

Numbering according to Kabat (VH)	Numbering according to Chotia (VH)	Aho numbering	IMGT
11	11	12	12
14	14	15	15
41	41	48	46
42	42	49	47
87	87	101	99
89	89	103	101
108	108	144	---
110	110	146	---
112	112	148	---
Source: http://www.bioc.uzh.ch/plueckthun/antibody/Numbering/NumFrame.html			

FIG.1

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SEQ ID NO	Description	Sequence
1	WO 2008/071447, SEQ ID NO:348 (102C12)	EVQLVESGGGLVQAGGSLRLSCAASGSIASIHAMGWFRQAP GKREFVAVITWSGGITYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAIYYCAGDKHQSSWYDYWGQGTQVTVSS
2	referenceA	EVQLVESGGGLVQAGGSLRLSCAASGSIASIHAMGWFRQAP GKREFVAVITWSGGITYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAIYYCAGDKHQSSWYDYWGQGT LTVTVSS
3	CDR1 (Kabat)	IHAMG
4	CDR2 (Kabat)	VITWSGGITYYADSVKG
5	CDR3 (Kabat/Abm)	DKHQSSWYDY
6	CDR1 (Abm)	GSIASIHAMG
7	CDR2 (Abm)	VITWSGGITYY
8	CDR3 (Kabat/Abm)	DKHQSSWYDY
9	Reference A (89T)	EVQLVESGGGLVQAGGSLRLSCAASGSIASIHAMGWFRQAP GKREFVAVITWSGGITYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTATYYCAGDKHQSSWYDYWGQGT LTVTVSS
10	Reference A (11V + 110K)	EVQLVESGGGLVQAGGSLRLSCAASGSIASIHAMGWFRQAP GKREFVAVITWSGGITYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTATYYCAGDKHQSSWYDYWGQGT LKVSS
11	Reference A (11V + 110Q)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGTQVQVSS
12	Reference A (11V + 112K)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGT LTVVKS
13	Reference A (11V + 112Q)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGT LTVVQS

FIG.2-1

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SEQ ID NO	Description	Sequence
14	Reference A (89L + 110K)	EVQLVESGGGLVQAGGSLRLSCAASGSIASIHAMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVKVSS
15	Reference A (89L + 110Q)	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVQVSS
16	Reference A (89L + 112K)	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVKS
17	Reference A (11V + 112Q)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVQS
18	Reference A (11V + 89L)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVSS
19	Reference A (11V + 89L + 110K)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVKVSS
20	Reference A (11V + 89L + 110Q)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVQVSS
21	Reference A (11V + 89L + 112K)	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVKS
22	Reference A (11V + 89L + 112Q)	EVQLVESGGGVVQPGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLRPEDTALYYCAAEMSGISGWDYWGQGTLVTVQS
23	PD1 binder/binding moiety	EVQLVESGGGVVQPGGSLRLSCAASGGTFSFYGMGWFRQAP GKEREFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLRPEDTALYYCAAEMSGISGWDYWGQGTLVTVSS

FIG.2-2

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SEQ ID NO	Description	Sequence
24	PD1 binder/binding moiety	DVQLVESGGGVVQPGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLRPEDTALYYCAAEMSGISGWDYWGQGTLVTVSS
25	Reference A (89T)+ A	DVQLVESGGGVVQPGGSLRLSCAASGGTFSFYGMGWFRQAP GKEREFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLRPEDTALYYCAAEMSGISGWDYWGQGTLVTSSA
26	Reference A (11V + 110K)+ A	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTATYYCAAEMSGISGWDYWGQGTLVKVSSA
27	Reference A (11V + 110Q)+ A	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGTLVQVSSA
28	Reference A (11V + 112K)+ A	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGTLVTVKSA
29	Reference A (11V + 112Q)+ A	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGTLVTVQSA
30	Reference A (89L + 110K)+ A	EVQLVESGGGVVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTAVYYCAAEMSGISGWDYWGQGTLVKVSSA
31	Reference A (89L + 110Q)+ A	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVQVSSA
32	Reference A (89L + 112K)+ A	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVKSA
33	Reference A (89L + 112Q)+A	EVQLVESGGGLVQAGGSLRLSCAASGGTFSFYGMGWFRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVQSA

FIG.2-3

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SEQ ID NO	Description	Sequence
34	Reference A (11V + 89L)+A	EVQLVESGGGLVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVSSA
35	Reference A (11V + 89L + 110K)+ A	EVQLVESGGGVVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVKVSSA
36	Reference A (11V + 89L + 110Q)+ A	EVQLVESGGGVVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVQVSSA
37	Reference A (11V + 89L + 112K)+ A	EVQLVESGGGVVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVKSA
38	Reference A (11V + 89L + 112Q)+A	EVQLVESGGGVVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVQSA
39	PD1 binder/binding moiety	EVQLVESGGGVVQAGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLKPEDTALYYCAAEMSGISGWDYWGQGTLVTVSSA
40	PD1 binder/binding moiety	EVQLVESGGGVVQPGGSLRLSCAASGDTFSFYGMGWFRRQAP GKEQEFVADIRTSAGRTYYADSVKGRFTISRDNKNTVYLQ MNSLRPEDTALYYCAAEMSGISGWDYWGQGTLVTVSSA

FIG.2-4

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SEQ ID NO	Description	Sequence
41	HIS6-FLAG3 tag	HHHHHHGAADYKDHDGDYKDHDIDYKDDDDKGAA
42	C-terminal end	VTVKS
43	C-terminal end	VTVQS
44	C-terminal end	VKVSS
45	C-terminal end	VQVSS
46	C-terminal end	VTVKSX(n)
47	C-terminal end	VTVQSX(n)
48	C-terminal end	VKVSSX(n)
49	C-terminal end	VQVSSX(n)
50	C-terminal end	VTVKSA
51	C-terminal end	VTVQSA
52	C-terminal end	VKVSSA
53	C-terminal end	VQVSSA
54	C-terminal end	VTVSS
55	C-terminal end	VTVSSX(n)
56	C-terminal end	VTVSSA

FIG.2-5

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		20		40		60	
SEQIDNO:1	EVQLVESGGG	LVQAGGSLRL	SCAASGSIAS	IHAMGWFRQA	PGKEREFVAV	ITWSGGITYY	60
SEQIDNO:2							60
SEQIDNO:9							60
SEQIDNO:10		V.....					60
SEQIDNO:11		V.....					60
SEQIDNO:12		V.....					60
SEQIDNO:13		V.....					60
SEQIDNO:14							60
SEQIDNO:15							60
SEQIDNO:16							60
SEQIDNO:17							60
SEQIDNO:18		V.....					60
SEQIDNO:19		V.....					60
SEQIDNO:20		V.....					60
SEQIDNO:21		V.....					60
SEQIDNO:22		V.....					60
SEQIDNO:23		V..P.....					60
SEQIDNO:24							60
SEQIDNO:25		V.....					60
SEQIDNO:26		V.....					60
SEQIDNO:27		V.....					60
SEQIDNO:28		V.....					60
SEQIDNO:29							60
SEQIDNO:30							60
SEQIDNO:31							60
SEQIDNO:32							60
SEQIDNO:33		V.....					60
SEQIDNO:34		V.....					60
SEQIDNO:35		V.....					60
SEQIDNO:36		V.....					60
SEQIDNO:37		V.....					60
SEQIDNO:38		V..P.....					60

FIG.3A

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		80		100		120	
SEQIDNO:1	ADSVKGRFTI	SRDNAKNTVY	LQMNLSKPED	TAIYYCAGDK	HQSSWYDYWG	QGTQVTVSS-	119
SEQIDNO:2						...L....-	119
SEQIDNO:9			..T.....			...L....-	119
SEQIDNO:10						...L.K...-	119
SEQIDNO:11						...L.Q...-	119
SEQIDNO:12						...L...K.-	119
SEQIDNO:13						...L...Q.-	119
SEQIDNO:14			..V.....			...L.K...-	119
SEQIDNO:15			..V.....			...L.Q...-	119
SEQIDNO:16			..V.....			...L...K.-	119
SEQIDNO:17			..V.....			...L...Q.-	119
SEQIDNO:18			..V.....			...L....-	119
SEQIDNO:19			..V.....			...L.K...-	119
SEQIDNO:20			..V.....			...L.Q...-	119
SEQIDNO:21			..V.....			...L...K.-	119
SEQIDNO:22			..V.....			...L...Q.-	119
SEQIDNO:23	S.....	R...	..L.....			...L....-	119
SEQIDNO:24			..T.....			...L....A	120
SEQIDNO:25						...L.K...A	120
SEQIDNO:26						...L.Q...A	120
SEQIDNO:27						...L...KA	120
SEQIDNO:28						...L...QA	120
SEQIDNO:29			..V.....			...L.K...A	120
SEQIDNO:30			..V.....			...L.Q...A	120
SEQIDNO:31			..V.....			...L...KA	120
SEQIDNO:32			..V.....			...L...QA	120
SEQIDNO:33			..V.....			...L....A	120
SEQIDNO:34			..V.....			...L.K...A	120
SEQIDNO:35			..V.....			...L.Q...A	120
SEQIDNO:36			..V.....			...L...KA	120
SEQIDNO:37			..V.....			...L...QA	120
SEQIDNO:38	S.....	R...	..L.....			...L....A	120

FIG.3B

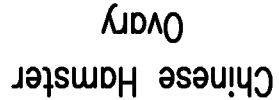
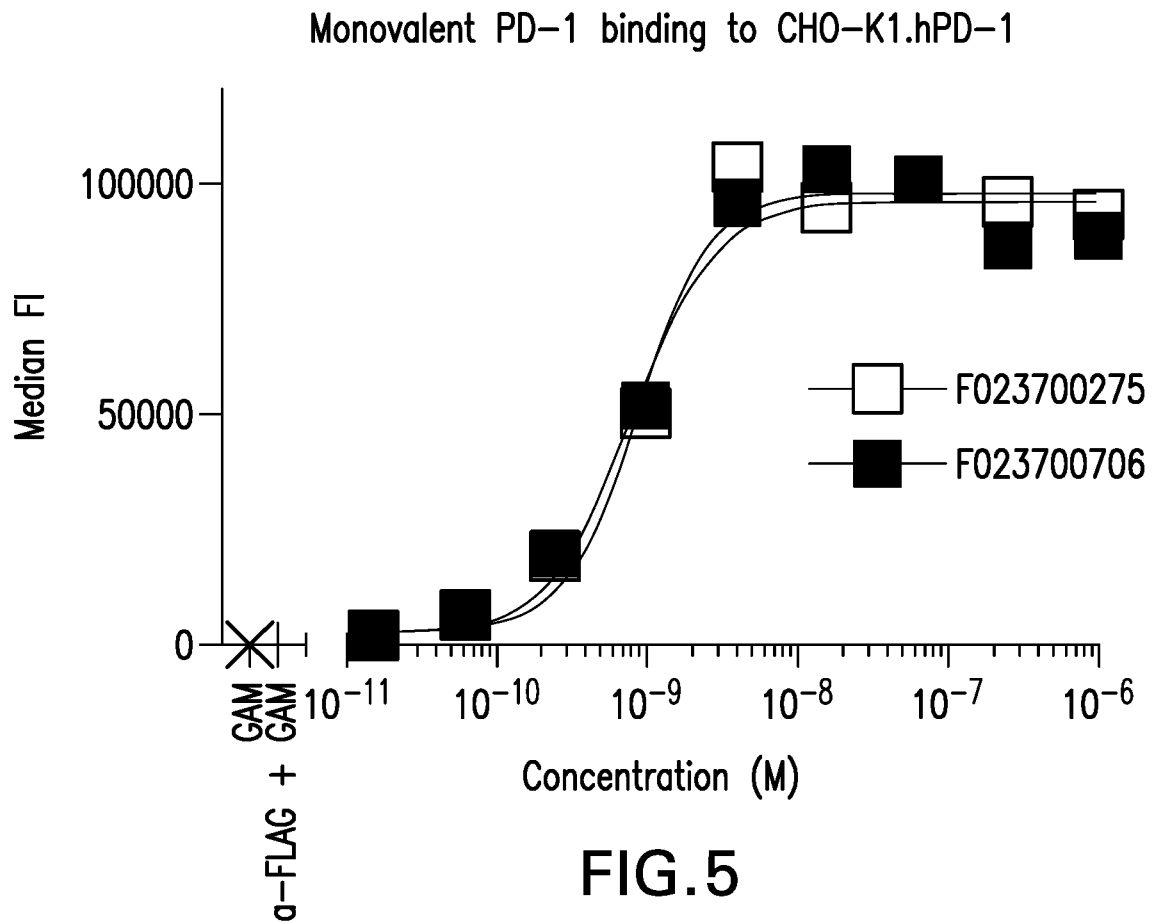


