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FIG. 1

Name	CDR1	CDR2	CDR3
BCMA heavy chain-only CDR sequences	GFTFSSNA (SEQ ID NO: 1)	ISGSGDYT (SEQ ID NO: 2)	AKEVPGGPLVDFDS (SEQ ID NO: 3)
La protein, v. 1, heavy chain CDR sequences	GYTFTHYY (SEQ ID NO: 4)	VNPSNGGT (SEQ ID NO: 5)	ARSEYDYGLGFAY (SEQ ID NO: 6)
La protein, v. 2, heavy chain CDR sequences	GYAFTHYY (SEQ ID NO: 7)	VNPSNGGT (SEQ ID NO: 5)	TRSEYDYGLGFAY (SEQ ID NO: 8)
La protein light chain CDR sequences	QSLNSRTPKNY (SEQ ID NO: 9)	WAS (SEQ ID NO: 10)	KQSYNLLT (SEQ ID NO: 11)

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FIG. 2

Name	Sequence
BCMA VH, monovalent	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVSAIS GSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKEVPGGP LVDFDSRGQGTLVTVSS (SEQ ID NO: 12)
BCMA VHH, bivalent, GS ₂ linker	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVSAIS GSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKEVPGGP LVDFDSRGQGTLVTVSSGGGGSGGGGSQVQLVESGGGLVQPGGSLRLSCVAS GFTFSSNAMSWVRQAPGKGLEWVSAISGSGDYTHYSDSVKGRFTISRDN SKNT LYLQMNSLRAEDTAVYYCAKEVPGGPLVDFDSRGQGTLVTVSS (SEQ ID NO: 13)

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FIG. 3

Name	Sequence
La protein VH, v. 1	QVQLVQSGAEVKKPGASVKVSCKASGYTFTHYYIYWVRQAPGQGLEWMGG VNPSNGGTHFNEKFKSRVTMTRDTSISTAYMELSRLRSDDTAVYYCARSEYD YGLGFAYWGQGLVTVSSASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPE PVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGKTYTCNVDHK PSNTKVDKRV (SEQ ID NO: 14)
La protein VH, v. 2	QVQLVQSGAEVKKPGASVKVSCKASGYAFTHYYIYWVRQAPGQGLEWIGGV NPSNGGTHFNEKFQGRVTMTRDTSISTAYMELSRLRSDDTAVYYCTRSEYDY GLGFAYASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTS GVHTFPAVLQSSGLYSLSSVTVPSSSLGKTYTCNVDHKPSNTKVDKRV (SEQ ID NO: 15)
La protein VL, v. 1	DIVMTQSPDSLAVSLGERATINCKSSQSLLNSRTPKKNYLAWYQQKPGQPPKLLI YWASTRKSQVPDRFSGSGSGTDFTLTISSLQAEDVAVYYCKQSYNLLTFGGGT KVEIK (SEQ ID NO: 16)
La protein VL, v. 2	DIVMTQSPDSLAVSLGERATINCKSSQSLLNSRTPKKNYLAWYQQKPGQPPKLLI YWASTRESQVPDRFSGSGSGTDFTLTISSLQAEDVAVYYCKQSYNLLTFGQGT KVEIK (SEQ ID NO: 17)

