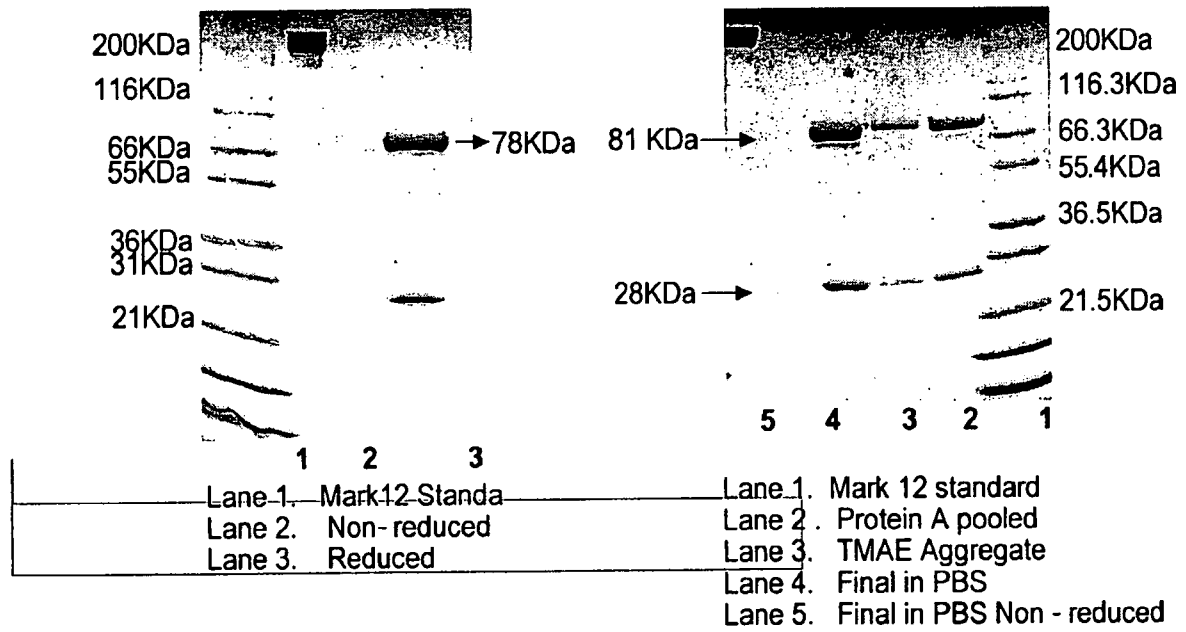


Fig. 65

*Fig. 66A**Fig. 66B*

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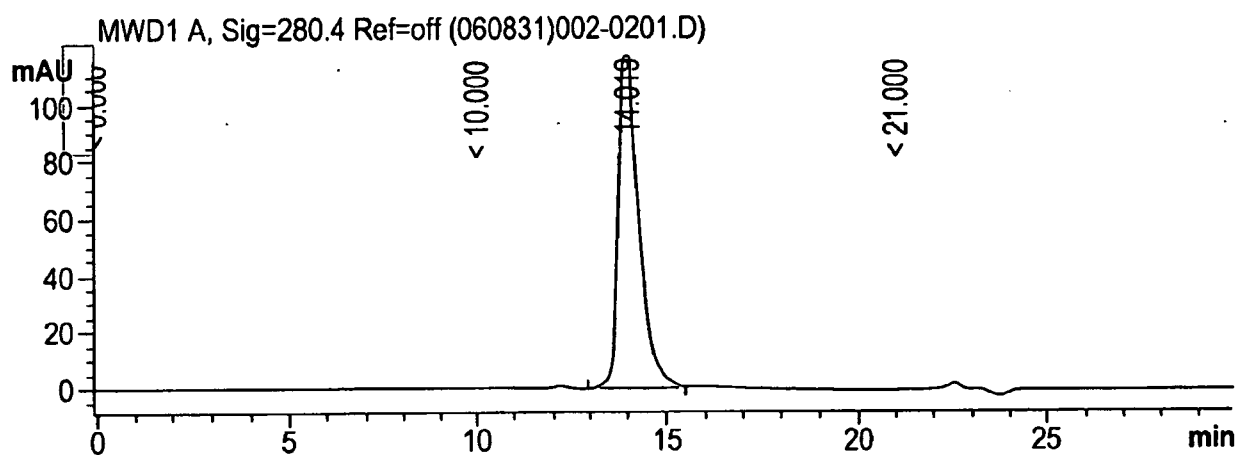


Fig. 67A

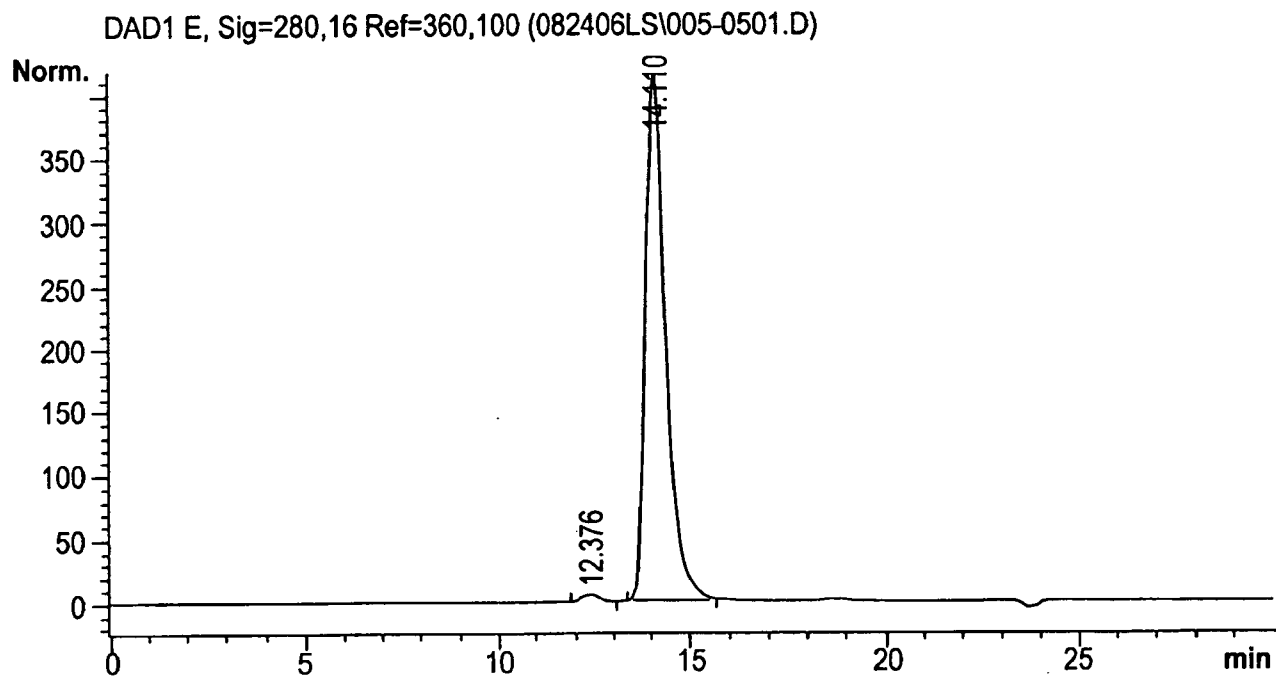


Fig. 67B

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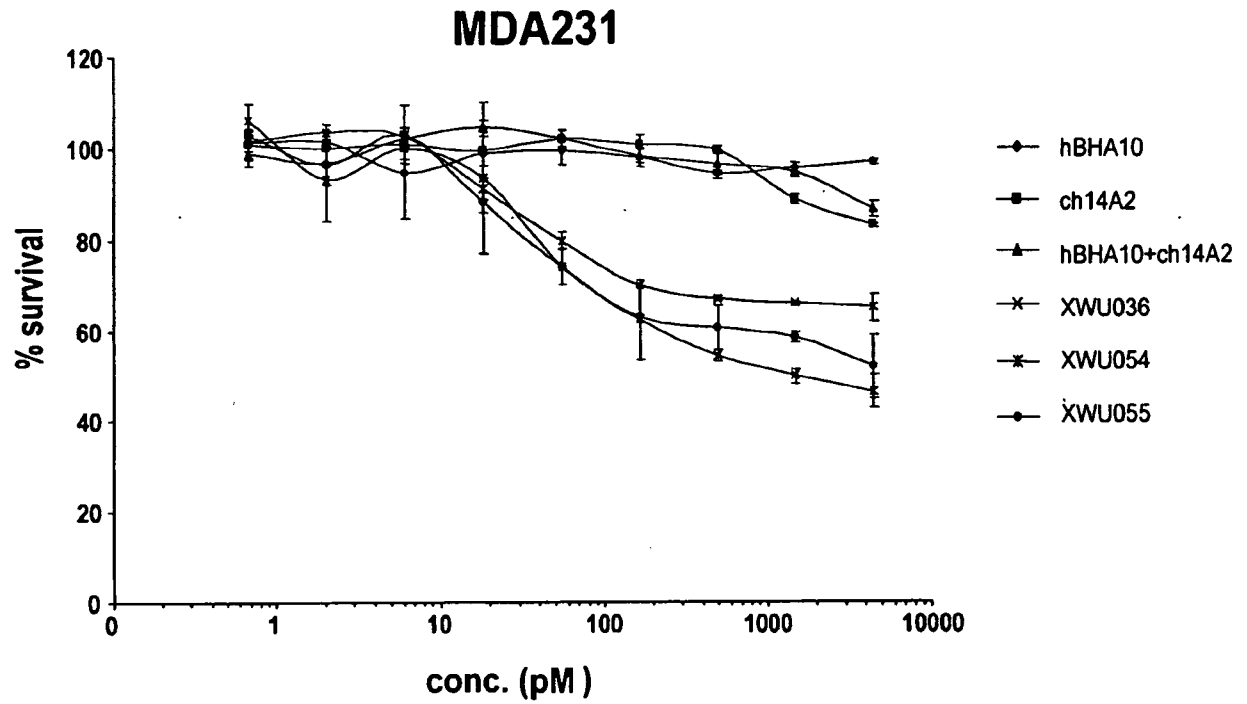