FIG. 4

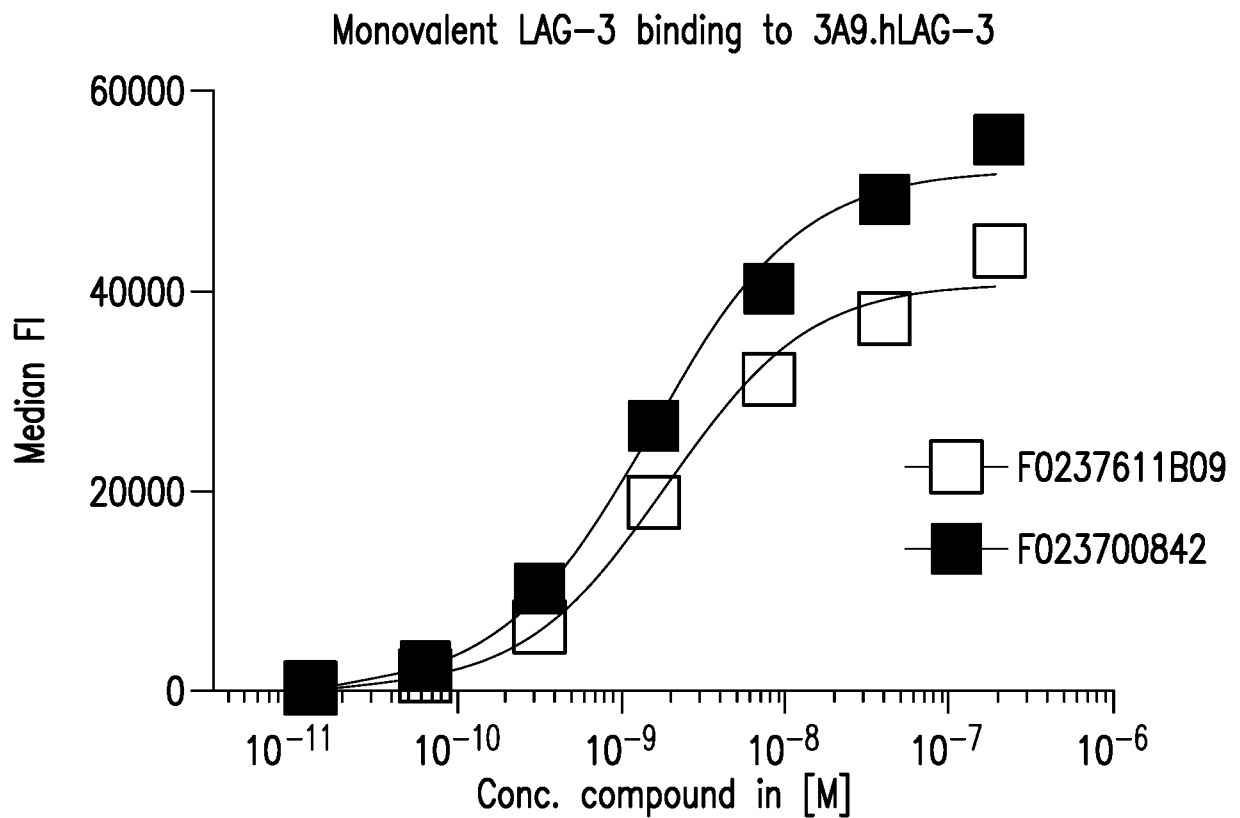
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F023700275: 1PD102C12(A14P,A74S,K83R)-FLAG3-HIS6

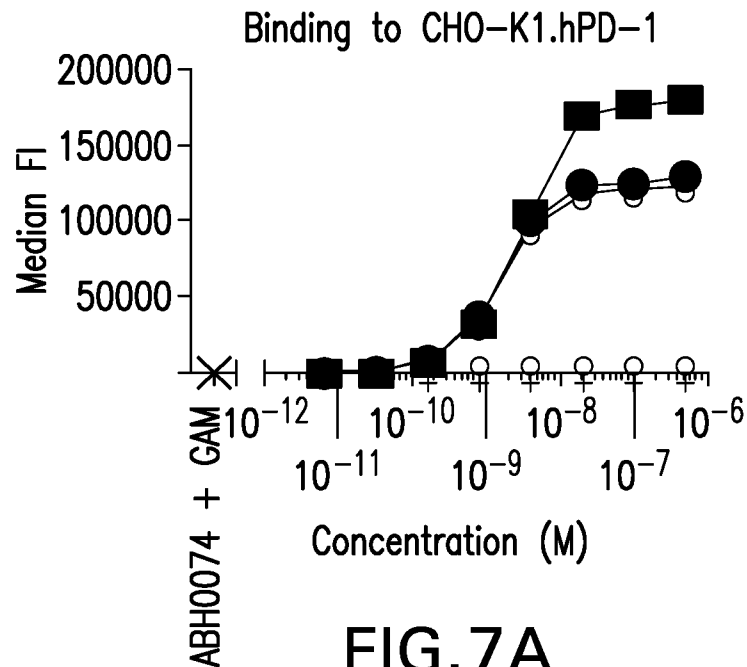
F023700706: 1PD102C12(L11V,A14P,A74S,K83R,I89L)-FLAG3-HIS6

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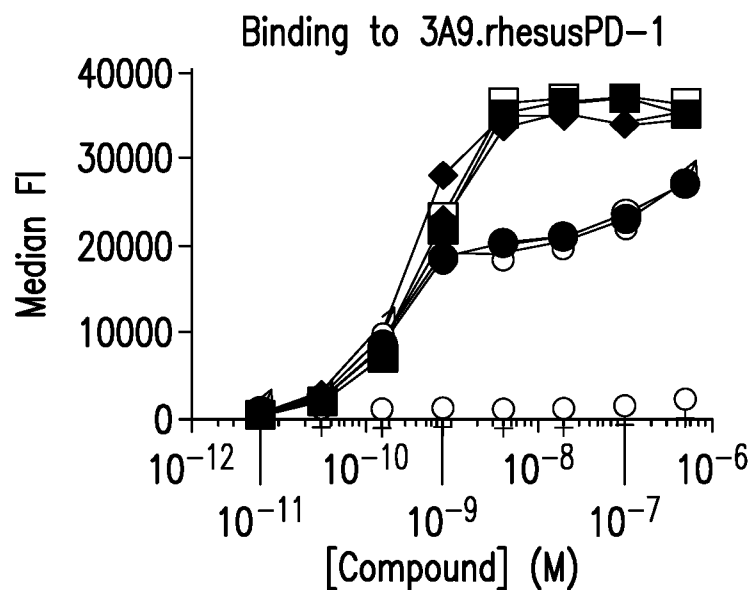
**FIG.6**F0237611B09-*FLAG3-HIS6*F023700842: F0237611B09(L11V,A14P,R41P,N43K,A62S,A74S,K83R,V89L)-*FLAG3-HIS6*

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- F023700931
 ■ F023700924
 ♂ Monospecific PD-1 F023700933
 ♀ Monospecific LAG3 F023700962



- F023700924 (Pichia)
 ■ F023700924 (CHO)
 ○ F023700931 (Pichia)
 ● F023700931 (CHO)
 ♂ Monospecific PD-1 F023700933
 ♀ Monospecific LAG-3 F023700962
 ◆ Monospecific/monovalent F023700678
 ◆ Monospecific/monovalent F023701127