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FIG. 4

Name	Sequence
La protein, full length HC, v. 1, variant IgG4 (S228P, F234A, L235A), knob (T366W)	QVQLVQSGAEVKKPGASVKVSCKASGYTFTHYYIYWVRQAPGQGLEWM GGVNPSNGGTHFNEKFKSRVTMTRDTSISTAYMELSRLRSDDTAVYYCA RSEYDYGLGFAYWGQGLTVTVSSASTKGPSVFPLAPCSRSTSESTAALGC LVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGT KTYTCNVDPKPSNTKVDKRVESKYGPPCP P CPAPE AA GGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQF NSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREP QVYTLPPSQEEMTKNQVSL W CLVKGFYPSDIAVEWESNGQPENNYKTT PPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMEALHNHYTQKSLSLS LGK (SEQ ID NO: 18)
La protein, full length HC, v. 1, variant IgG4 (S228P, F234A, L235A), hole (T366S, L368A, Y407V)	QVQLVQSGAEVKKPGASVKVSCKASGYTFTHYYIYWVRQAPGQGLEWM GGVNPSNGGTHFNEKFKSRVTMTRDTSISTAYMELSRLRSDDTAVYYCA RSEYDYGLGFAYWGQGLTVTVSSASTKGPSVFPLAPCSRSTSESTAALGC LVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGT KTYTCNVDPKPSNTKVDKRVESKYGPPCP P CPAPE AA GGPSVFLFPPKP KDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQF NSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREP QVYTLPPSQEEMTKNQVSL ScA VKGFYPSDIAVEWESNGQPENNYKTTTP PVLDSDGSFFL V SRLTVDKSRWQEGNVFSCSVMEALHNHYTQKSLSLS LGK (SEQ ID NO: 19)
La protein, full length LC, v. 1	DIVMTQSPDSLAVSLGERATINCKSSQSLLSRTPKNYLAWYQQKPGQPP KLLIYWASTRKSQVDPDRFSGSGSGTDFTLTISSLQAEDVAVYYCKQSYNL LTFGGGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKV QWKVDNALQSGNSQESVTEQDSKDSTYLSSTLTLSKADYEKHKVYACE VTHQGLSPVTKSFNRGEC (SEQ ID NO: 20)
La protein, full length HC, v. 2, variant IgG4 (S228P, F234A, L235A), knob (T366W)	QVQLVQSGAEVKKPGASVKVSCKASGYAFTHYYIYWVRQAPGQGLEWI GGVNPSNGGTHFNEKQGRVTMTRDTSISTAYMELSRLRSDDTAVYYCT RSEYDYGLGFAYASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVT VSWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGKTYTCNVDPK PSNTKVDKRVESKYGPPCP P CPAPE AA GGPSVFLFPPKPKDTLMISRTPEV TCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLT VLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEE MTKNQVSL W CLVKGFYPSDIAVEWESNGQPENNYKTTTPPVLDSDGSFF LYSRLTVDKSRWQEGNVFSCSVMEALHNHYTQKSLSLSLGK (SEQ ID NO: 21)

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FIG. 4, cont.

Name	Sequence
La protein, full length HC, v. 2, variant IgG4 (S228P, F234A, L235A), hole (T366S, L368A, Y407V)	QVQLVQSGAEVKKPGASVKVSCKASGYAFTHYYIWVRQAPGQGLEWI GGVNPSNGGTHFNEKFQGRVTMTRDTSISTAYMELSRRLSDDTAVYYCT RSEYDYGLGFAYASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTV SWNSGALTSGVHTFPAVLQSSGLYSLSSVTVPSSSLGKTYTCNVDHKP SNTKVDKRVESKYGPPCP <u>P</u> CPAPE <u>AA</u> GGPSVFLFPPKPKDTLMISRTPEV TCVVVDVSDQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLT VLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEE MTKNQVSL <u>S</u> <u>A</u> VKGFYPSDIAVEWESNGQPENNYKTPPVLDSDGSFFL <u>V</u> SRLTVDKSRWQEGNVFSCSVMEALHNHYTQKSLSLSLGK (SEQ ID NO: 22)
La protein, full length LC, v. 2	DIVMTQSPDSLAVSLGERATINCKSSQSLNSRTPKNYLAWYQQKPGQPP KLLIWASTRESGVPRDFSGSGGTDFLTISLQAEDVAVYYCKQSYNLL TFGQGTKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQ WKVDNALQSGNSQESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEV THQGLSPVTKSFNRGEC (SEQ ID NO: 23)