Fig. 68A

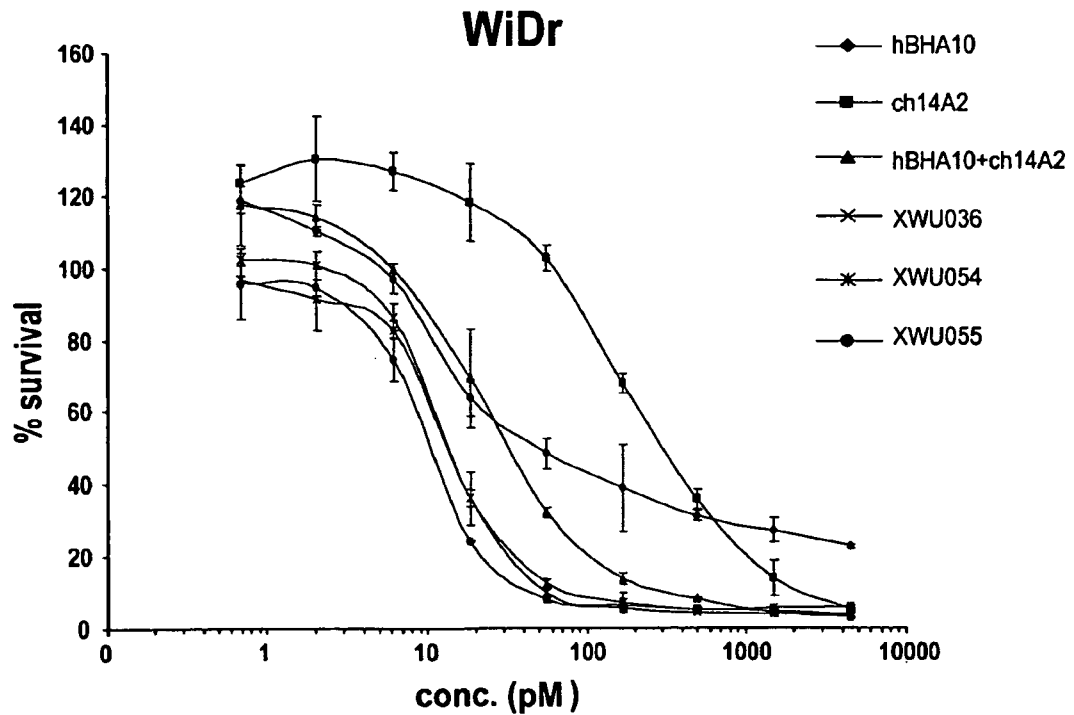


Fig. 68B

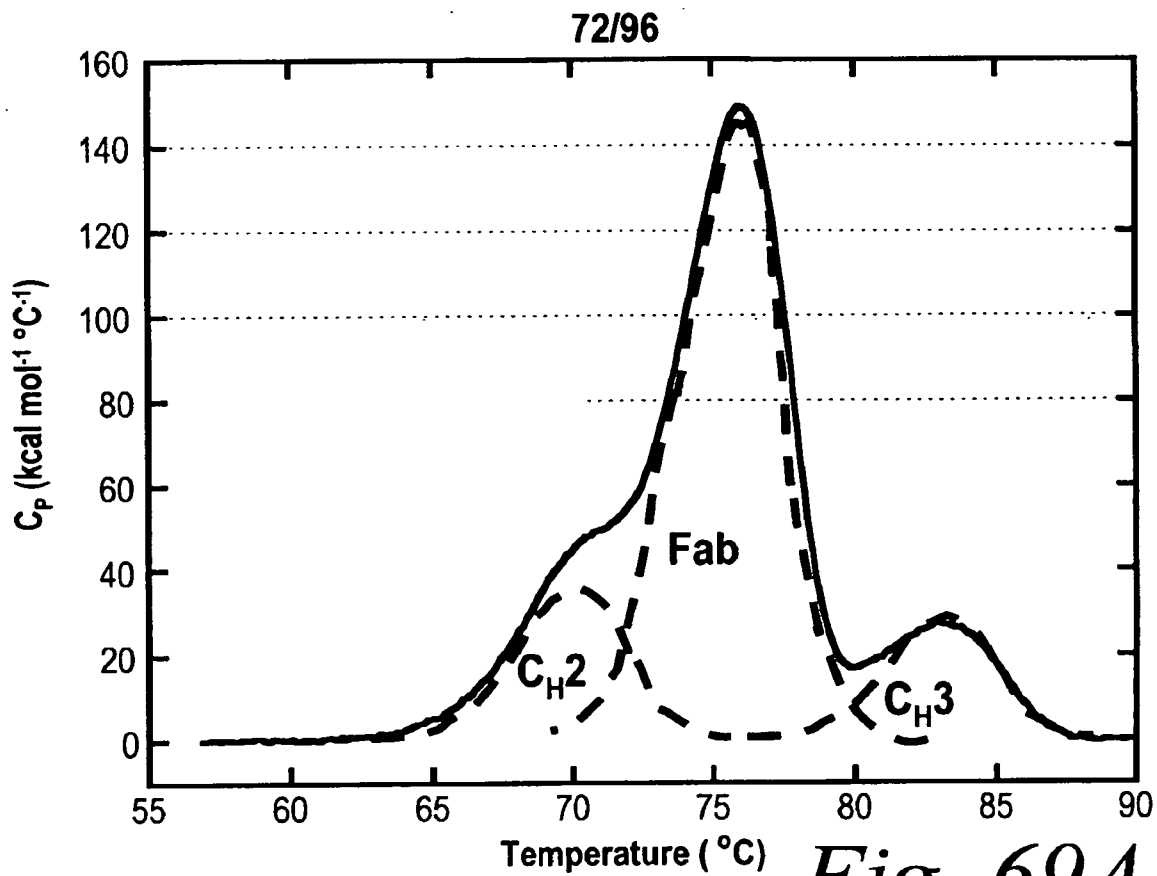


Fig. 69A

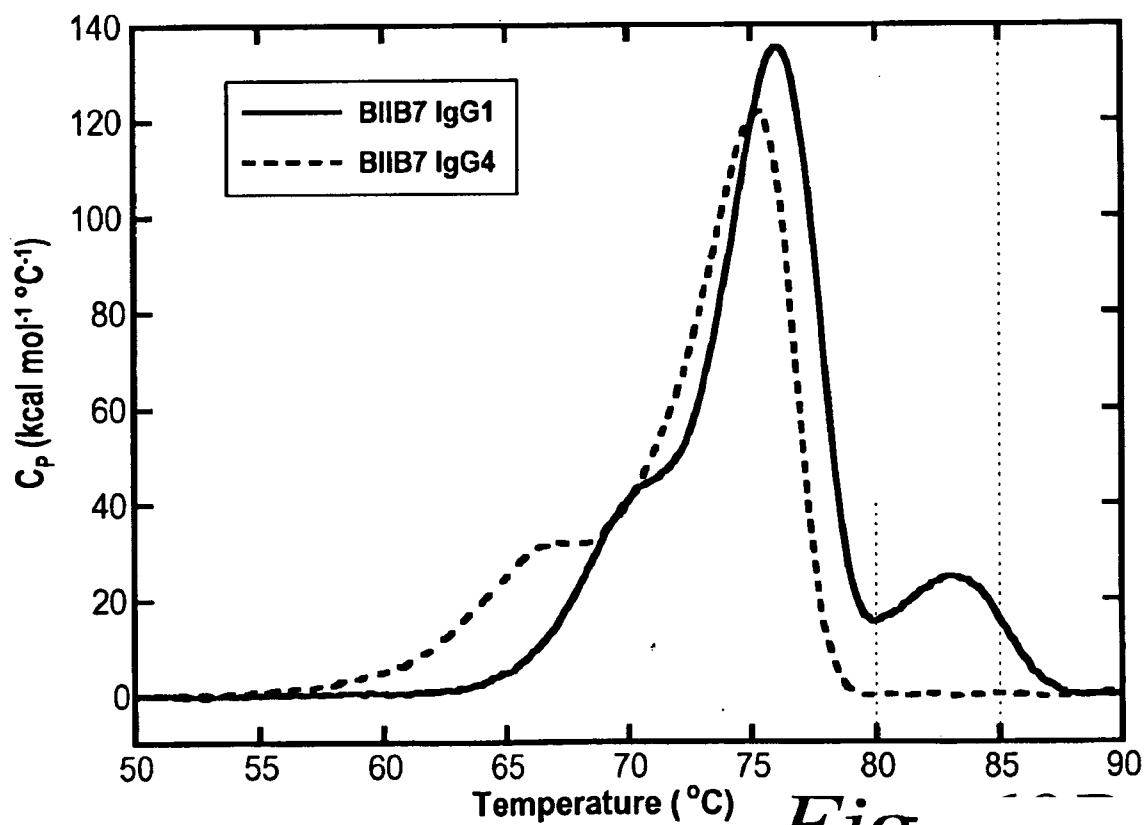


Fig.

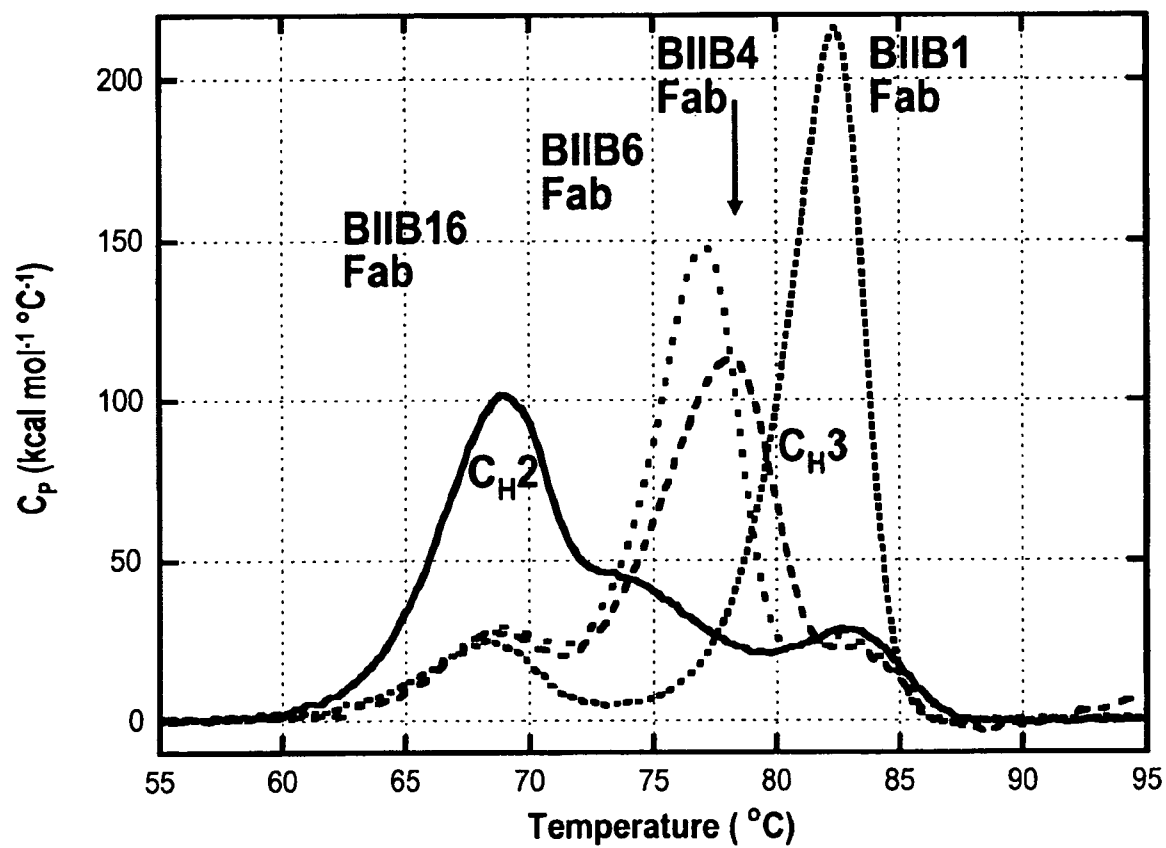
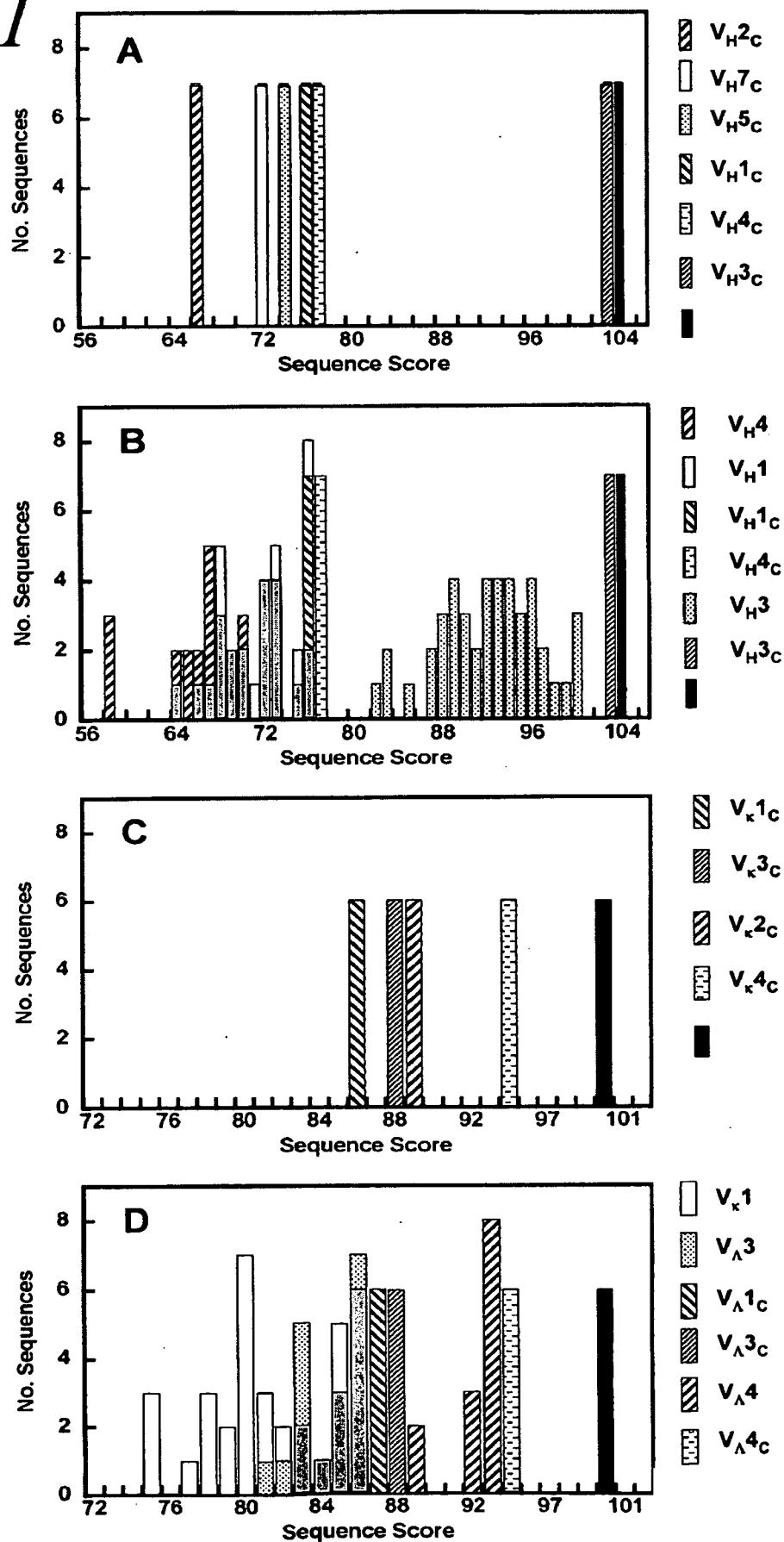