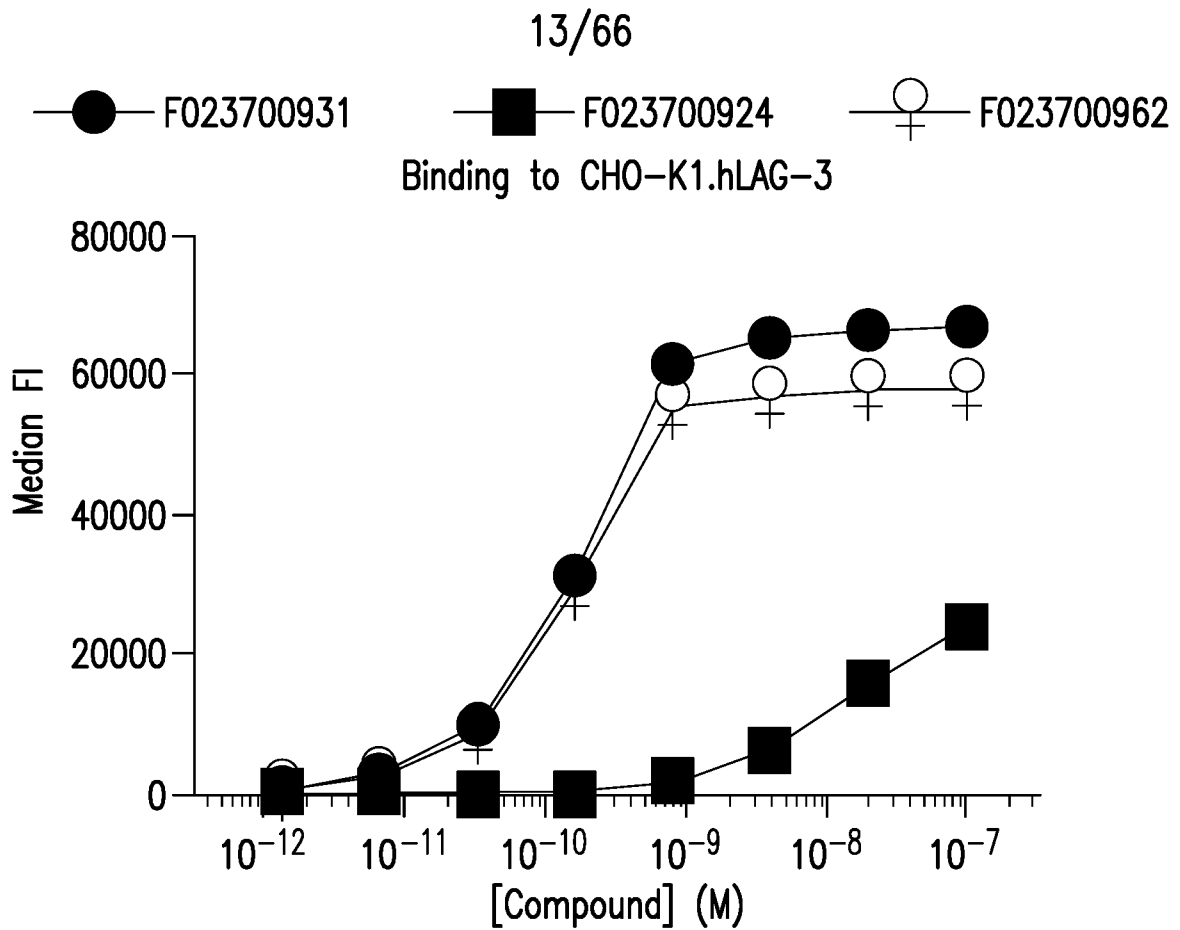


FIG. 8A

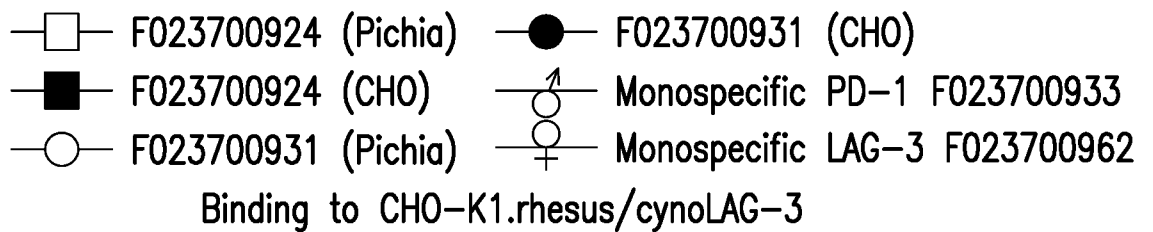
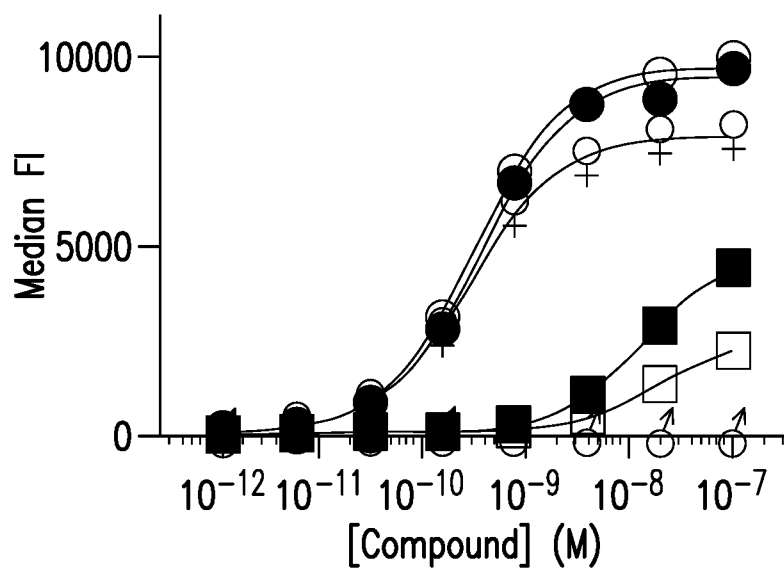


FIG. 8B

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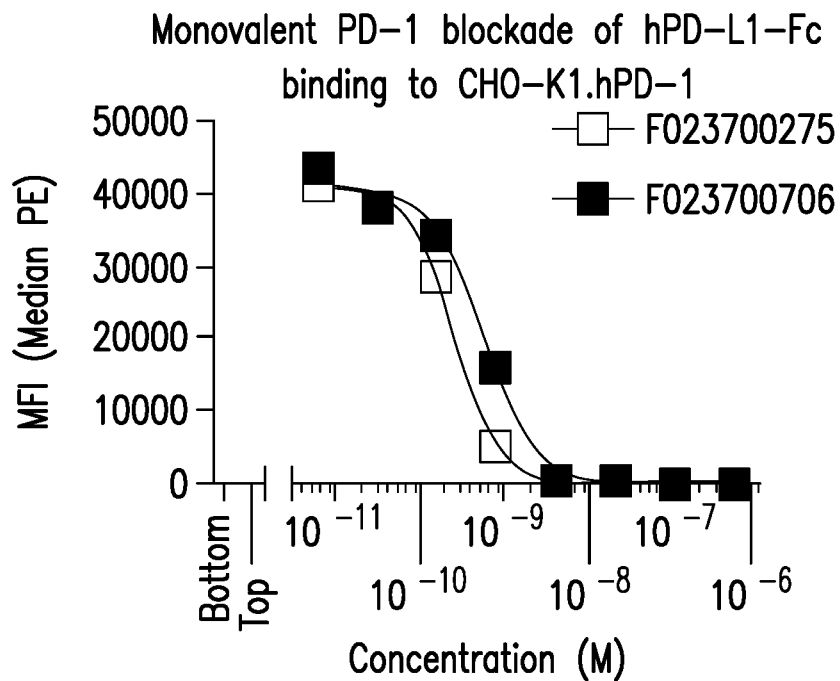


FIG.9A

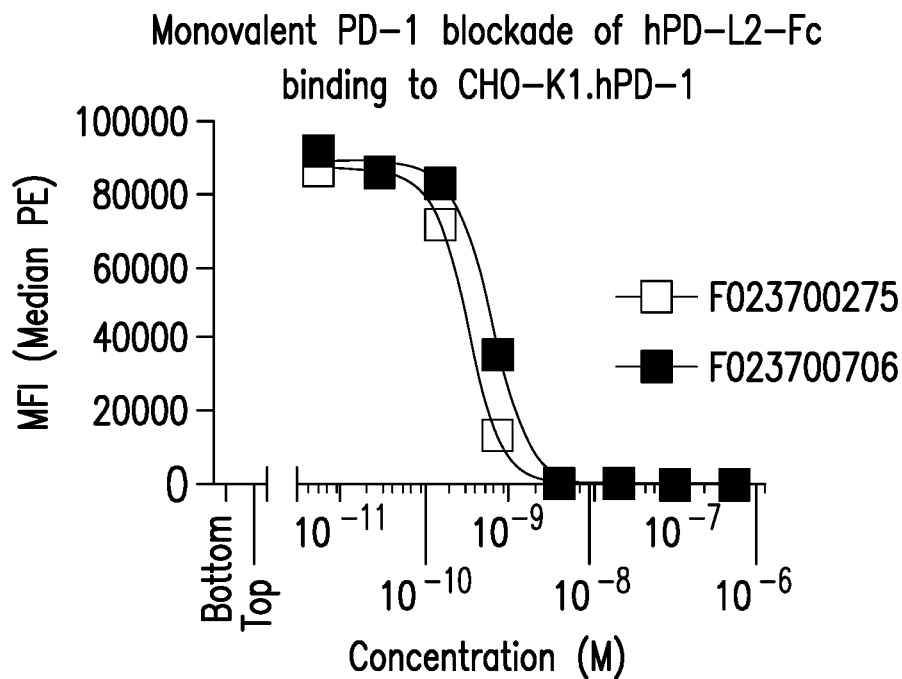


FIG.9B

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- | | |
|-----------------------|---------------------------------|
| □ F023700924 (Pichia) | ♂ Monospecific PD-1 F023700933 |
| ■ F023700924 (CHO) | ♀ Monospecific LAG-3 F023700962 |
| ○ F023700931 (Pichia) | × US |
| ● F023700931 (CHO) | * hPD-L1 @EC30 |

Blockade of hPD-L1-Fc binding to
CHO-K1.hPD-1

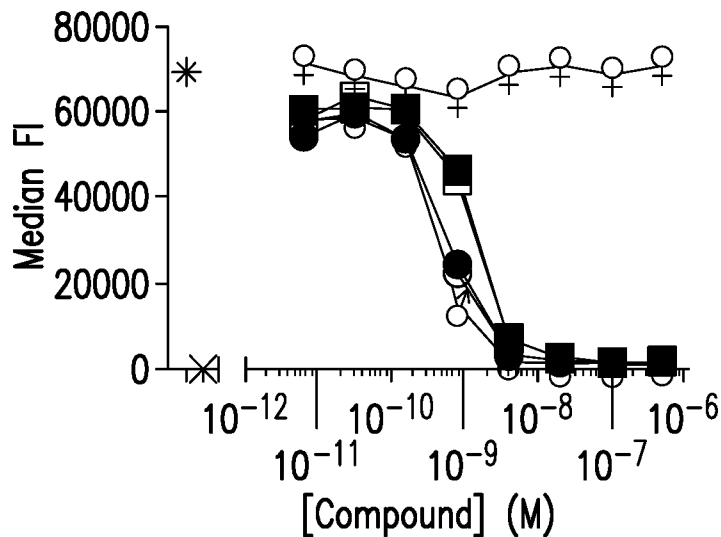


FIG.9C

- | | |
|-----------------------|---------------------------------|
| □ F023700924 (Pichia) | ♂ Monospecific PD-1 F023700933 |
| ■ F023700924 (CHO) | ♀ Monospecific LAG-3 F023700962 |
| ○ F023700931 (Pichia) | × US |
| ● F023700931 (CHO) | * hPD-L1 @EC30 |