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FIG. 5

Name	Sequence
BCMA monovalent HCO HC, variant IgG4 (S228P, F234A, L235A), hole (T366S, L368A, Y407V)	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVS AISGSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKE VPGGPLVDFDSRGQGT LVTVSSESKYGPPCP P CPAPE AA GGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREE QFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPR EPQVYTLPPSQEEMTKNQVSL Sc A VKGFYPSDIAVEWESNGQPENNYKT TPPVLDSDGSFFL V SR LTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLS LSLGK (SEQ ID NO: 24)
BCMA monovalent HCO HC, variant IgG4 (S228P, F234A, L235A) knob (T366W)	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVS AISGSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKE VPGGPLVDFDSRGQGT LVTVSSESKYGPPCP P CPAPE AA GGPSVFLFPP KPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREE QFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPR EPQVYTLPPSQEEMTKNQVSL W CLVKGFYPSDIAVEWESNGQPENNYK TTPPVLDSDGSFFLYSR LTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLS LSLGK (SEQ ID NO: 25)
BCMA bivalent HCO, GS ₂ linker, HC, variant IgG4 (S228P, F234A, L235A), hole (T366S, L368A, Y407V)	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVS AISGSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKE VPGGPLVDFDSRGQGT LVTSSGGGGSGGGGSQVQLVESGGGLVQPGGS LRLSCVASGFTFSSNAMSWVRQAPGKGLEWVSAISGSGDYTHYSDSVKG RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKEVPGGPLVDFDSRGQGT LVTVSSESKYGPPCP P CPAPE AA GGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLH QDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTK NQVSL Sc A VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL V SR LTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLSLSLGK (SEQ ID NO: 26)
BCMA bivalent HCO, GS ₂ linker, HC, variant IgG4 (S228P, F234A, L235A), knob (T366W)	QVQLVESGGGLVQPGGSLRLSCVASGFTFSSNAMSWVRQAPGKGLEWVS AISGSGDYTHYSDSVKGRFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKE VPGGPLVDFDSRGQGT LVTSSGGGGSGGGGSQVQLVESGGGLVQPGGS LRLSCVASGFTFSSNAMSWVRQAPGKGLEWVSAISGSGDYTHYSDSVKG RFTISRDN SKNTLYLQMNSLRAEDTAVYYCAKEVPGGPLVDFDSRGQGT LVTVSSESKYGPPCP P CPAPE AA GGPSVFLFPPKPKDTLMISRTPEVTCV VVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLH QDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTK NQVSL W CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSR LTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLSLSLGK (SEQ ID NO: 27)

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FIG. 6

Name	Sequence
Human IgG4 WT (Fc)	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGKTYTCNVDPKPSNTKVDKRVESKYG PPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSDQEDPEVQFN WYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIA VEWESNGQPENNYKTTTPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSV HEALHNHYTQKSLSLGLK (SEQ ID NO: 28)
Human IgG4 knob (T366W, numbering per IgG1)	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGKTYTCNVDPKPSNTKVDKRVESKYG PPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSDQEDPEVQFN WYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSL W CLVKGFYPSD IAVEWESNGQPENNYKTTTPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLSLGLK (SEQ ID NO: 29)
Human IgG4 hole (T366S, L368A, Y407V, numbering per IgG1)	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHT FPAVLQSSGLYSLSSVVTVPSSSLGKTYTCNVDPKPSNTKVDKRVESKYG PPCPSCPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSDQEDPEVQFN WYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSN KGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSL SCA VKGFYPSDI AVEWESNGQPENNYKTTTPVLDSDGSFFL V SRLTVDKSRWQEGNVFSCSV MHEALHNHYTQKSLSLGLK (SEQ ID NO: 30)
Human kappa light chain constant region sequence (Uniprot P01834)	RTVAAPSVEFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNALQSGN SQESVTEQDSKSTYLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSF NRGEC (SEQ ID NO: 31)
Human lambda light chain constant region sequence (Uniprot P0CG04)	GQPKANPTVTLFPPSSEELQANKATLVCLISDFYPGAVTVAWKADGSPVKA GVETTKPSKQSNKYAASSYLSLTPEQWKSHRSYSCQVTHEGSTVEKTVAP TECS (SEQ ID NO: 41)
WT IgG4 HC hinge	ESKYGPPCPSCPA (SEQ ID NO: 32)
HC IgG4 hinge S228P	ESKYGPPCP P CPA (SEQ ID NO: 33)