Fig. 70

Fig. 71

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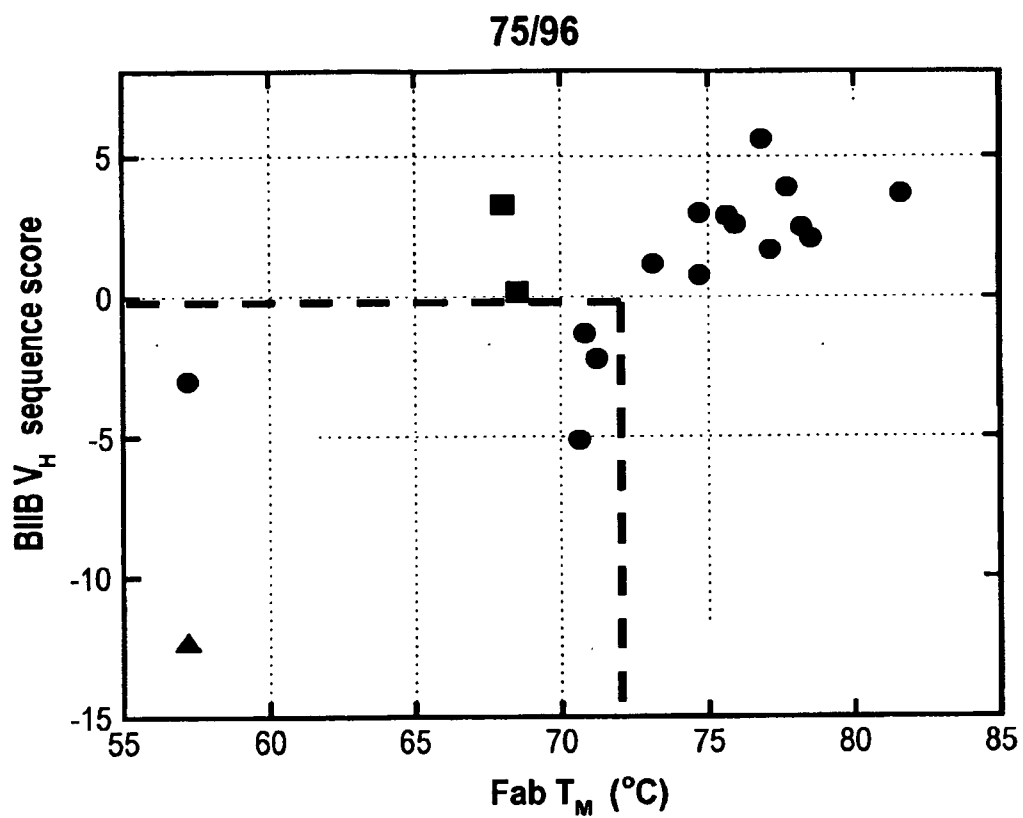