Blockade of hPD-L2-Fc binding to
CHO-K1.hPD-1

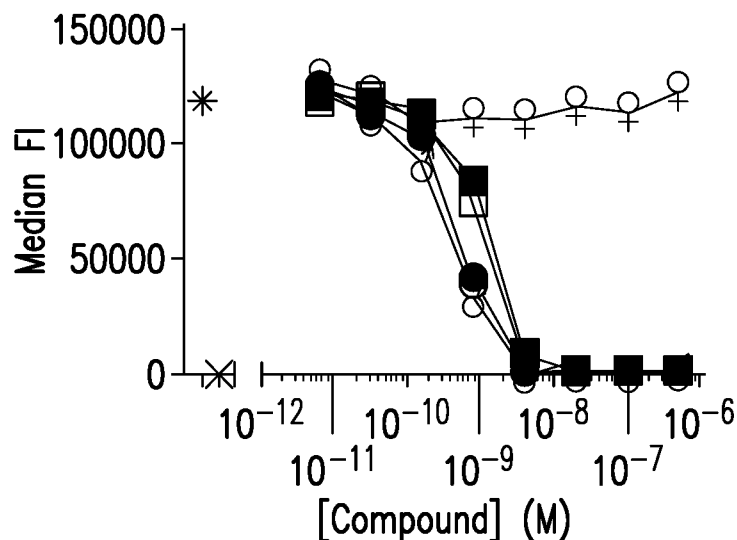
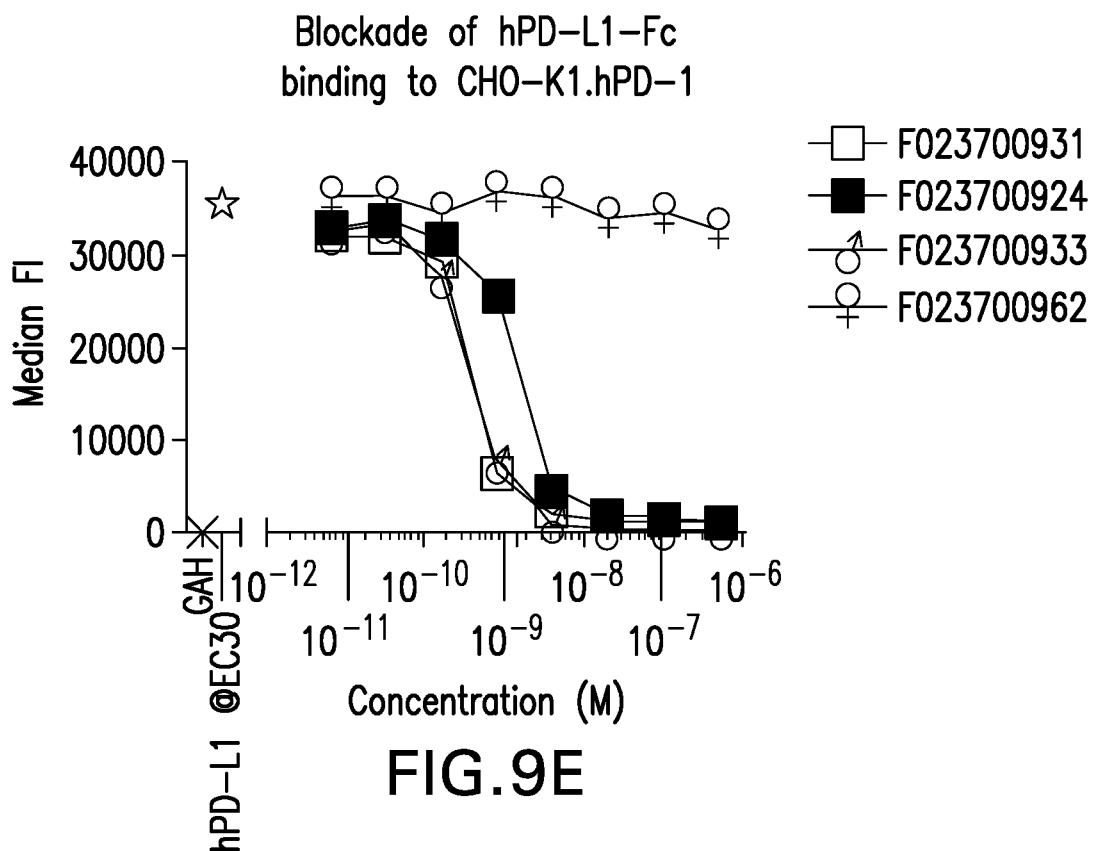
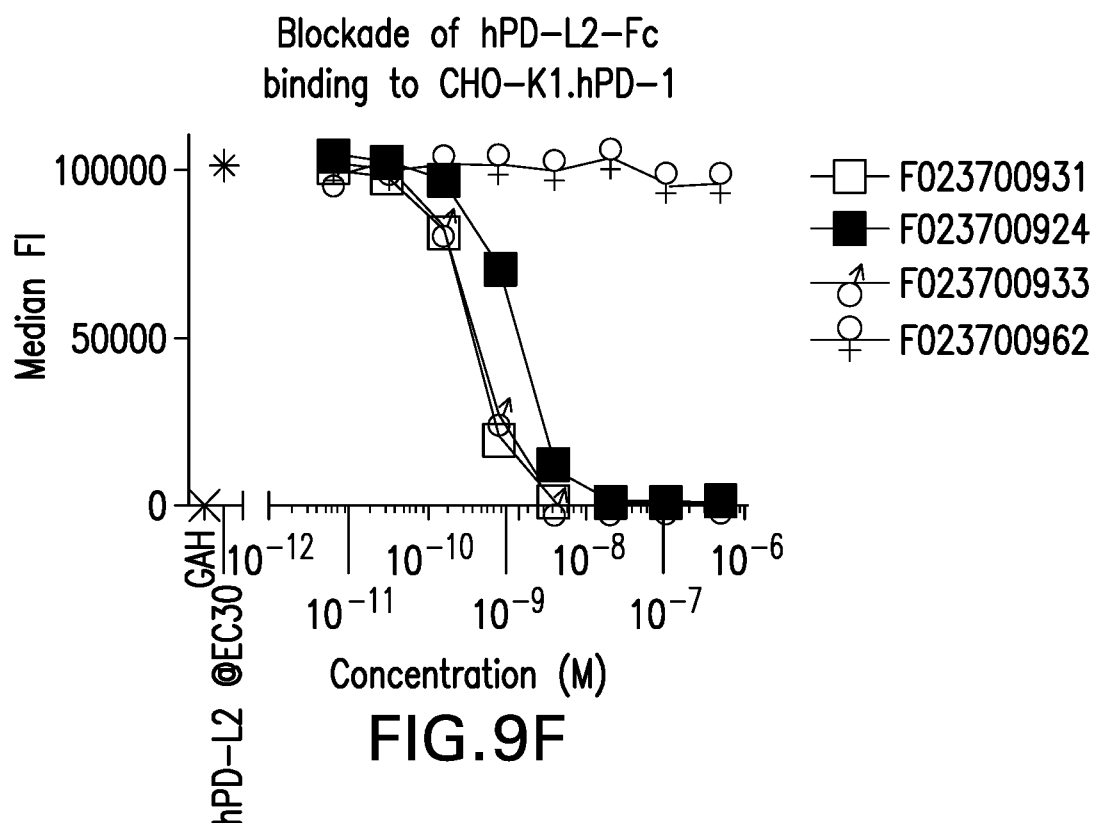


FIG.9D

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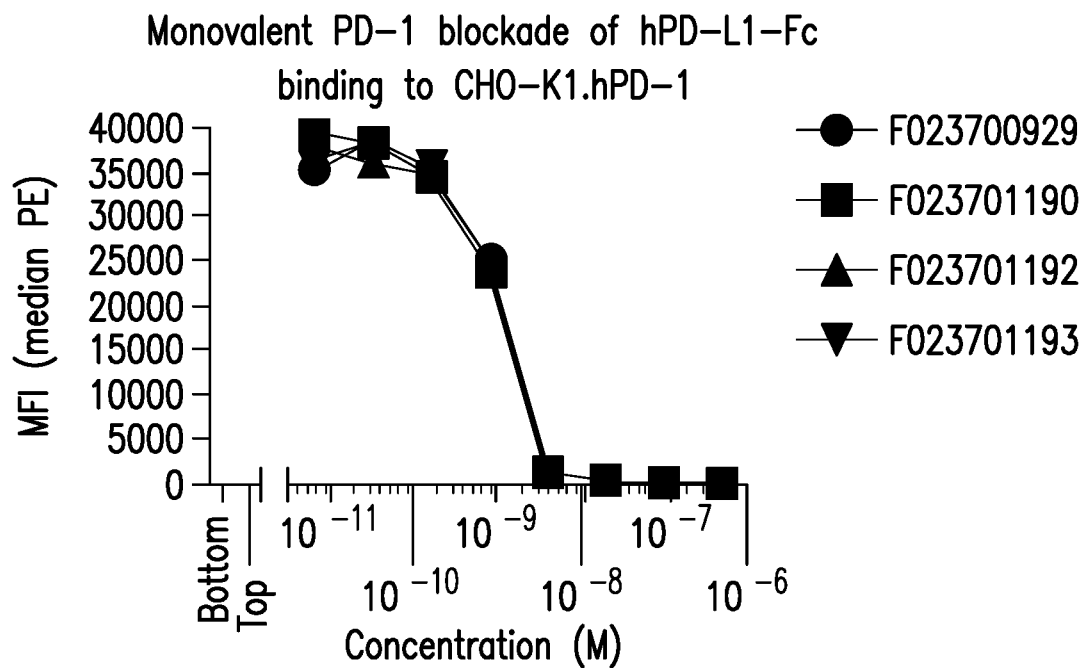