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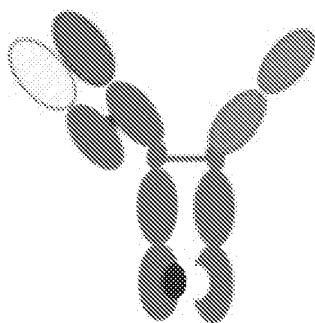
FIG. 6, cont.

Name	Sequence
GS4 linker	GGGGS (SEQ ID NO: 34)
GS4 ₂ linker sequence	GGGSGGGGS (SEQ ID NO: 35)
La protein epitope 1	KPLPEVTDEY (SEQ ID NO: 42)
La protein epitope 2	VEKEALKKIIEDQQESLNKW (SEQ ID NO: 43)
Human IgG4 CH2 domain, wild type	APEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAK (SEQ ID NO: 36)
Human IgG4 CH2 domain, silenced (F234A, L235A)	APE <u>AA</u> GGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVDGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKC KVSNGLPSSIEKTISKAK (SEQ ID NO: 37)
Human IgG4 CH3 domain, wild type	GQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLGLGK (SEQ ID NO: 38)
Human IgG4 CH3 domain, knob (T366W)	GQPREPQVYTLPPSQEEMTKNQVSL <u>W</u> CLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLGLGK (SEQ ID NO: 39)
Human IgG4 CH3 domain, hole (T366S, L368A, Y407V)	GQPREPQVYTLPPSQEEMTKNQVSL <u>SCA</u> VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFL <u>V</u> SRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLGLGK (SEQ ID NO: 40)

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FIG. 7

A.



B.

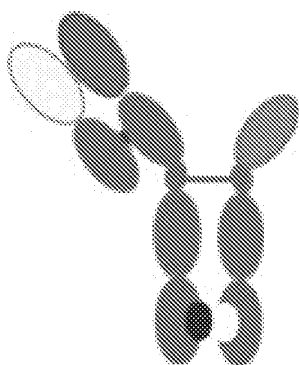
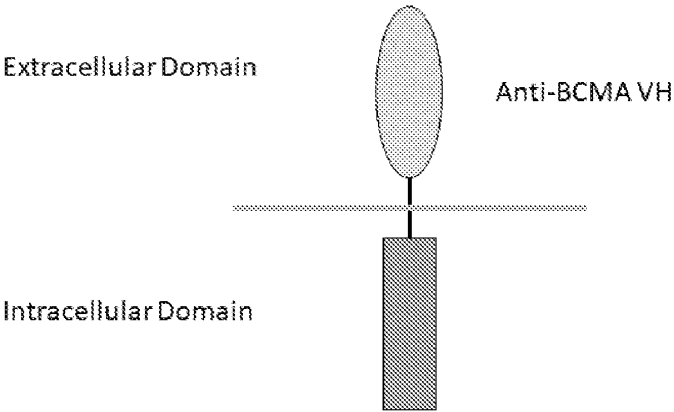


FIG. 8

A.



B.