Fig. 72A

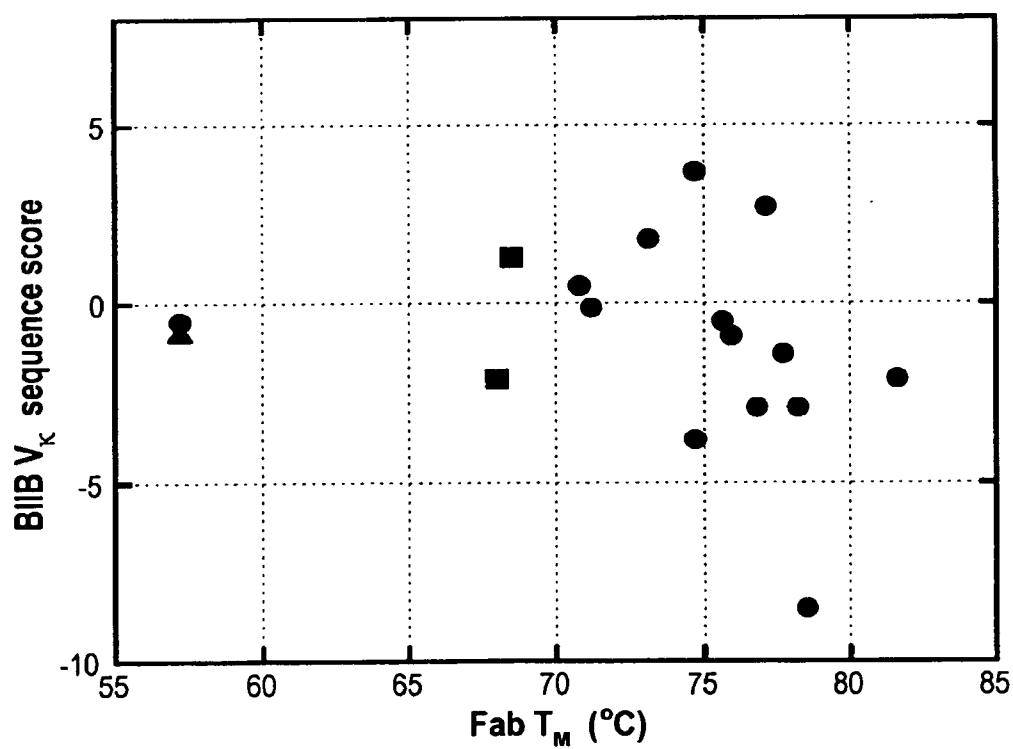


Fig. 72B

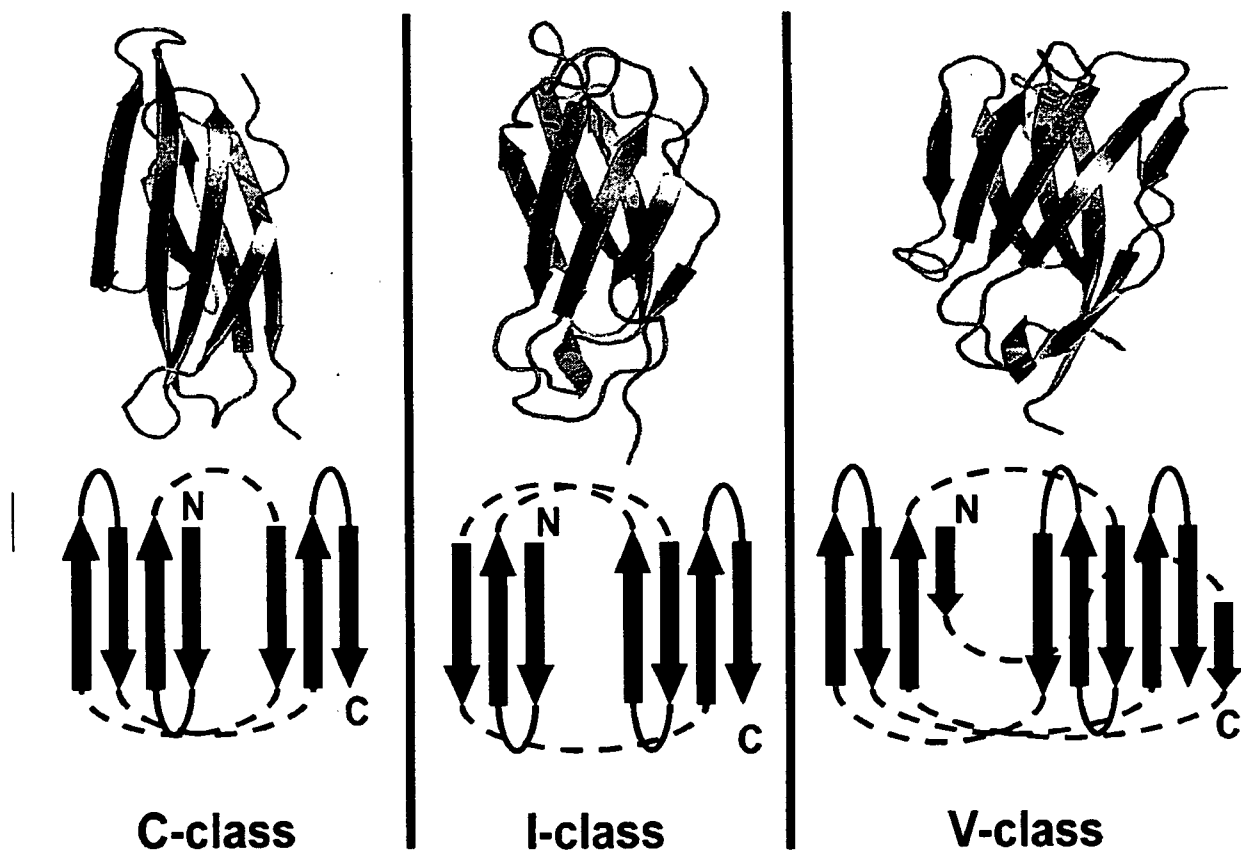


Fig. 73

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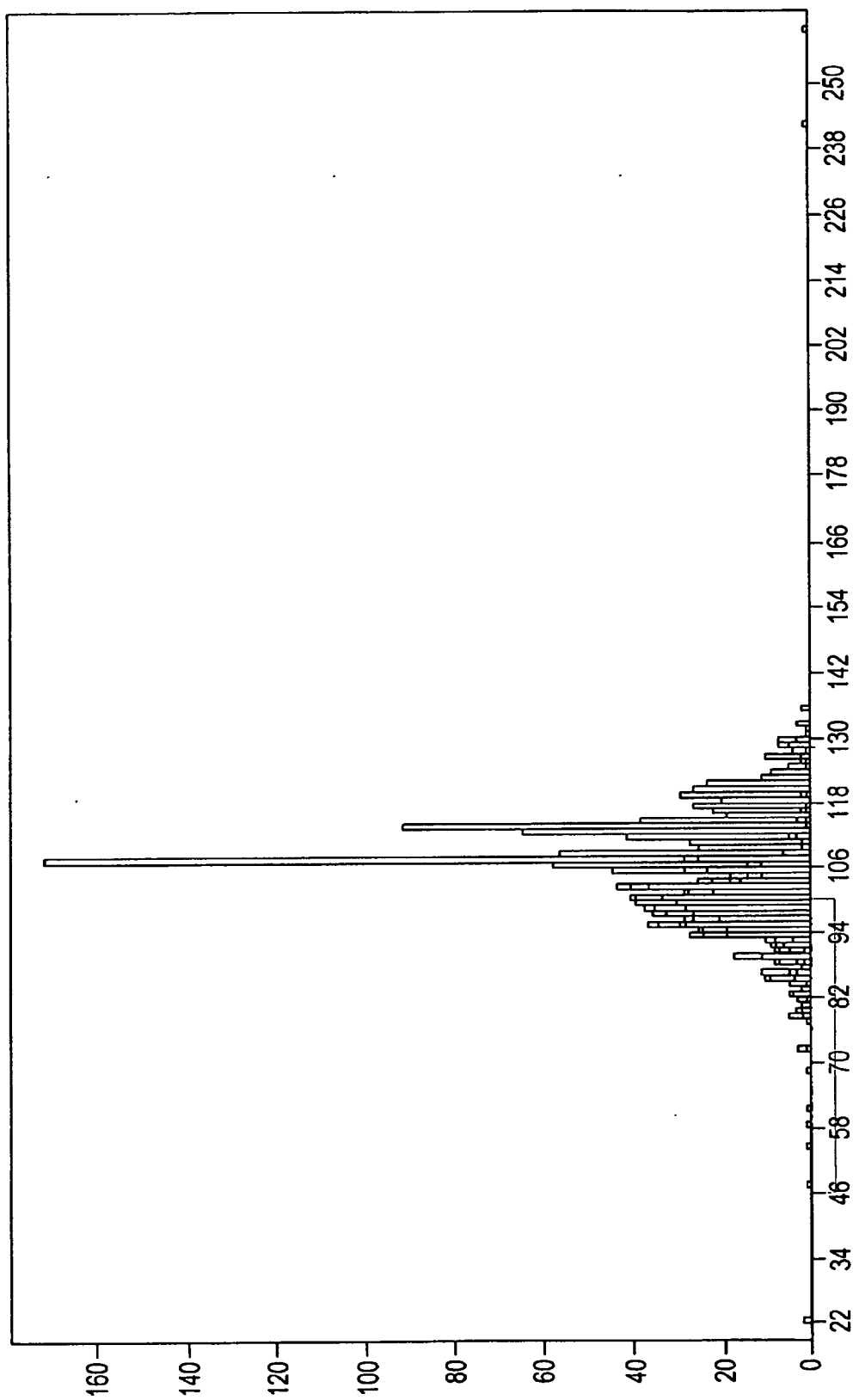