FIG.9G

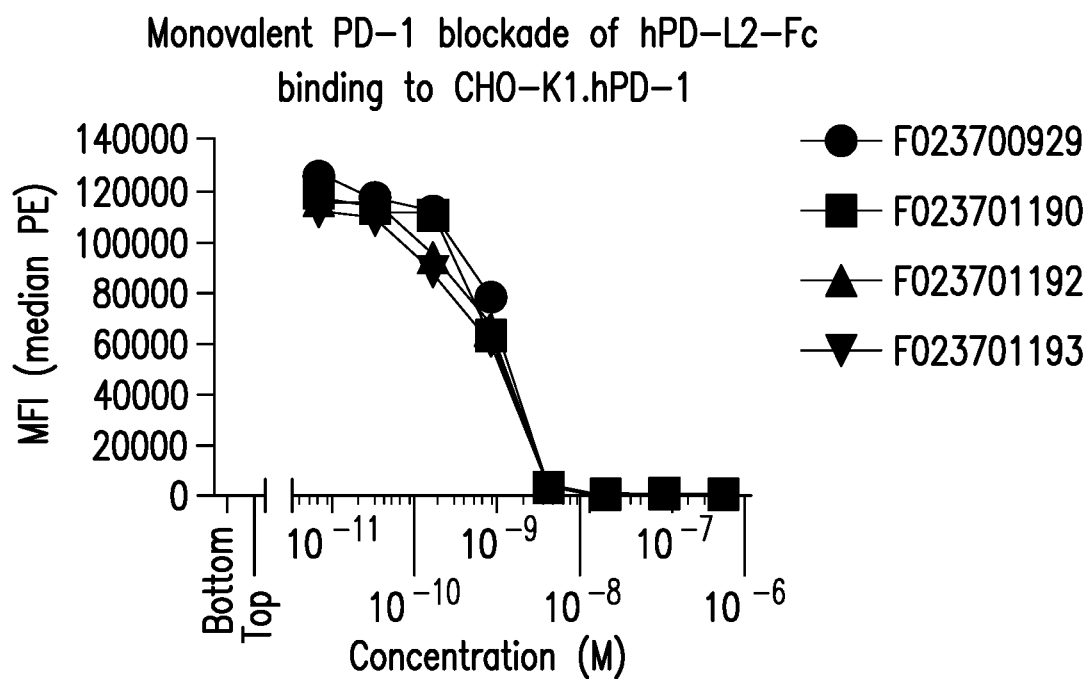


FIG.9H

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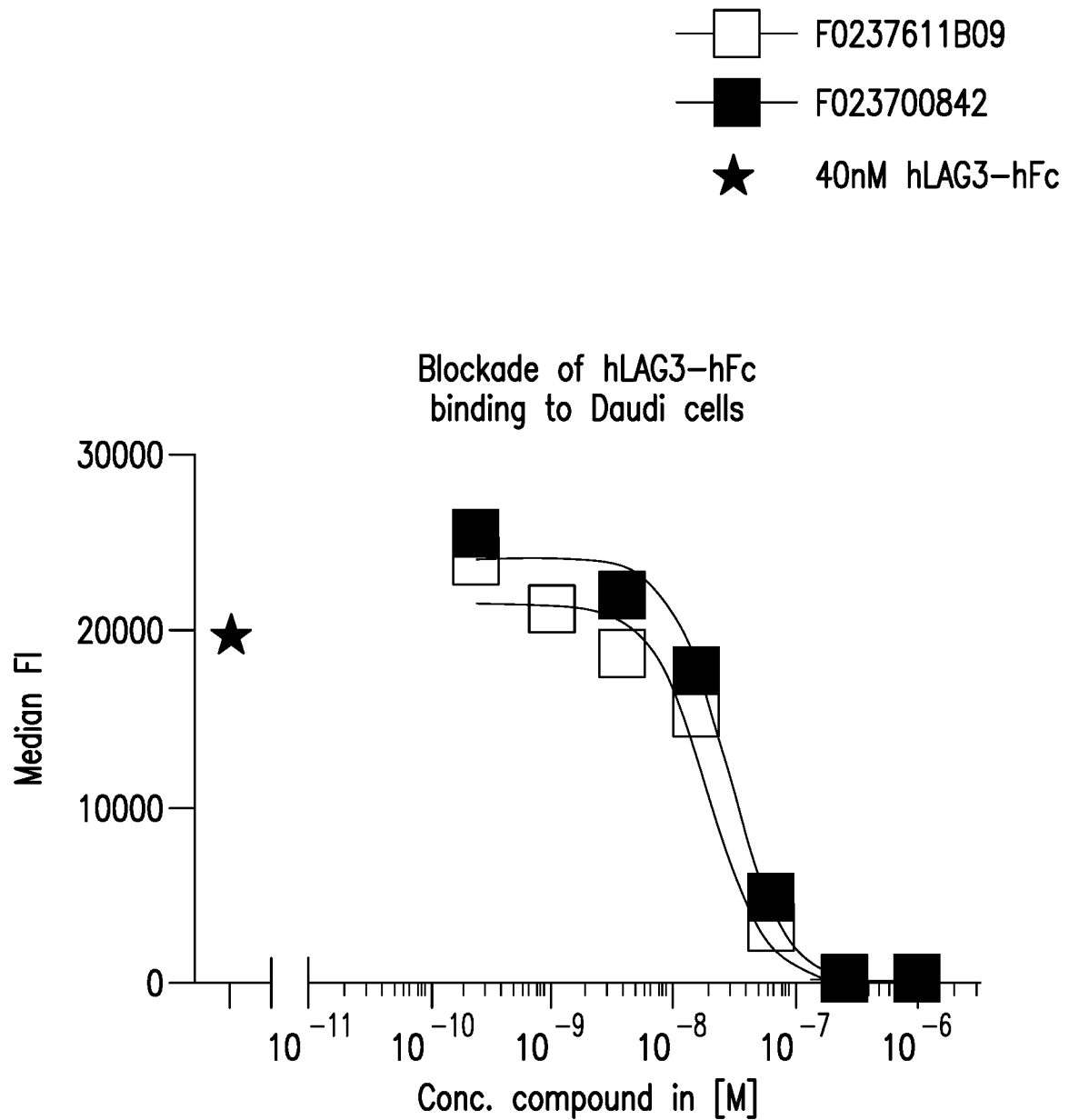


FIG. 10A

F0237611B09-*FLAG3-HIS6*F023700842: F0237611B09(L11V,A14P,R41P,N43K,A62S,A74S,K83R,V89L)-*FLAG3-HIS6*

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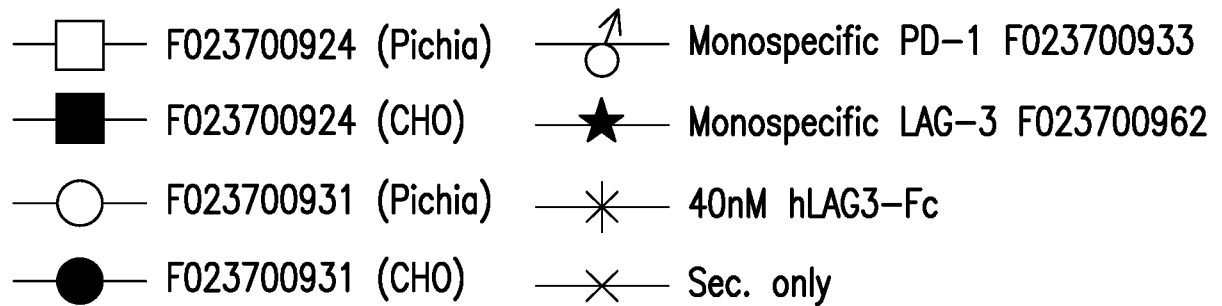
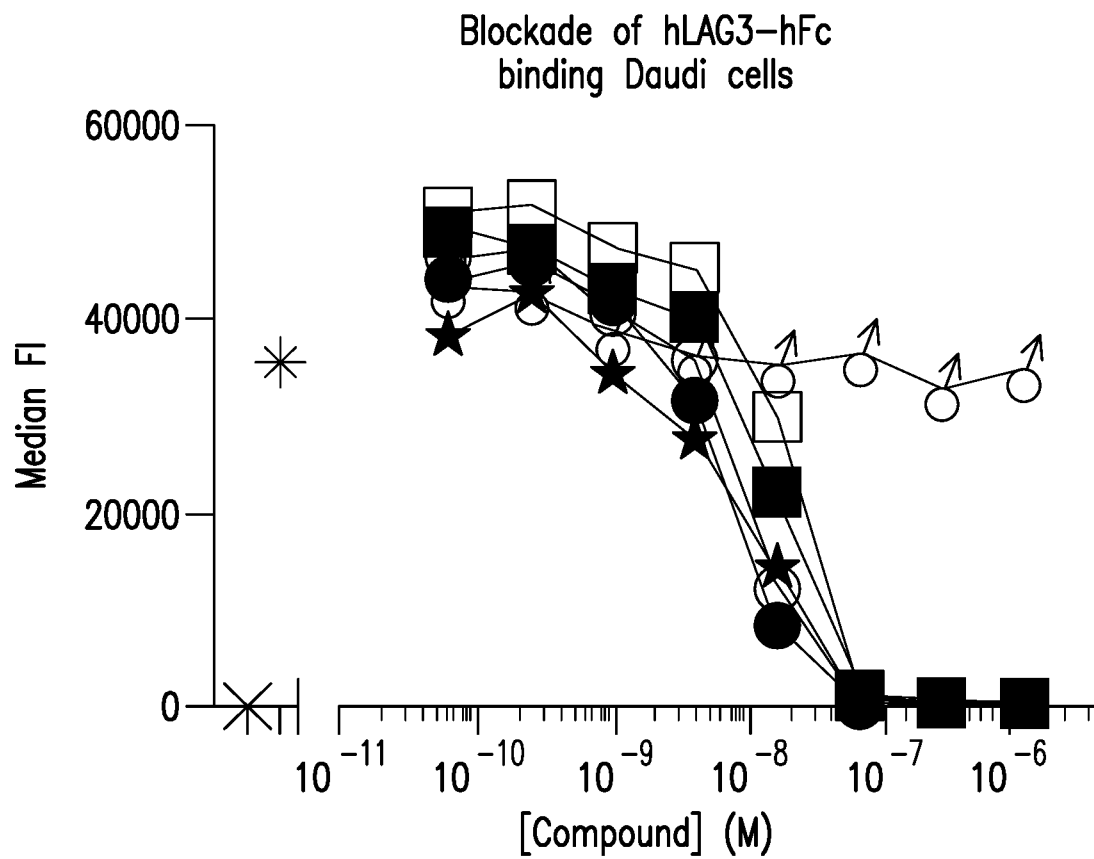


FIG. 10B

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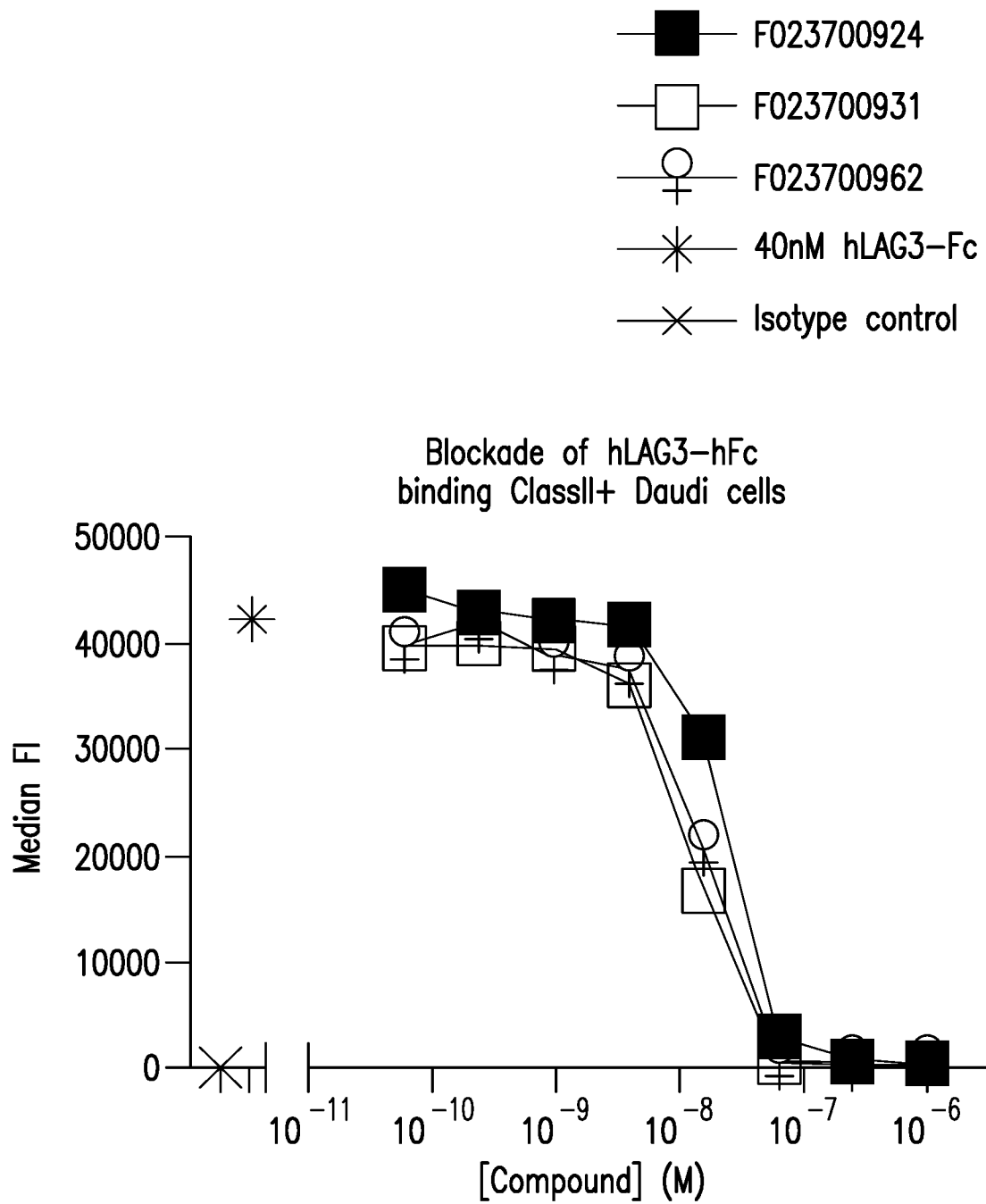