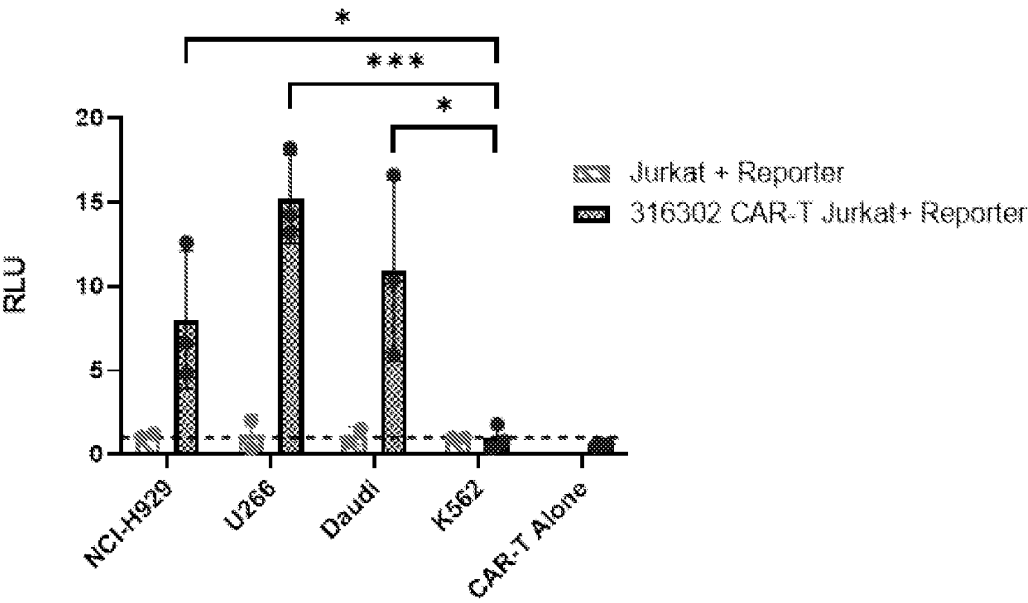
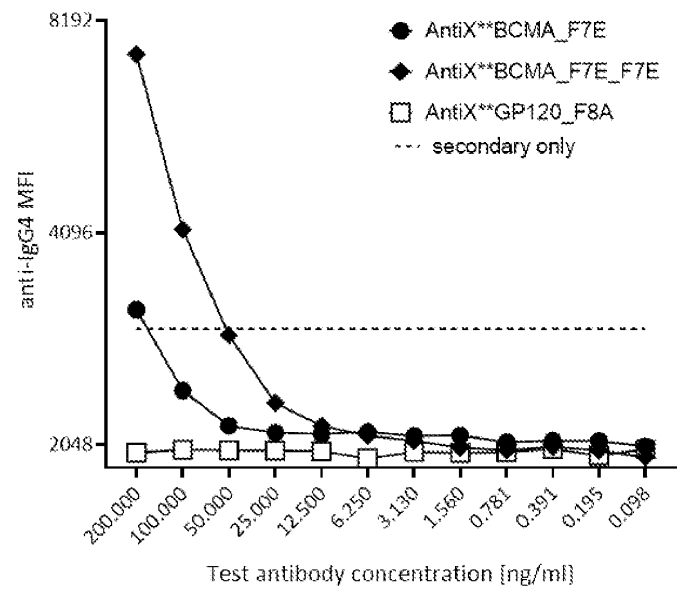


FIG. 9

A.



B.