Fig. 74

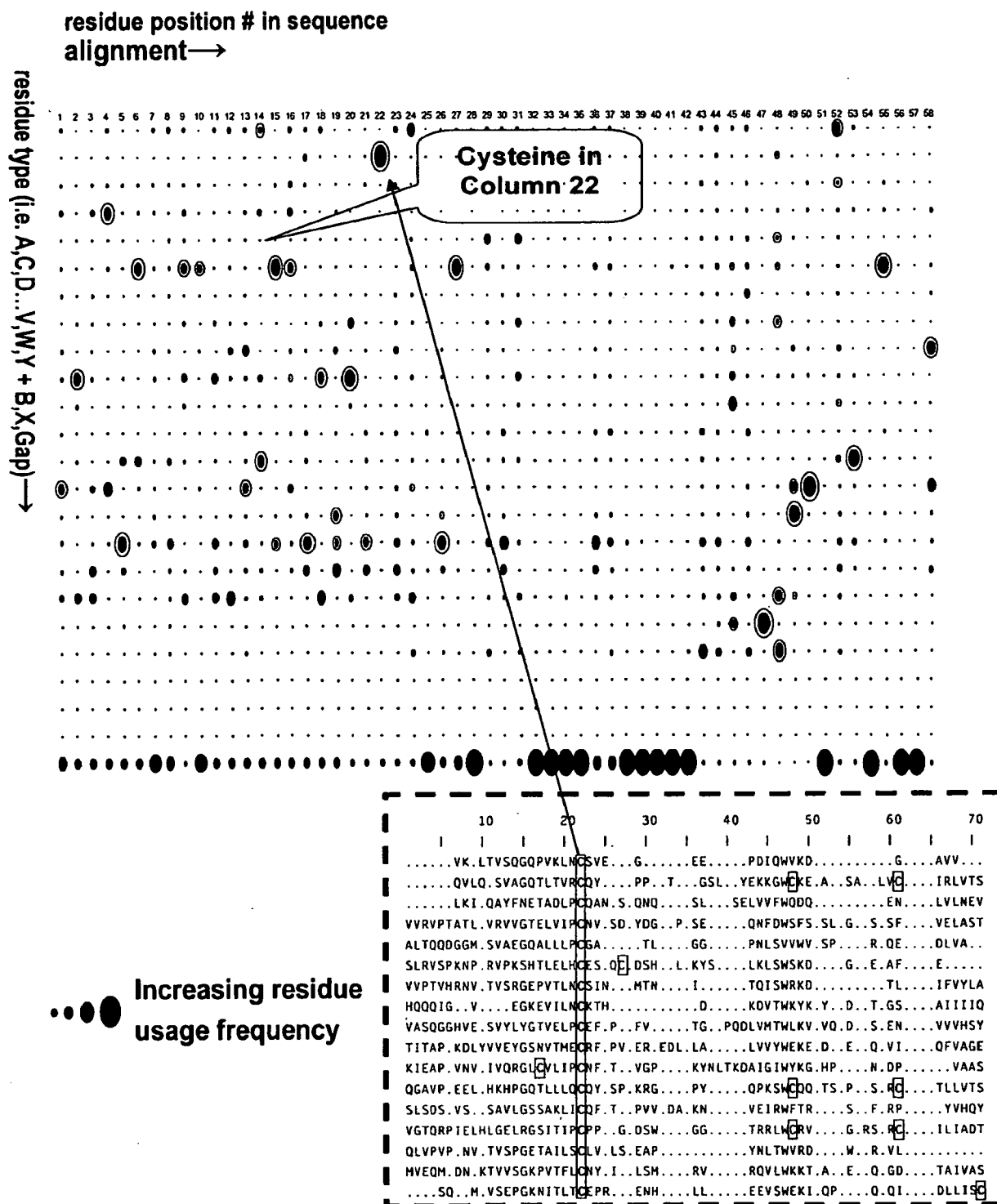


Fig. 76

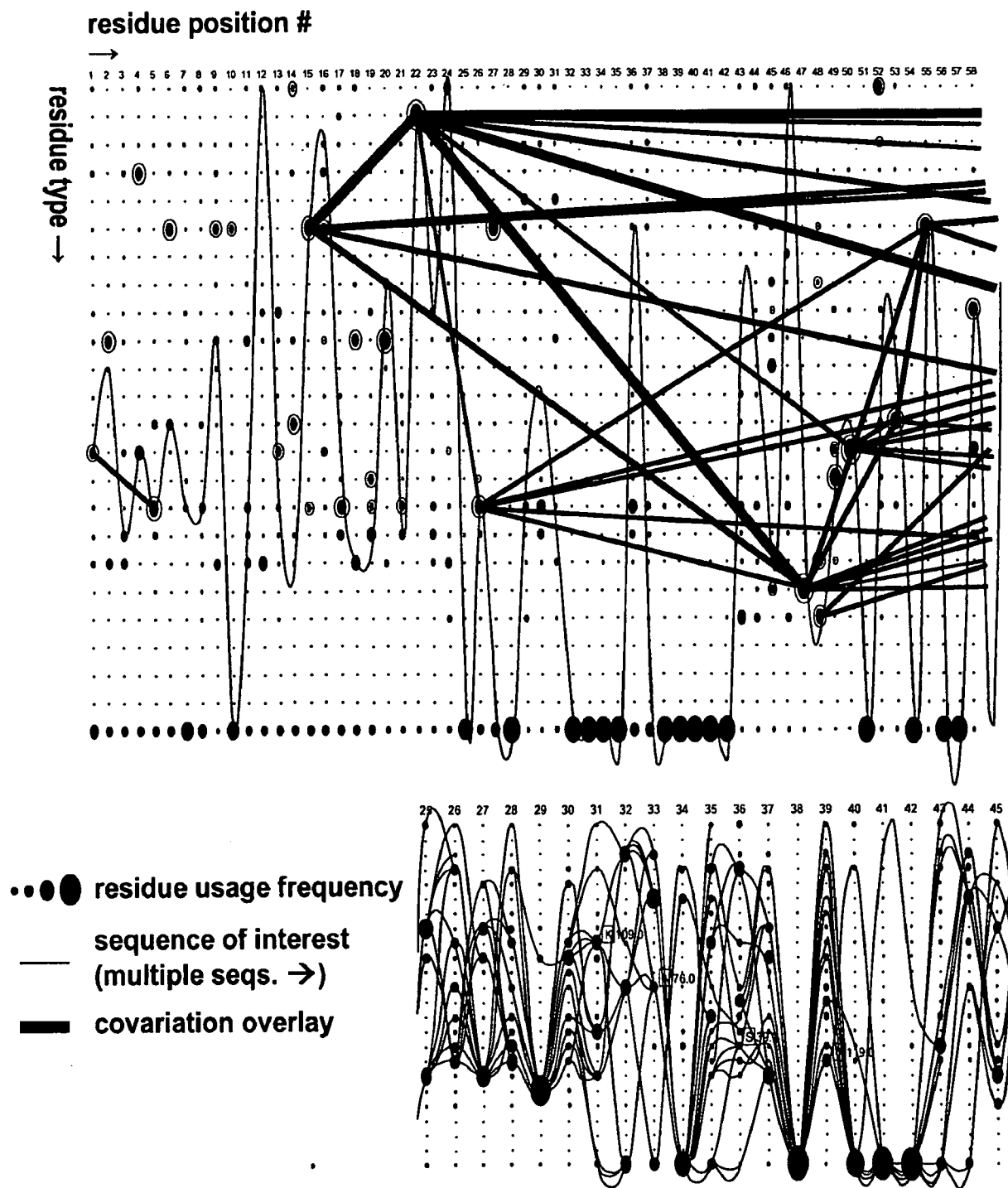


Fig. 77

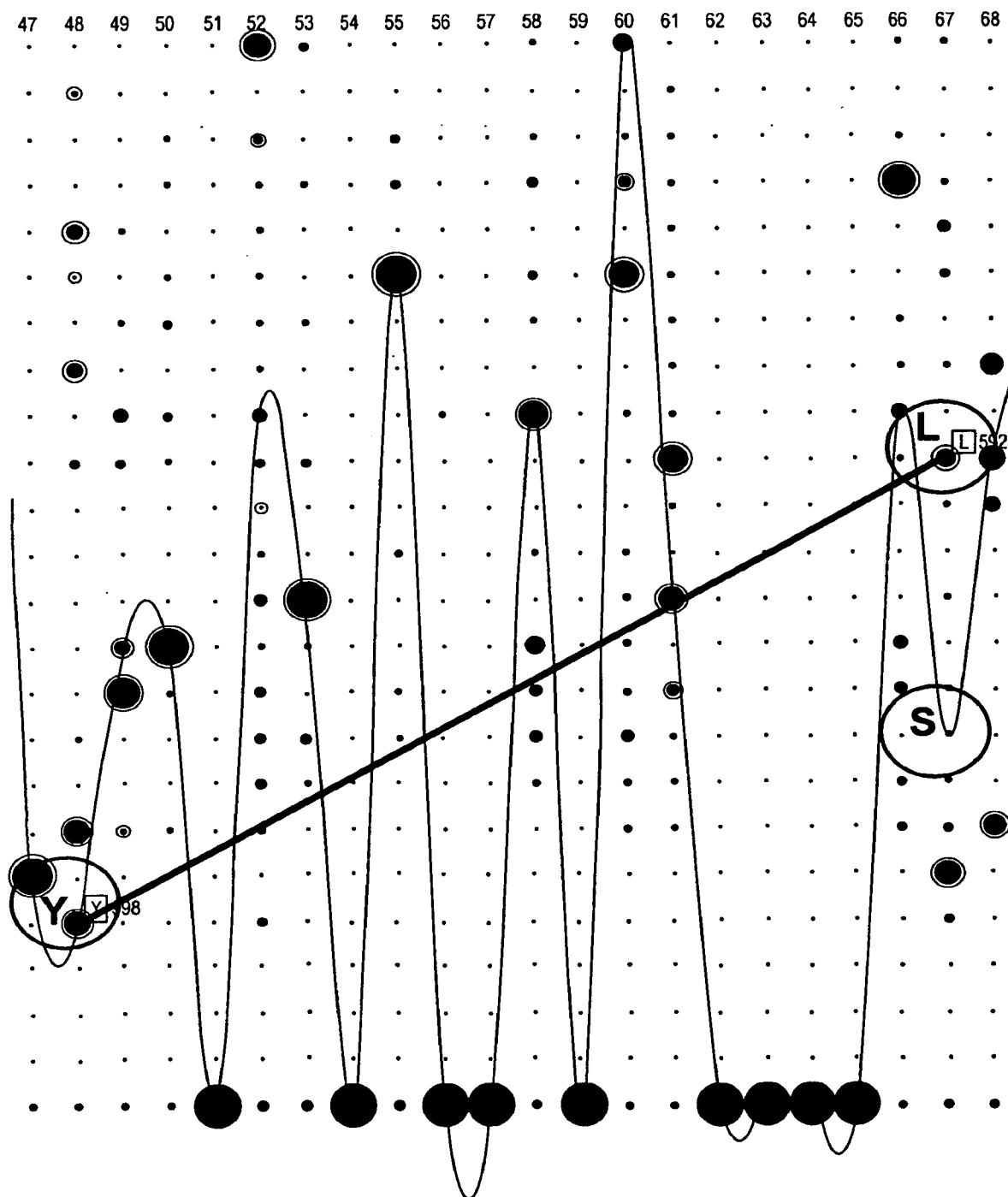
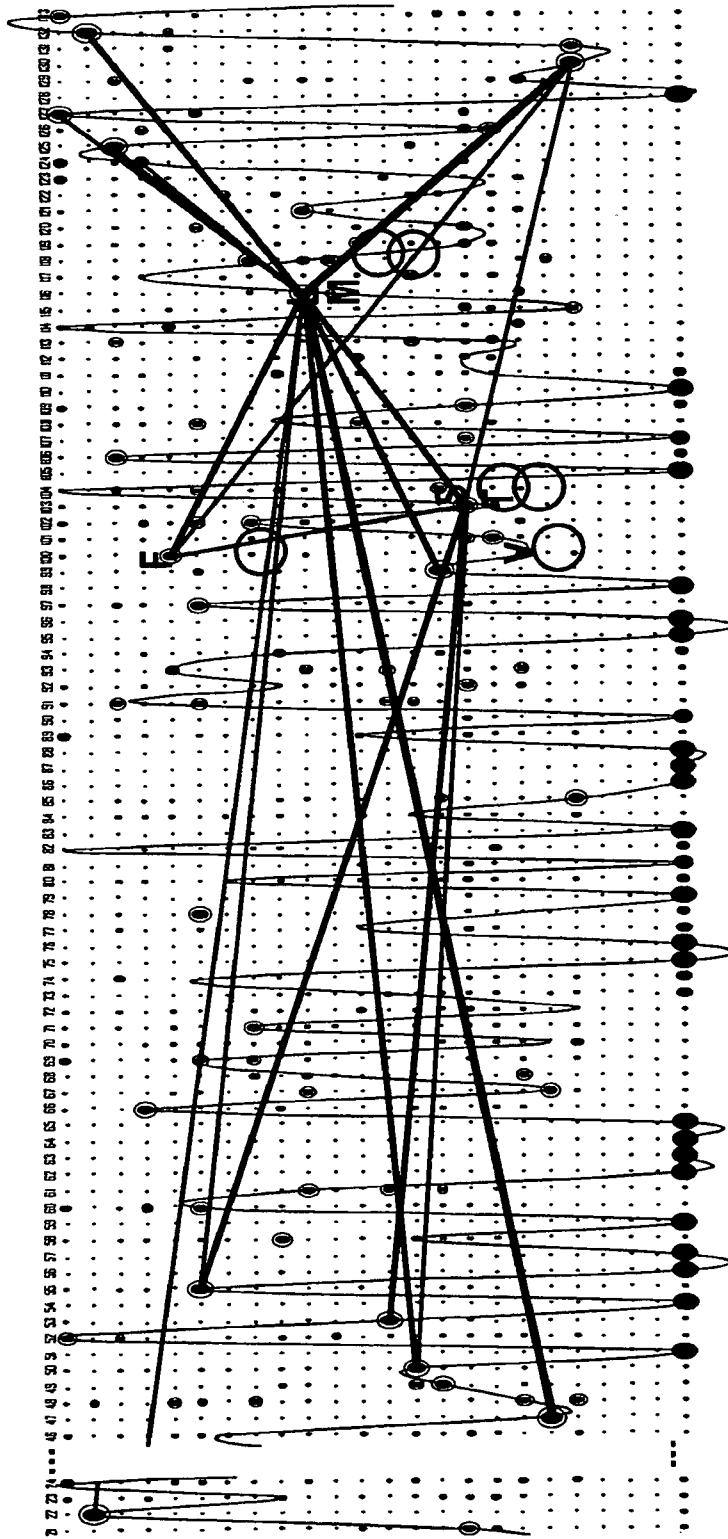


Fig. 78



67 V	➡	67 F
70 T	➡	70 S
80 M	➡	80 L

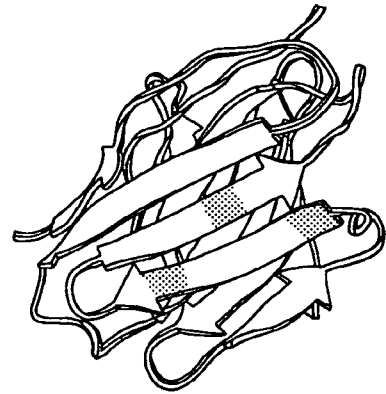


Fig. 79

GAGGTGCAGCTGGTGGAGTCTGGGGGCGGCTTGGCAAAGCCTGGGGGGTCCCTGAGACTCT
 CCTGCGCAGCCTCCGGGTTCAGGTTACCTTCAATAACTACTACATGGACTGGGTCCGCCA
 GGCTCCAGGGCAGGGGCTGGAGTGGGTCTCACGTATTAGTAGTAGTGGTGATCCCATATGG
 TACGCAGACTCCGTGAAGGGCAGATTACCATCTCCAGAGAGAACGCCAAGAACACACTGT
 TTCTTCAAATGAACAGCCTGAGAGCTGAGGACACGGCTGTCTATTACTGTGCGAGCTTGAC
 TACAGGGTCTGACTCCTGGGGCCAGGGAGTCTGGTCACCGTCTCCTCAGCTAGCACCAAG
 GGCCCATCGGTCTTCCCCCTGGCACCCCTCCTCCAAGAGCACCTCTGGGGGCACAGCGGCCC
 TGGGCTGCCTGGTCAAGGACTACTTCCCCGAACCGGTGACGGTGTCTGTGGAACCTCAGGCGC
 CCTGACCAGCGGCGTGCACACCTTCCCGGCTGTCTACAGTCTCCTCAGGACTCTACTCCCTC
 AGCAGCGTGGTGACCGTGCCCTCCAGCAGCTTGGGCACCCAGACCTACATCTGCAACGTGA
 ATCACAAGCCCAGCAACACCAAGGTGGACAAGAAAGTTGAGCCCAAATCTTGTGACAAAAC
 TCACACATGCCCACCGTGCCAGCACCTGAACTCCTGGGGGGACCGTCAGTCTTCTCTCTC
 CCCCCAAAACCCAAGGACACCCTCATGATCTCCCGGACCCCTGAGGTACATGCGTGGTGG
 TGGACGTGAGCCACGAAGACCCTGAGGTCAAGTTCAACTGGTACGTGGACGGCGTGGAGGT
 GCATAATGCCAAGACAAAGCCGCGGGAGGAGCAGTACAACAGCACGTACCGTGTGGTCAGC
 GTCCTCACCGTCTTGACACCAGGACTGGCTGAATGGCAAGGAGTACAAGTGCAAGGTCTCCA
 ACAAGCCCTCCCAGCCCCCATCGAGAAAACCATCTCCAAAGCCAAAGGGCAGCCCCGAGA
 ACCACAGGTGTACACCCTGCCCCCATCCCGGGATGAGCTGACCAAGAACCAGGTGAGCCTG
 ACCTGCCTGGTCAAAGGCTTCTATCCCAGCGACATCGCCGTGGAGTGGGAGAGCAATGGGC
 AGCCGGAGAACAACTACAAGACCACGCCTCCCGTGCTGGACTCCGACGGCTCCTTCTTCTC
 CTACAGCAAGCTCACCGTGGACAAGAGCAGGTGGCAGCAGGGGAACGTCTTCTCATGCTCC
 GTGATGCATGAGGCTCTGCACAACCACTACACGCAGAAGAGCCTCTCCCTGTCTCCGGGTA
 AATCCGGCGGGGGTGGATCCGGTGGAGGGGGCTCCGGCGGTGGCGGGTCCGACATCCAGAT
 GACCCAGTCTCCATCTTCCCTGTCTGCATCTGTAGGGGACAGAGTCACCATCACTTGCAGG
 GCAAGTCAGGACATTAGGTATTATTTAAATTGGTATCAGCAGAAACCAGGAAAAGCTCCTA
 AGCTCCTGATCTATGTTGCATCCAGTTTGCAAAGTGGGGTCCCATCAAGGTTTCAGCGGCAG
 TGGATCTGGGACAGAGTTCACCTCTACCGTCAGCAGCCTGCAGCCTGAAGATTTTGCGACT
 TATTACTGTCTACAGGTTTATAGTACCCCTCGGACGTTGGCCAAGGGACCAAGGTGGAAA
 TCAAAGGTGGGGGCGGATCTGGGGGCGGCGGGTCCGGTGGTGGTGGTAGTGAGGTGCAGCT
 GGTGGAGTCTGGGGGCGGCTTGGCAAAGCCTGGGGGGTCCCTGAGACTCTCCTGCGCAGCC
 TCCGGGTTCAGGTTACCTTCAATAACTACTACATGGACTGGGTCCGCCAGGCTCCAGGGC
 AGGGGCTGGAGTGGGTCTCACGTATTAGTAGTAGTGGTGATCCACATGGTACGCAGACTC
 CGTGAAGGGCAGATTACCATCTCCAGAGAGAACGCCAAGAACACACTGTTTCTTCAAATG
 AACAGCCTGAGAGCTGAGGACACGGCTGTCTATTACTGTGCGAGCTTGACTACAGGGTCTG
 ACTCCTGGGGCCAGGGAGTCCTGGTCACCGTCTCCTCATGA (SEQ ID NO:63)