FIG.10C

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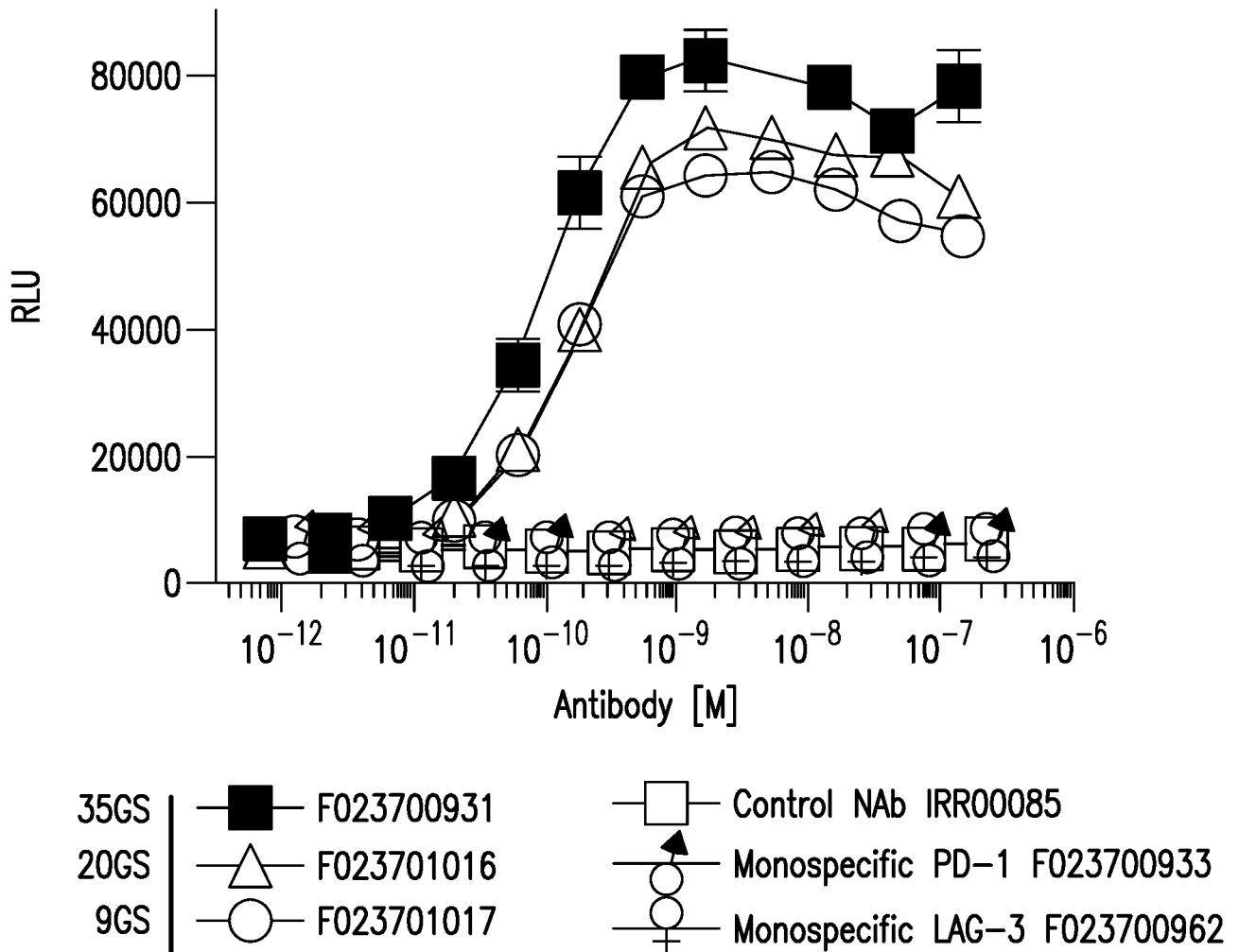


FIG.11A

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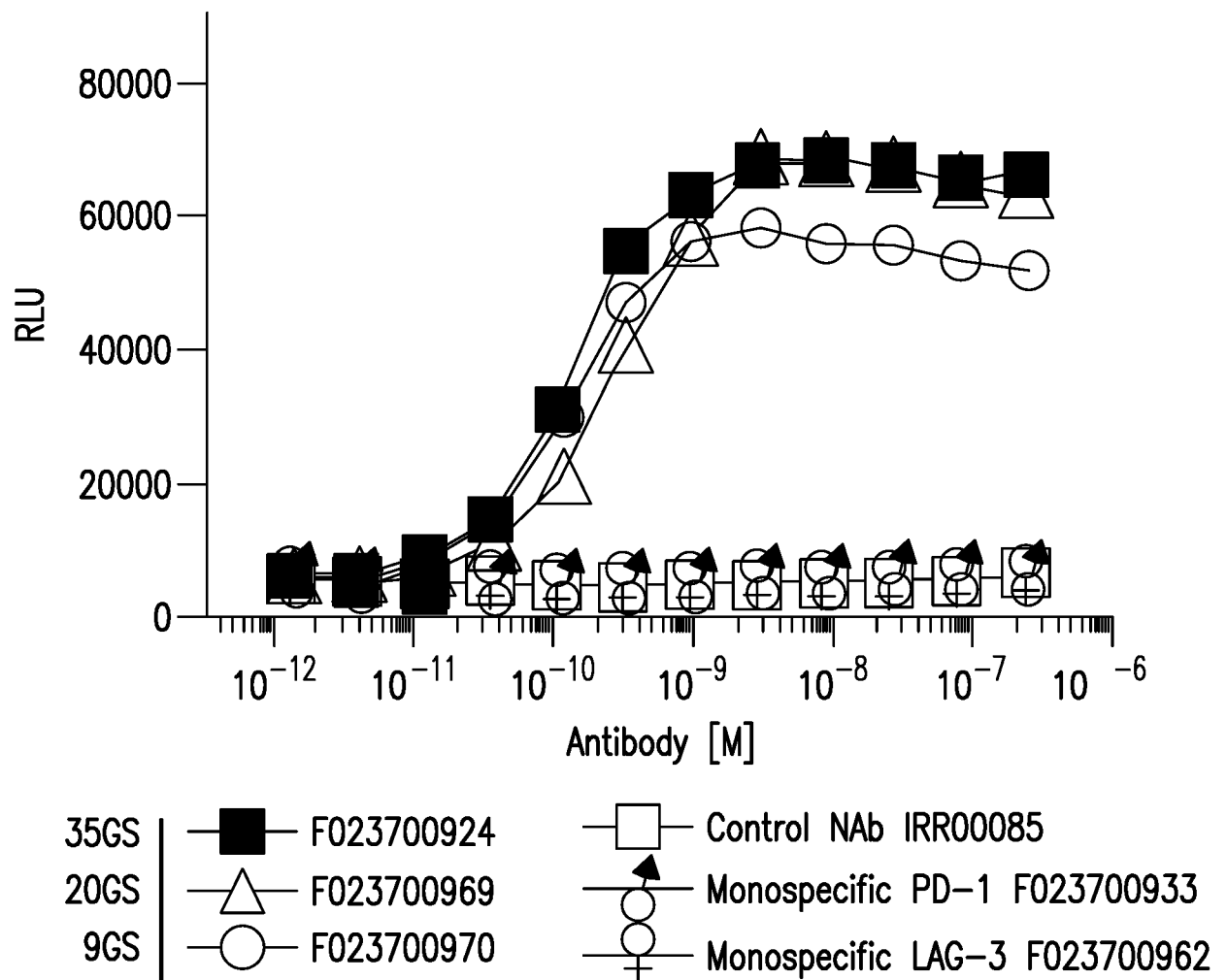


FIG. 11B

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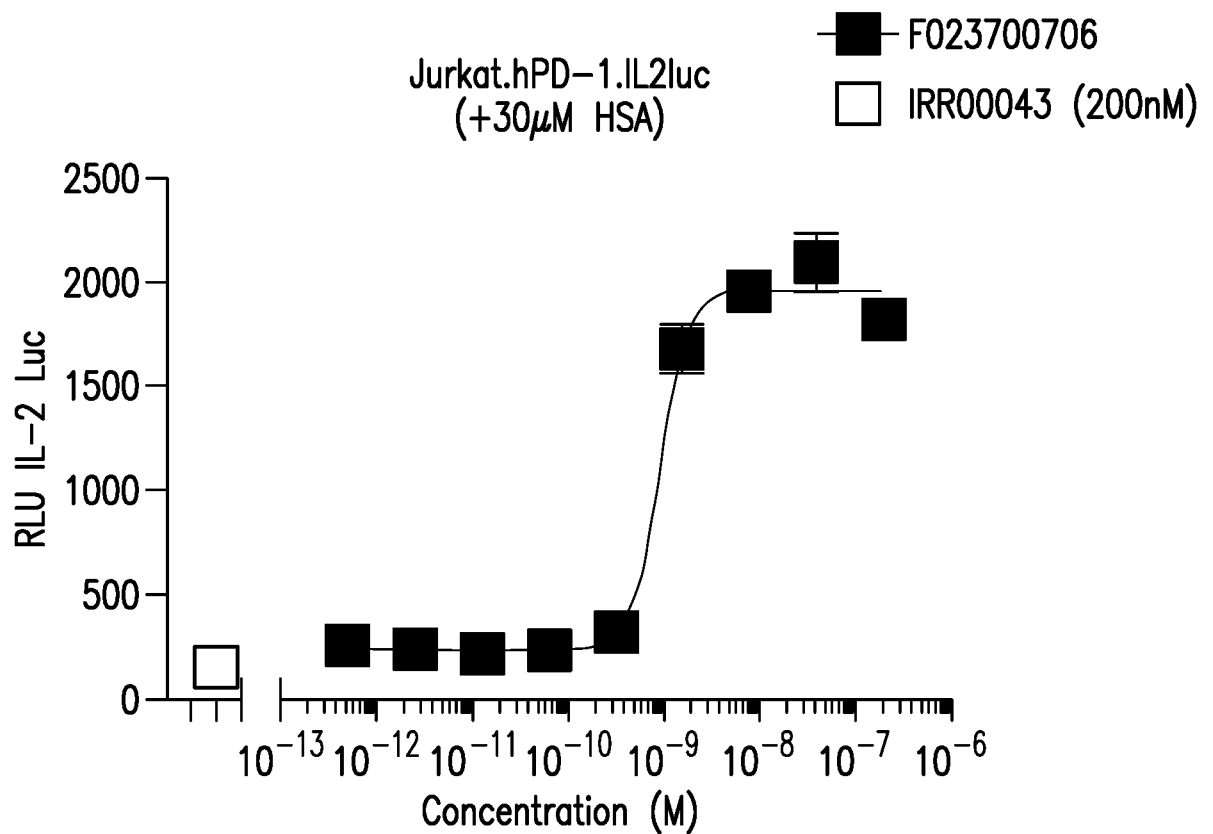


FIG.12A

F023700706: 1PD102C12(L11V,A14P,A74S,K83R,I89L)-FLAG3-HIS6

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- | | |
|-----------------------|---------------------------------|
| □ F023700924 (Pichia) | ♂ Monospecific PD-1 F023700933 |
| ■ F023700924 (CHO) | ♀ Monospecific LAG-3 F023700962 |
| ○ F023700931 (Pichia) | * Control Nanobody IRR00085 |
| ● F023700931 (CHO) | + Control Nanobody IRR00087 |