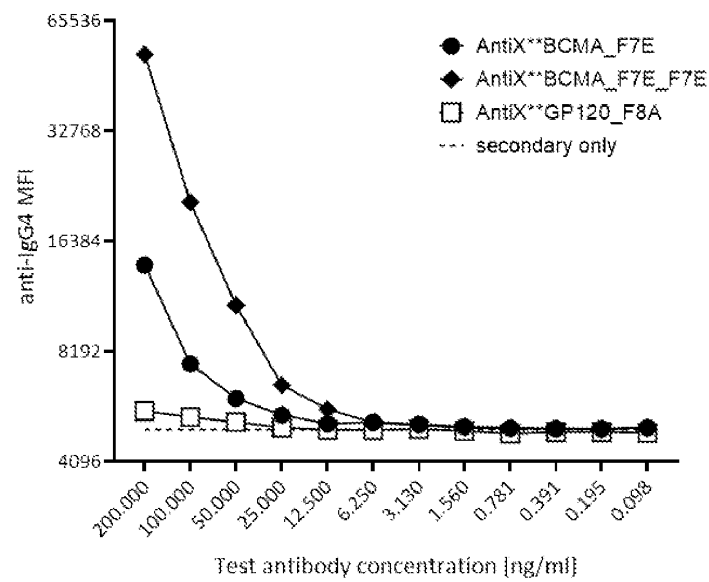
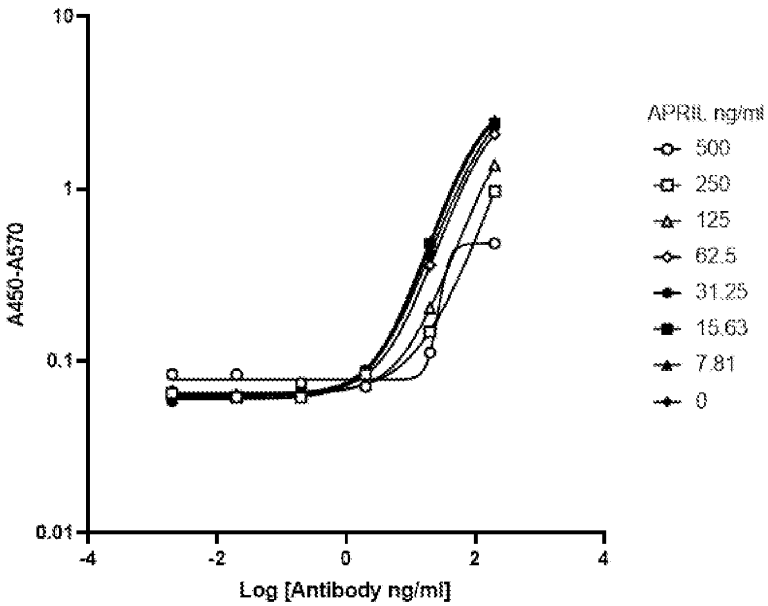
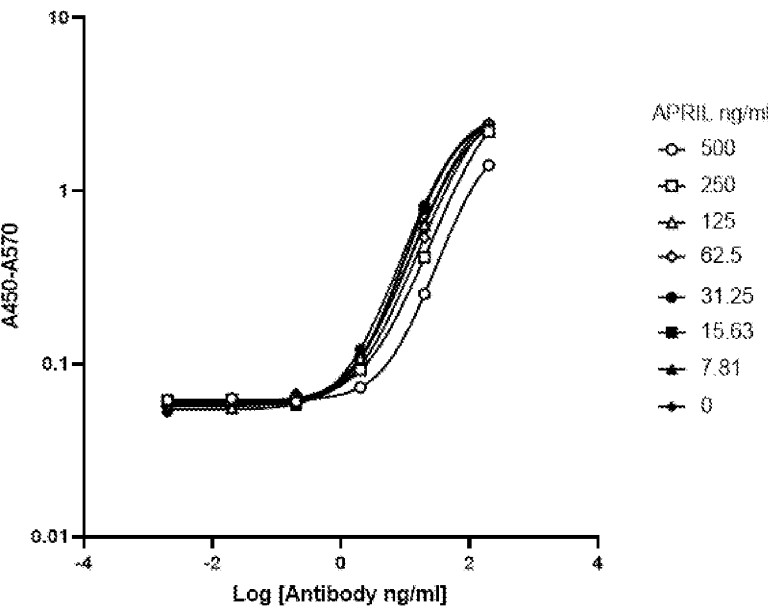


FIG. 10

A.



B.



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FIG. 10, Con't.

C.