Fig. 80

EVQLVES GGGLAKPGGSLRLS CAAS GFRFTFNYY MDWVRQAPGQGLEWVSRI S
 SSGDPTW YADSVKGRFTISRĒ NAKNTLFLQMNSLR AEDTAVYYCASLTTGSDSW
 GQGVLT VSSASTKGPSVFPLAPSS KSTSGGTAALGCLVKDYFPEPVTVSWNSG
 ALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKV
 EPKSCDKTHTCPPCPAPELLG GPSVFLFPPKPKDTLMISRTPEVTCVVDVSHED
 DPEVKFNWYVDGVEVHNAKTK PREEQYNSTYRVVSVLTVLHQDNLNGKE YKCKV
 SNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDI
 AVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSFCSVMHEA
 LHNHYTQKSLSLSPGKSGGGGSGGGGSGGGGSDIQMTQSPSSLSASVGRVTIT
 CRASQDI RYYLNWYQQKPGKAPKLLIYVASSLQSGVPSRFSGSGSGTEFTLTVSS
 SLQPEDFATYYCLQVYSTPRTFGQGTKVEIKGGGSGGGGSGGGGSEVQLVESG
 GGLAKPGGSLRLSCAASGFRFTFNYYMDWVRQAPGQGLEWVSRISSSGDPTWY
 ADSVKGRFTISRĒ NAKNTLFLQMNSLRAEDTAVYYCASLTTGSDSWGQGVLT
 SS* (SEQ ID NO:64)

Fig. 81

GACATCC AGATGACCCAGTCT CCATCTTCCCTGTC TGCA TCTGTAGGGG AC
 AGAGTCA CCATCACTTGCAGG GCAAGTCAGGACAT TAGGTATTATTTAA AT
 TGGTATC AGCAGAAACCAGGA AAAG CTCCTAAGCT CCTGATCTATGTTG CA
 TCCAGTT TGCAAAGTGGGGTC CCATCAAGGTTTCAG CGGCAGTGGATCTG GG
 ACAGAGT TCACTCTCACCGTC AGCAGCCTGCAGCC TGAAGATTTTGCGA CT
 TATTACT GTCTACAGGTTTAT AGTACCCCTCGGAC GTTCGGCCAAGGGA CC
 AAGGTGG AAATCAAACGTACG GTGG CTGCACCATC TGTC TTCATCTTCC CG
 CCATCTG ATGAGCAGTTGAAA TCTGGAACTGCCTC TGTTGTGTGCCTGC TG
 AATAACT TCTATCC CAGAGAG GCCAAAGTACAGTG GAAGGTGGATAACG CC
 CTCCAAT CGGGTAACTCCCAG GAGAGTGTACACAGA GCAGGACAGCAAGG AC
 AGCACCT ACAGCCTCAGCAGC ACCCTGACGCTGAG CAAAGCAGACTACG AG
 AAACACA AAGTCTACGCCTGC GAAGTCA CCCATCA GGGCCTGAGCTCGC CC
 GTCACAA AGAGCTTCAACAGG GGAGAGTGTTGA (SEQ ID NO:65)

Fig. 82A

DIQMTQS PSSLSASVGDRVTI TCRA SQDIRYYLNW YQQK PGKAPKLLIY VA
 SSLQSGV PSRFSGSGSGTEFT LTVS SLQPEDFATY YCLQVYSTPRTFGQ GT
 KVEIKRT VAAPSVFIFPPSDE QLKSGTASVVCLLN NFYPREAKVQWKVD NA
 LQSGNSQ ESVTEQDSKDYSTYS LSSTLTL SKADYEK HKVYACEVTHQGLS SP
 VTKSFNRGEC (SEQ ID NO:66)

Fig. 82B

GACATCC AGATGACCCAGTCT CCATCTTCCCTGTC TGCA TCTGTAGGGG AC
 AGAGTCA CCATCAC TTGCAGG GCAA GTCAGGACAT TAGG TATTATTTAA AT
 TGGTATC AGCA GAAACCAGGA AAAG CTCCTAAGCT CCTGATCTATGTTG CA
 TCCAGTT TGCAAAG TGGGGTCCAT CAAGGTT CAG CGGCAGTGGATCTG GG
 ACAGAGT TCACTCTCACCGTC AGCAGCCTGCAGCC TGAAGATTTTGCGA CT
 TATTACT GTCTACAGGTTTAT AGTACCCCTCGGAC GTTCGGCCAAGGGA CC
 AAGGTGG AAATCAAAGGCGGT GGC GGGTCCGGTGG GGGTGGCTCCGGGG GC
 GGTGGCT CCGAGGTGCAGCTG GTGGAGTCTGGGGG CGGC TTGGCAAAGC CT
 GGGGGGT CCCTGAGACTCTCC TGC GCAGCCTCCGG GTTCAGGTTACCT TC
 AATAACT ACTACATGGACTGG GTCCGCCAGGCTCC AGGGCAGGGGCTGG AG
 TGGGTCT CACG TATTAGTAGT AGTGGTGATCCAC ATGGTACGCAGACT CC
 GTGAAGG GCAGATT CACCATC TCCAGAGAGAACGC CAAGAACACACTGT TT
 CTTCAA TGAACAGCCTGAGA GCTGAGGACACGGC TGTC TATTACTGTG CG
 AGCTTGA CTACAGGGTCTGAC TCCTGGGGCCAGGG AGTC CTGGTCAACCG TC
 TCCTCATGA (SEQ ID NO:67)

Fig. 83A

DIQMTQS PSSL SASVGDRV TI TCRA SQDIRYYL NWYQQKPGKAPKLLIY V
 ASSLQSG VPSR FSGSGSGTEF TLT VSSLQPEDFAT YYCLQVYSTPRTFG Q
 GTKVEIK GGGGSGGGGSGGGG SEVQLVESGGGLAK PGGS LRLSCAASGF R
 FTFNNYY MDWVRQAPGQGLEW VSRI SSSGDPTWYA DSVKGRFTISRENA K
 NTLFLQMNSLRAEDTAVYYCA SLTTGSDSWGQGVLT VTVSS*

(SEQ ID NO:68)

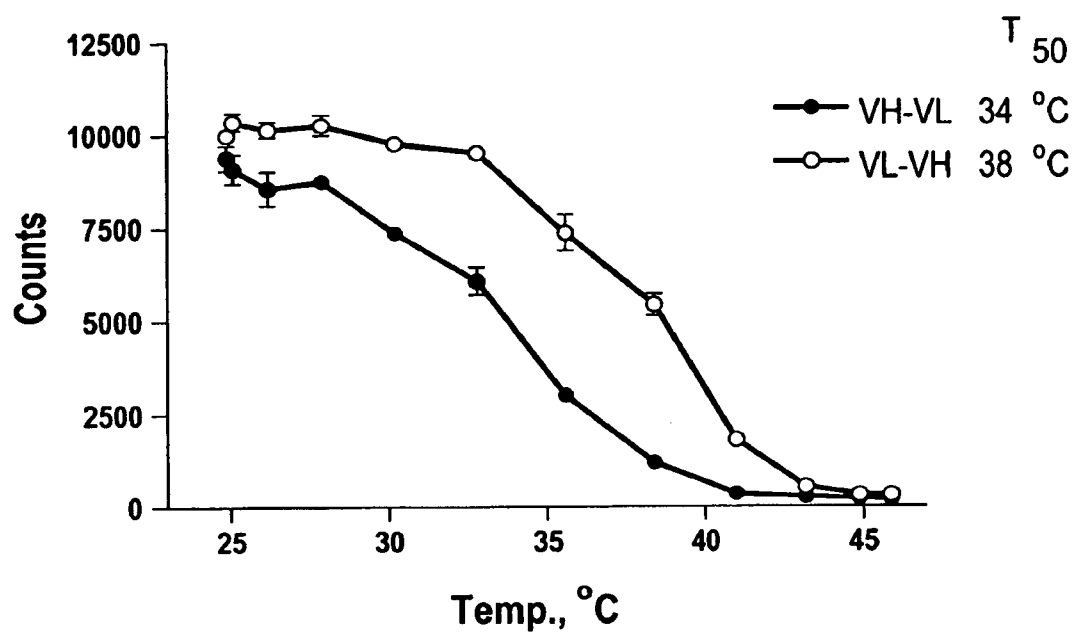
Fig. 83B

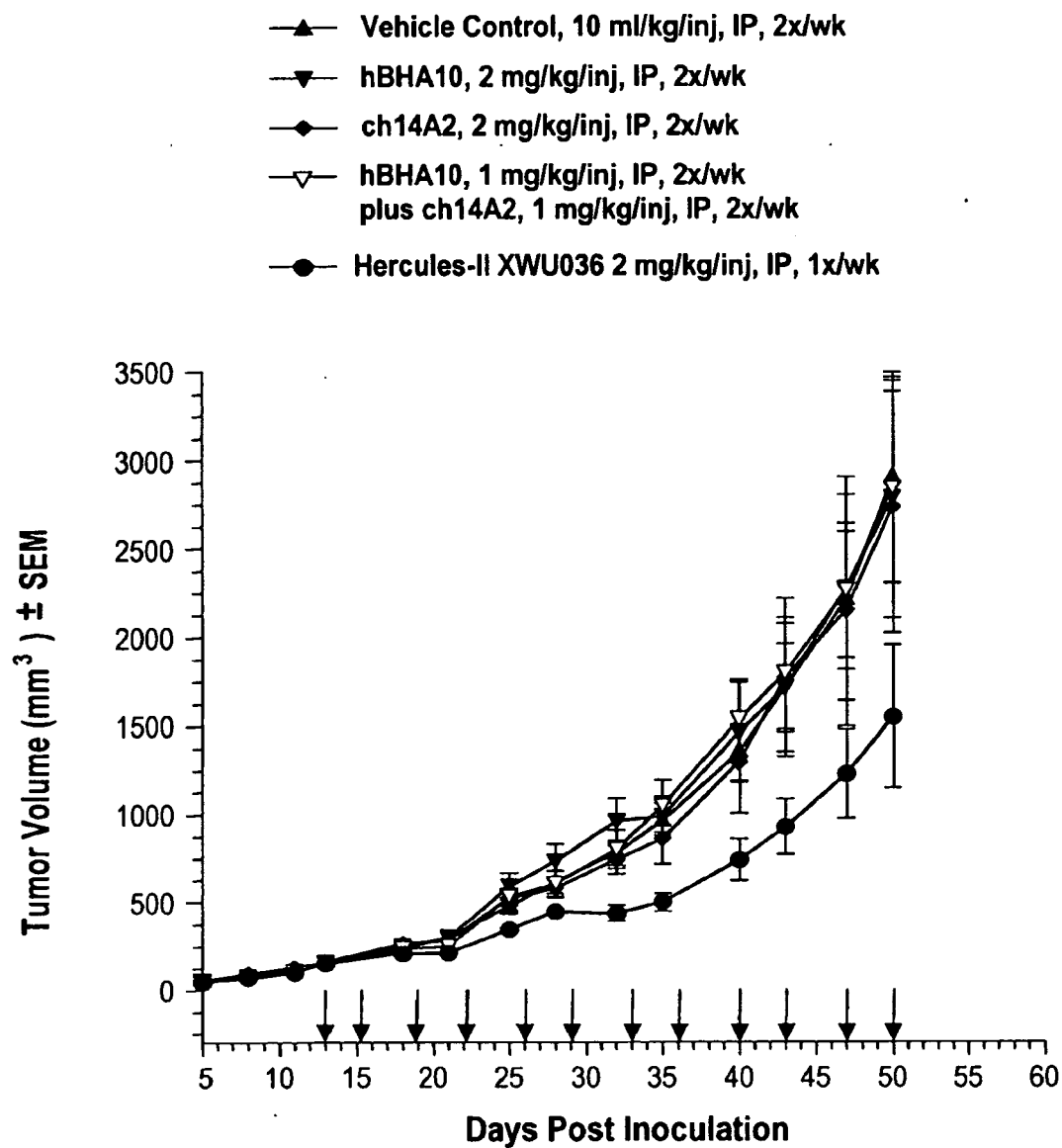
GAGGTGC AGCTGGTGGAGTCT GGGGGCGGCTTGGC AAAGCCTGGGGGGT CCCT
 GAGACTC TCCTGCGCAGCCTC CGGGTTCAGGTTCA CCTTCAATAACTAC TACA
 TGGACTG GGTC CGCCAGGCTC CAGGGCAGGGGCTG GAGTGGGTCTCACG TATT
 AGTAGTA GTGGTGA TCCCACA TGGTACGCAGACTC CGTGAAGGGCAGAT TCAC
 CATCTCC AGAGAGAACGCCAA GAACACA CTGTTTC TTCAAATGAACAGC CTGA
 GAGCTGA GGACACGGCTGTCT ATTA CTGTGCGAGC TTGA CTACAGGGTC TGAC
 TCCTGGG GCCAGGGAGTCCTG GTCA CCGTCTCCTC AGGCGGTGGCGGGT CCGG
 TGGGGGT GGCTCCGGGGGCGG TGGCTCCGACATCC AGATGACCCAGTCT CCAT
 CTTCCCT GTCTGCATCTGTAG GGGACAGAGTCACC ATCA CTTGCAGGGC AAGT
 CAGGACA TTAGGTATTATTTA AATTGGTATCAGCA GAAACCAGGAAAAG CTCC
 TAAGCTC CTGATCTATGTTGC ATCCAGTTTGCAAA GTGGGGTCCCATCA AGGT
 TCAGCGG CAGTGGATCTGGGA CAGAGTTCACCTC ACCGTCAGCAGCCT GCAG
 CCTGAAG ATTTTGCGACTTAT TACTGTCTACAGGT TTATAGTACCCCTC GGAC
 GTTCGGC CAAGGGACCAAGGT GGAAATCAAATGA (SEQ ID NO:69)