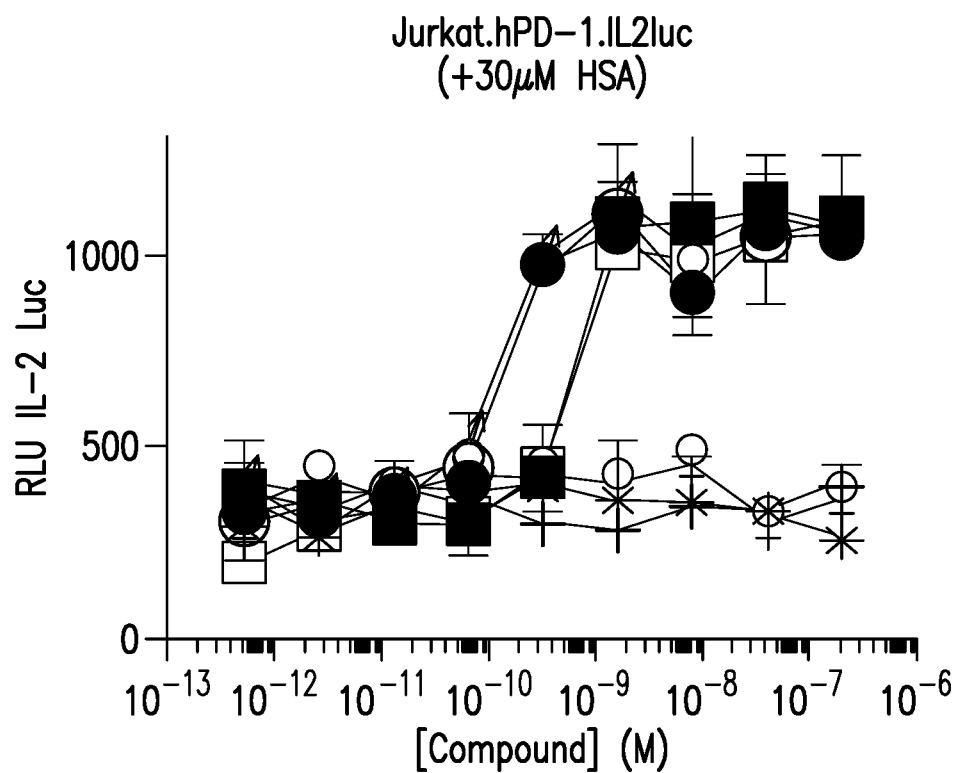


FIG. 12B

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- F023700924 (35GS)
- △ F023700969 (20GS)
- F023700970 (9GS)
- IRR00043 (200nM)

Human PD-1 reporter assay
in presence of 30 μ M HSA

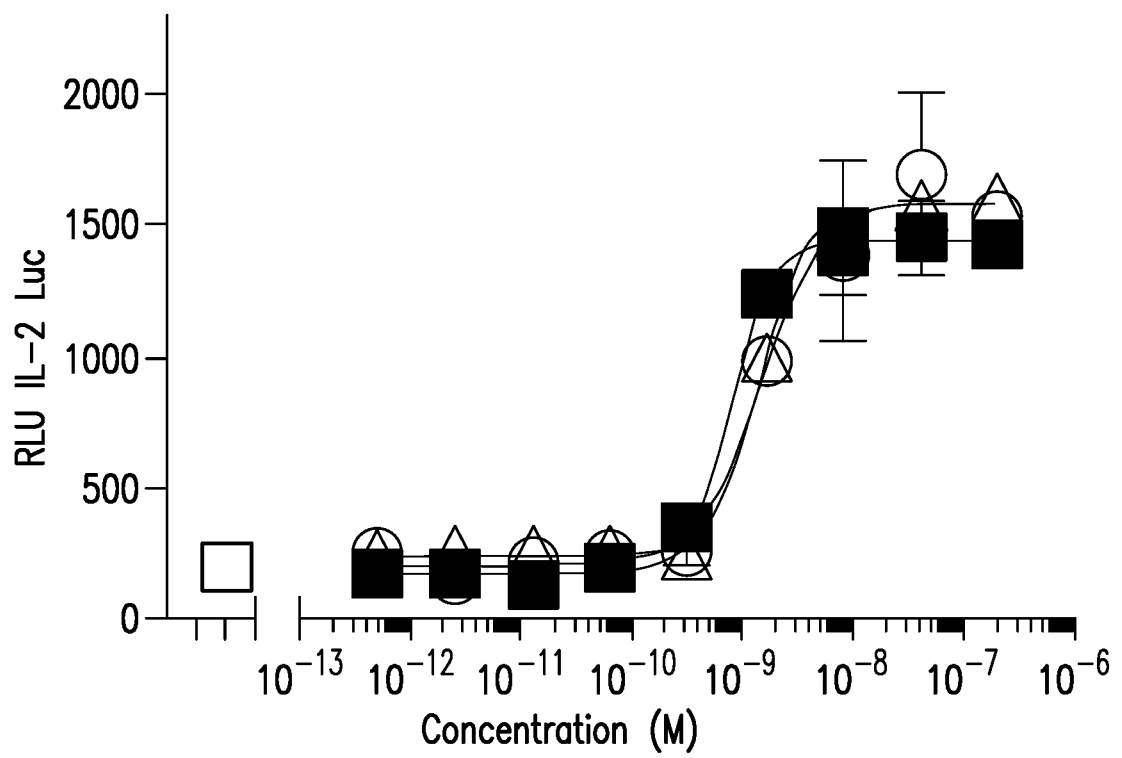


FIG.12C

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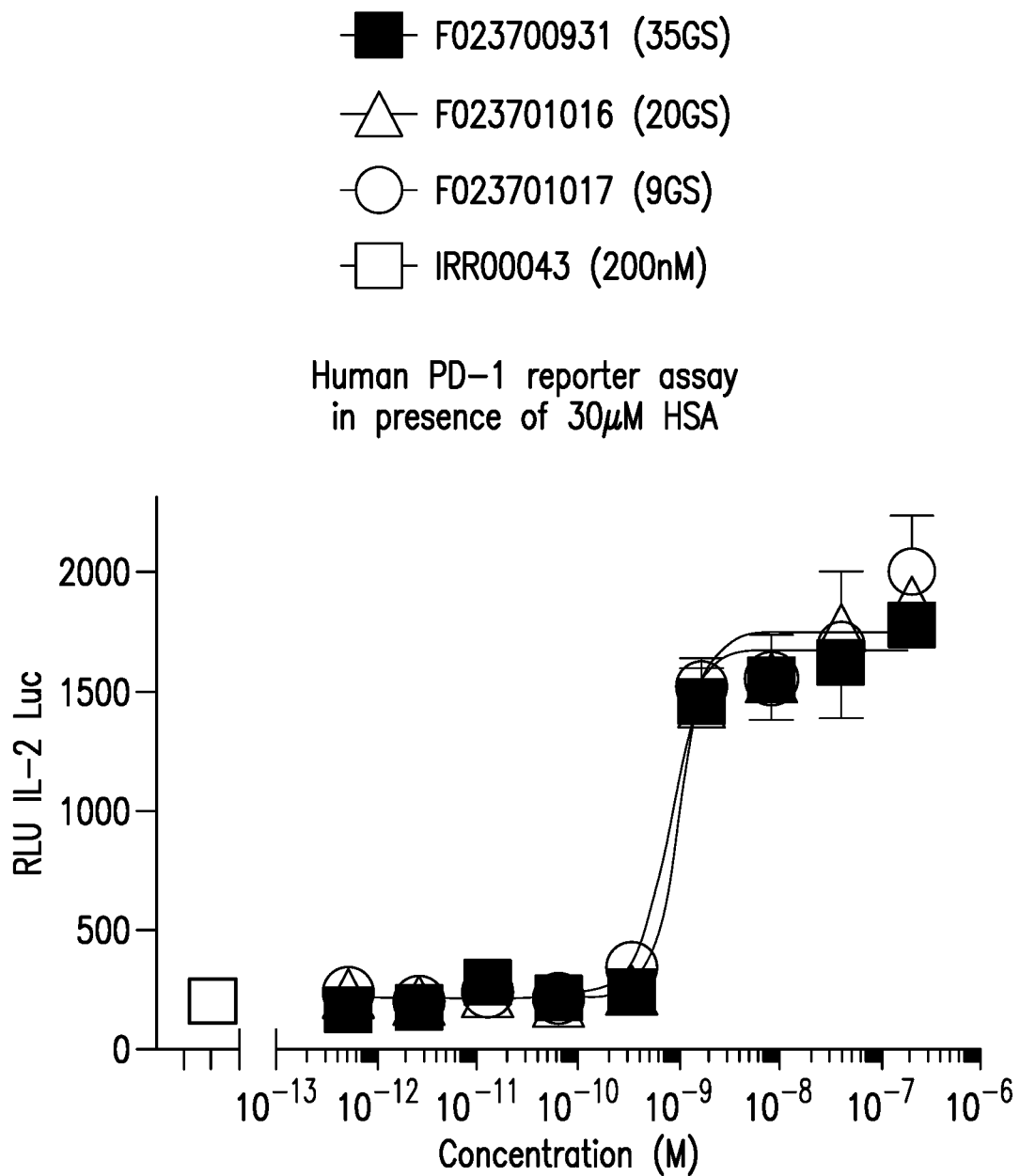


FIG.12D

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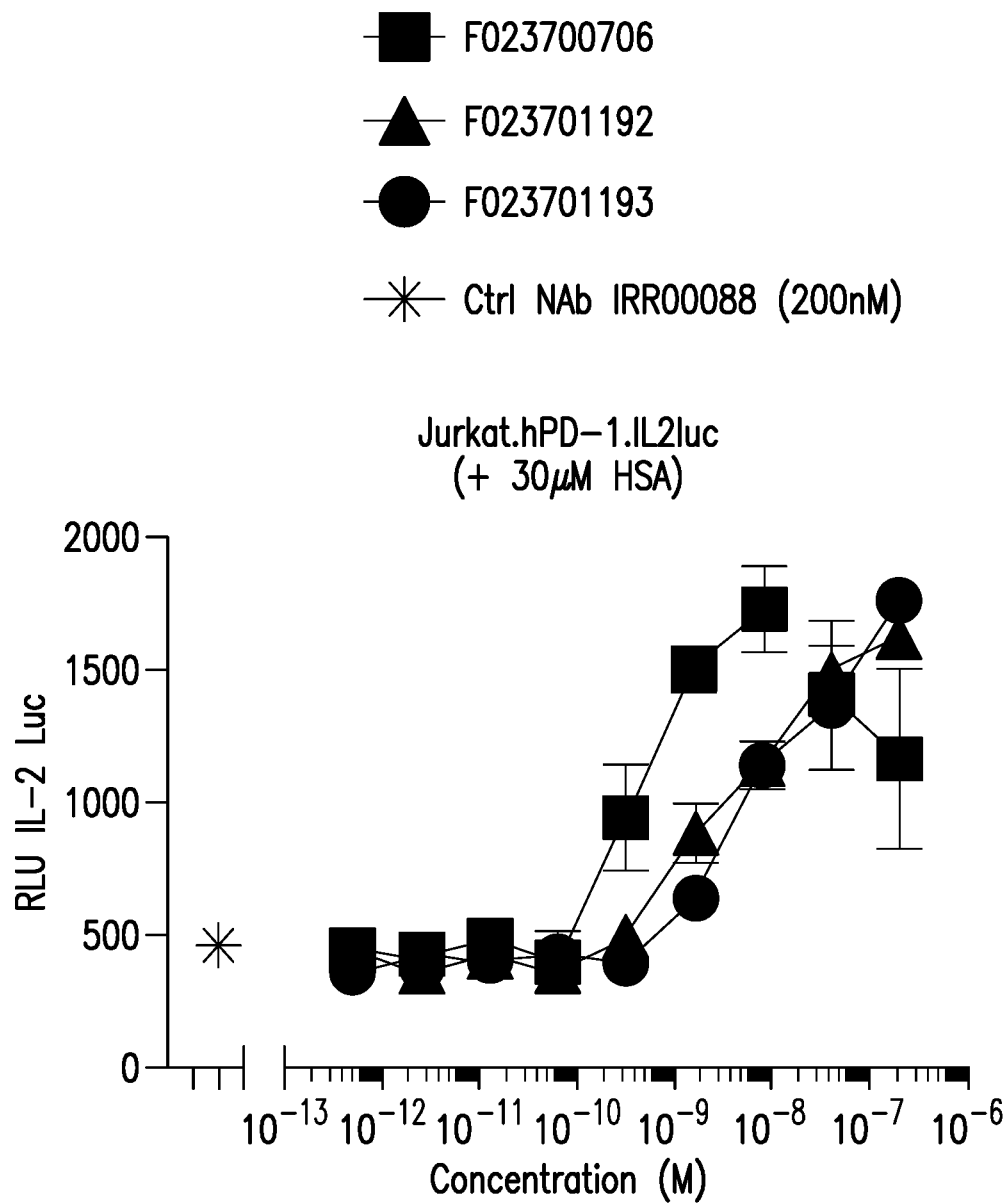