Fig. 84A

EVQLVES GGGLAKPGGSLRLS CAASGFRFTFNYY MDWVRQAPGQGLEW VSRI S
 SSGDPTW YADSVKGRFTISRE NAKNTLFLQMNSLR AEDTAVYYCASLTT GSDSW
 GQGVLVT VSSGGGSGGGGSG GGGSDIQMTQSPSS LSASVGDRVITTCRASQDI
 RYYLNWY QQKPGKAPKLLIYV ASSLQSGVPSRFSG SGSGTEFTLTVSSL QPEDF
 ATYYCLQ VYSTPRTFGQGTKVEIK*
 (SEQ ID NO:70)

Fig. 84B

*Fig. 85*

*Fig. 86*

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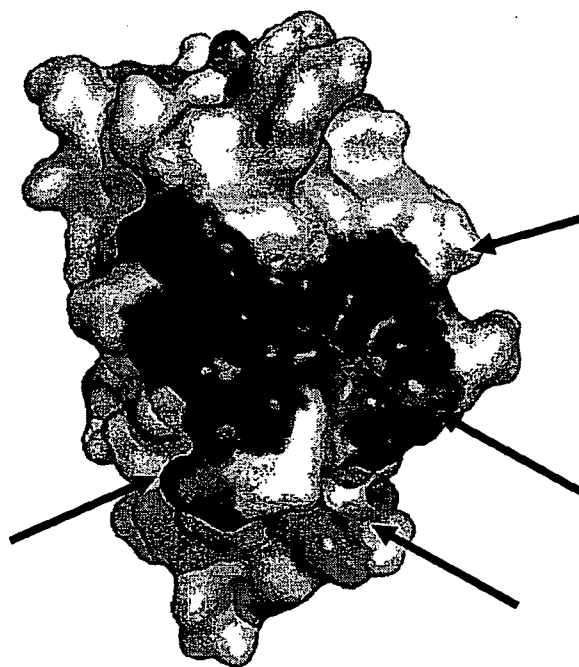


Fig. 87A



Fig. 87B

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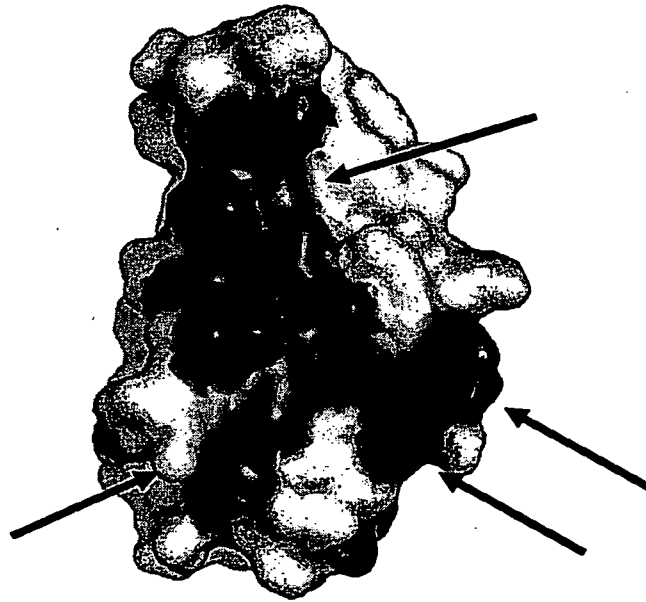


Fig. 88A



Fig. 88B

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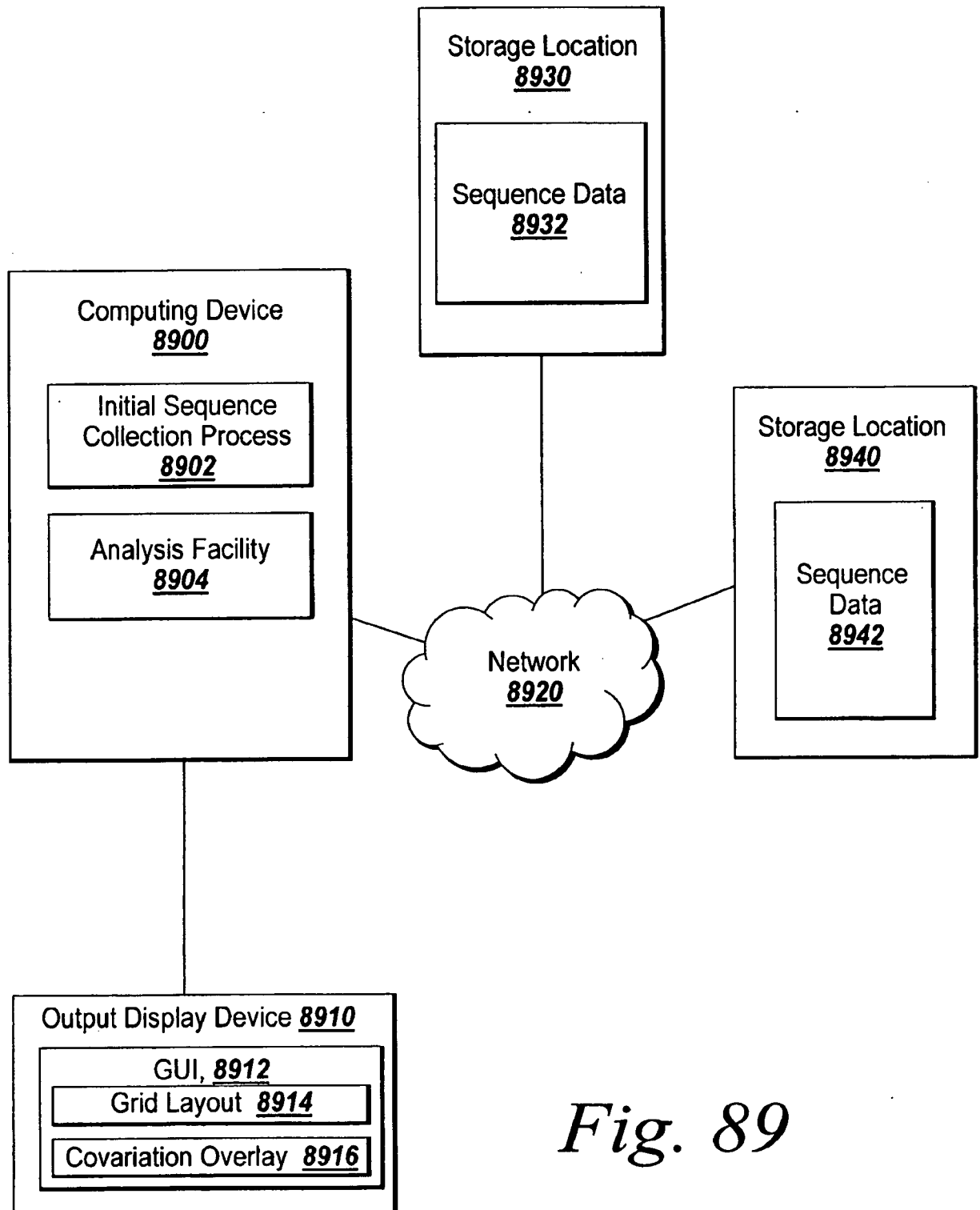
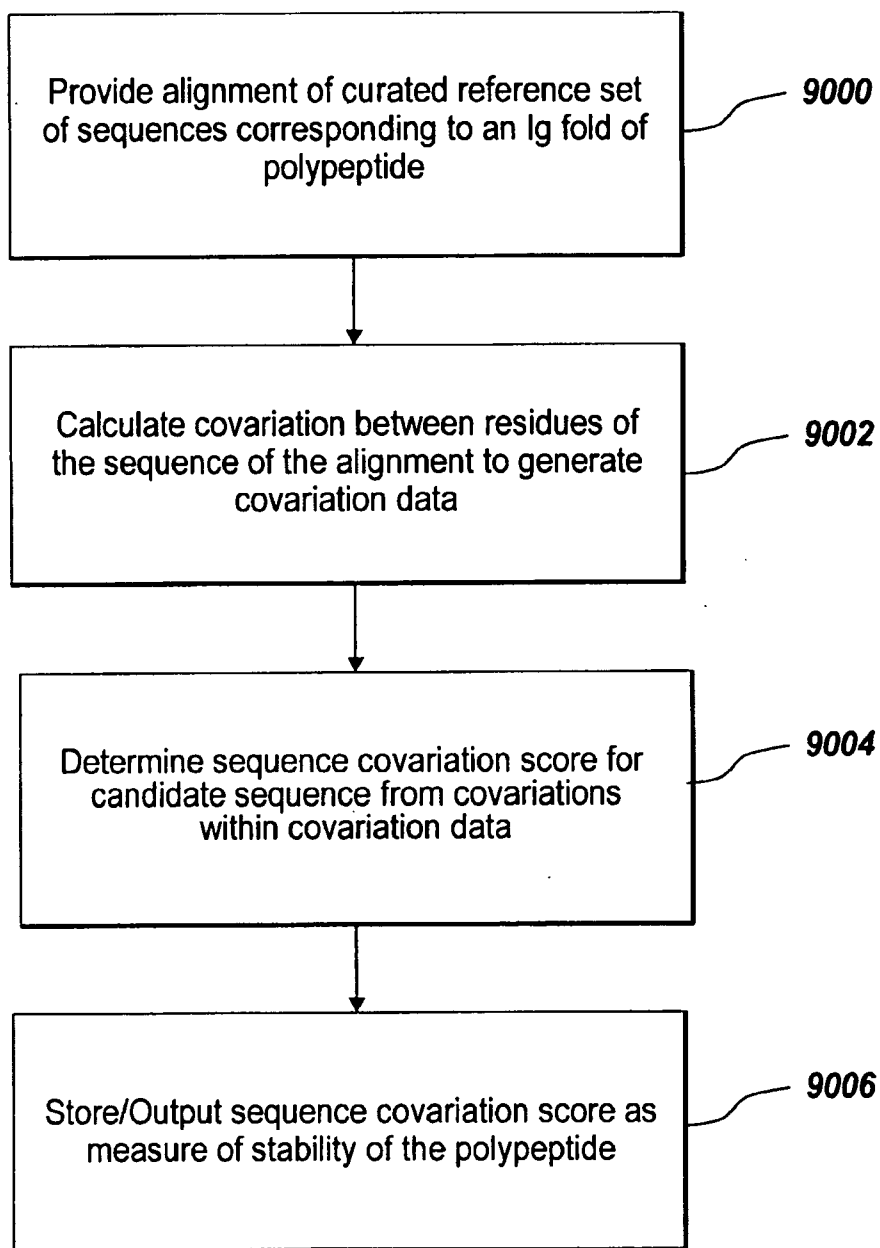
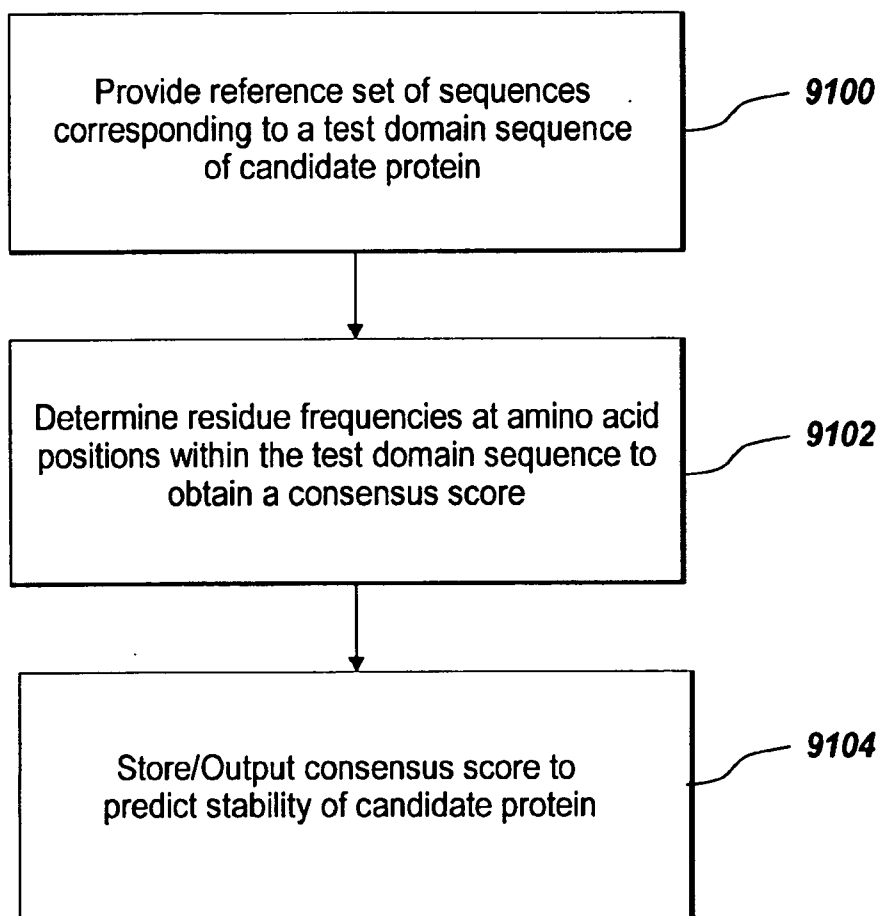
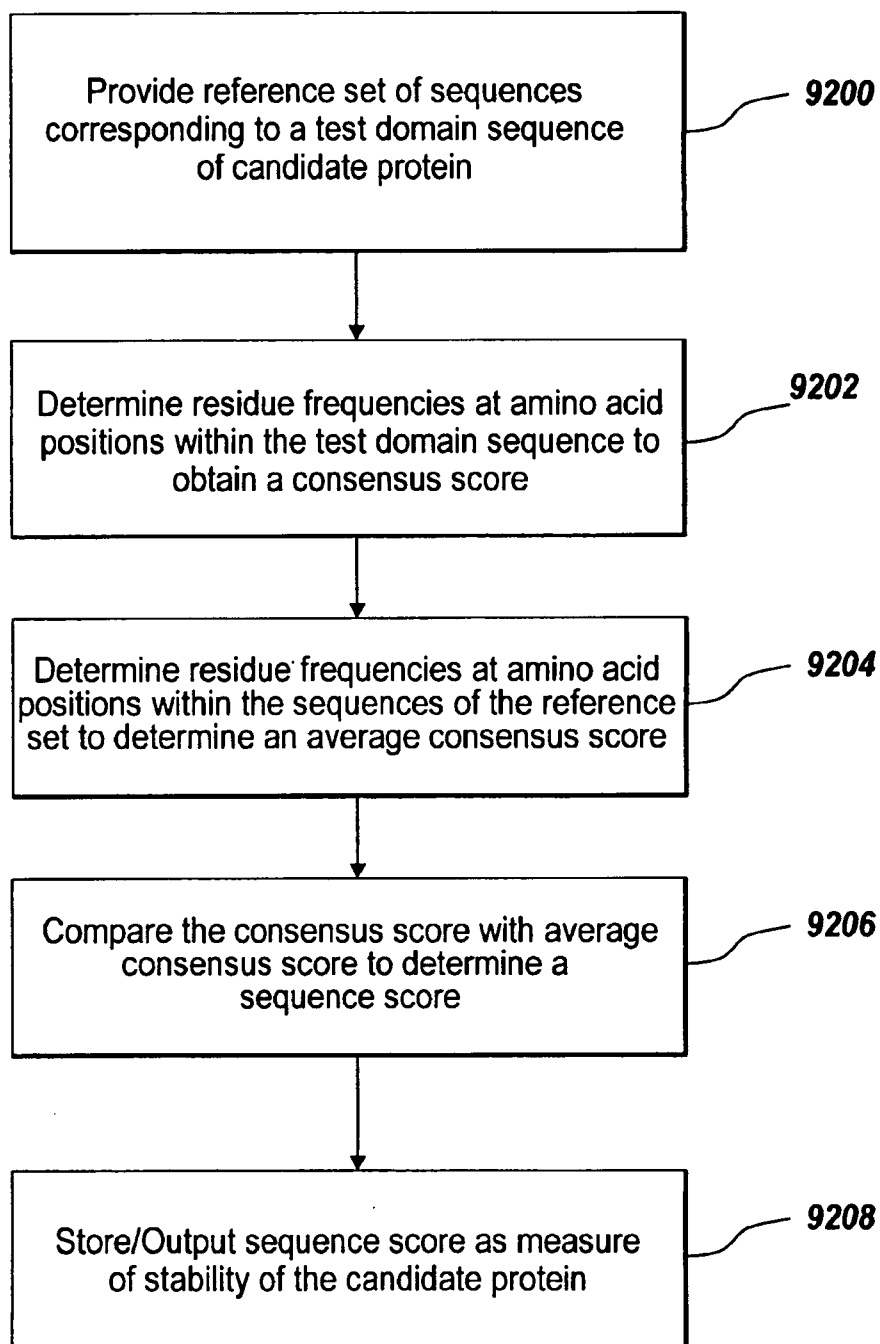
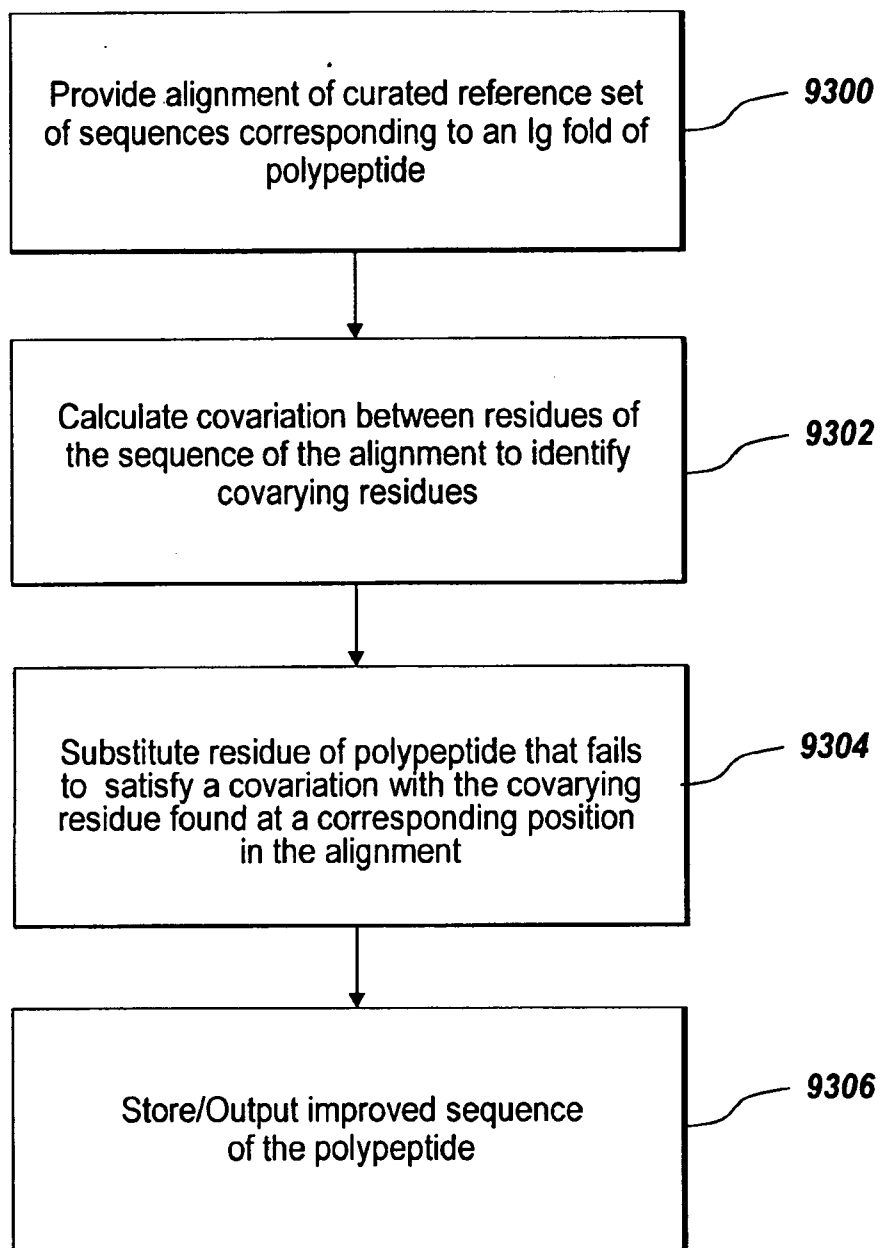


Fig. 89

*Fig. 90*

*Fig. 91*

*Fig. 92*

*Fig. 93*

A

MKKLLFAIPLVVPFYSHSQVQLVQSGAEVKKPGSSVKVSCKASGYTFT
 TYYLHWVRQAPGQGLEWMGWIYPGNVHAQYNEKFKGRVTITADKSTST
 AYMELSSLRSED TAVYYCARSWEGFPYWGQGTTVTVSS**GGGGSGGGGS**
GGGGSGGGGSDIQMTQSPSSLSASVGDRVTITCKASQNVGINVAWYQQ
 KPGKAPK**S**LISSASYRYSQVPSRFSGSGSGTDFTLTISLQPEDFATY
 FCQQYDTPFTFGQGTKVEIKDDDDK**SFLEQKLISEEDLNS**AVDHHHH
 HH* (SEQ ID NO: 3)

B

MKKLLFAIPLVVPFYSHSQVQLVQSGAEVKKPGSSVKVSCKASGYTFT
 TYYLHWVRQAPGQGLEWMGWIYPGN**G**HAQYNEKFKGRVTITADKSTST
 AYMELSSLRSED TAVYYCARSWEGFPYWGQGTTVTVSS**GGGGSGGGGS**
GGGGSGGGGSDIQMTQSPSSLSASVGDRVTITCKASQNVGINVAWYQQ
 KPGKAPKSLISSASYRYSQVPSRFSGSGSGTDFTLTISLQPEDFATY
 FCQQYDTPFTFGQGTKVEIKDDDDK**SFLEQKLISEEDLNS**AVDHHHH
 HH* (SEQ ID NO: 4)

Fig. 94