FIG. 12E

F023700706: 1PD102C12(L11V,A14P,A74S,K83R,I89L)-FLAG3-HIS6

F023701192: 1PD102C12(E1D,L11V,A14P,W52aV,N73Q,A74S,K83R,I89L,W100aF)-HIS6

F023701193: 1PD102C12(E1D,L11V,A14P,W52aV,N73P,A74S,K83R,I89L,W100aF)-HIS6

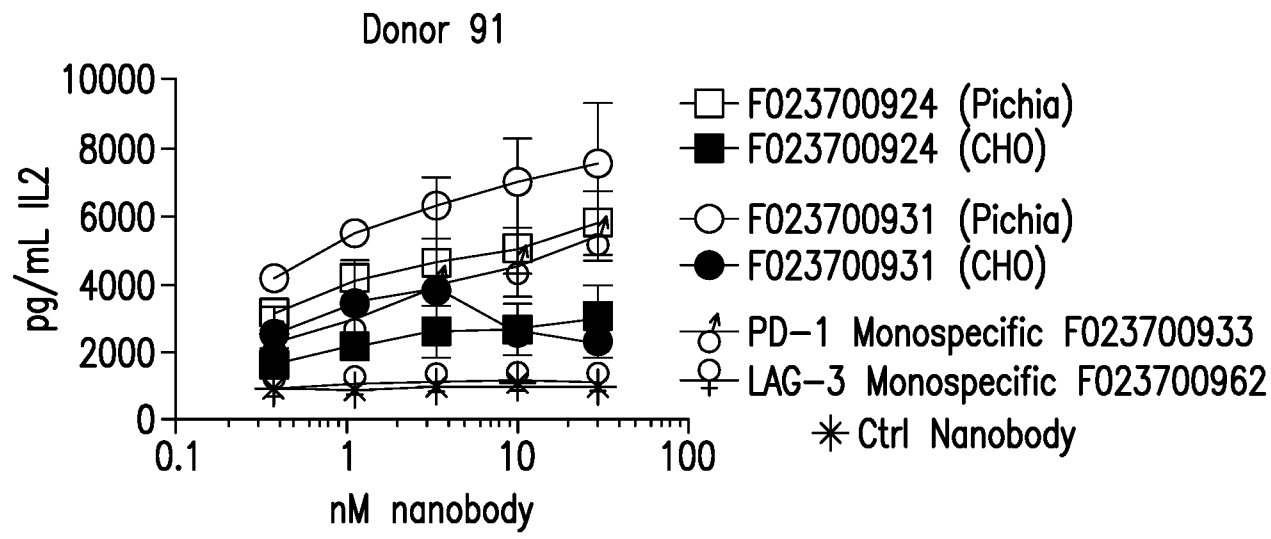


FIG.13A

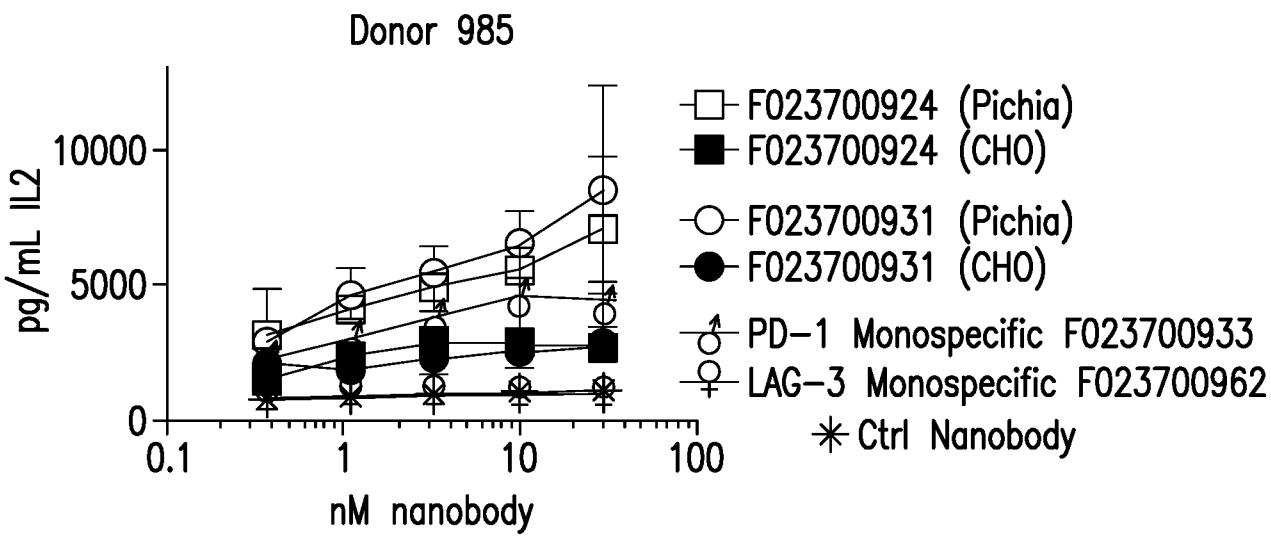


FIG.13B

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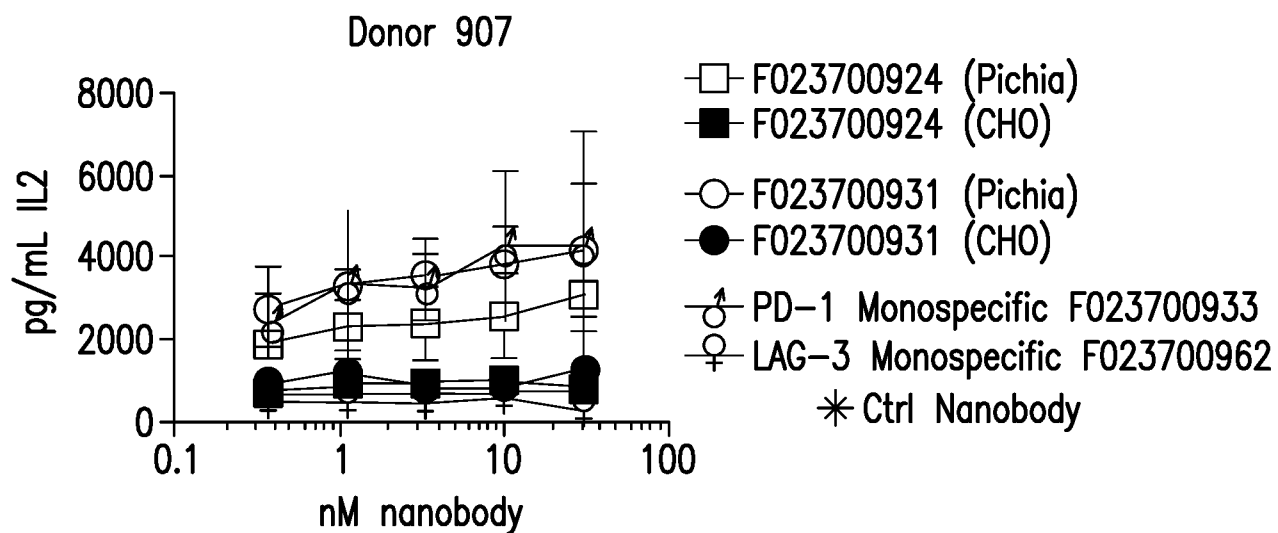


FIG.13C

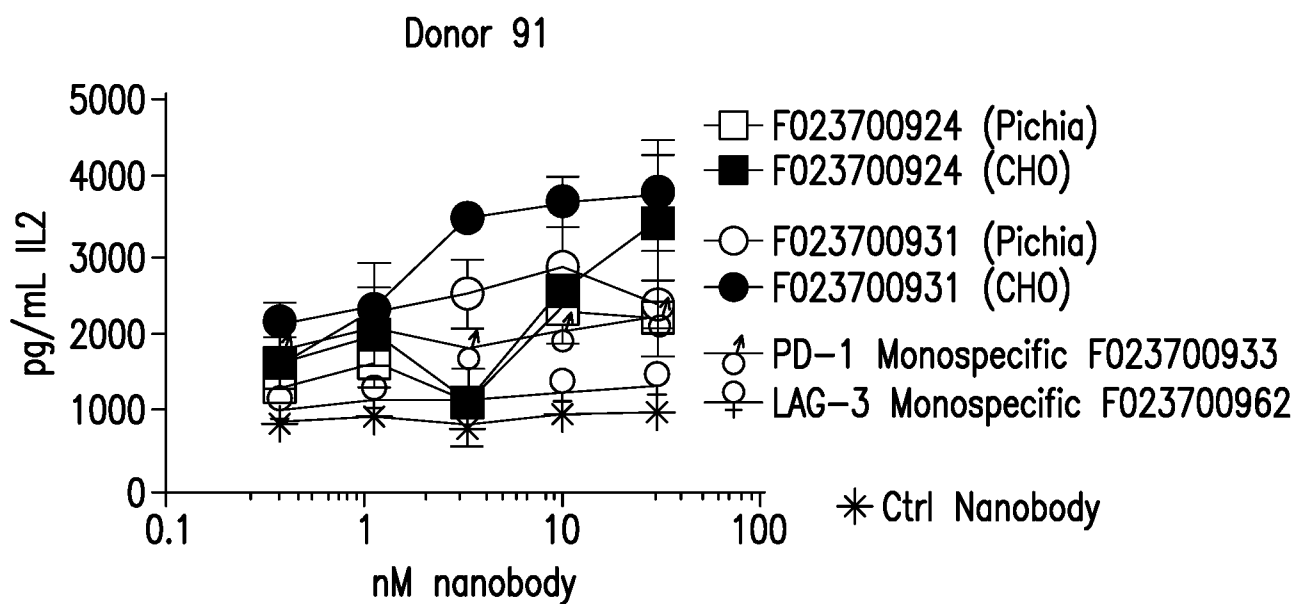


FIG.13D

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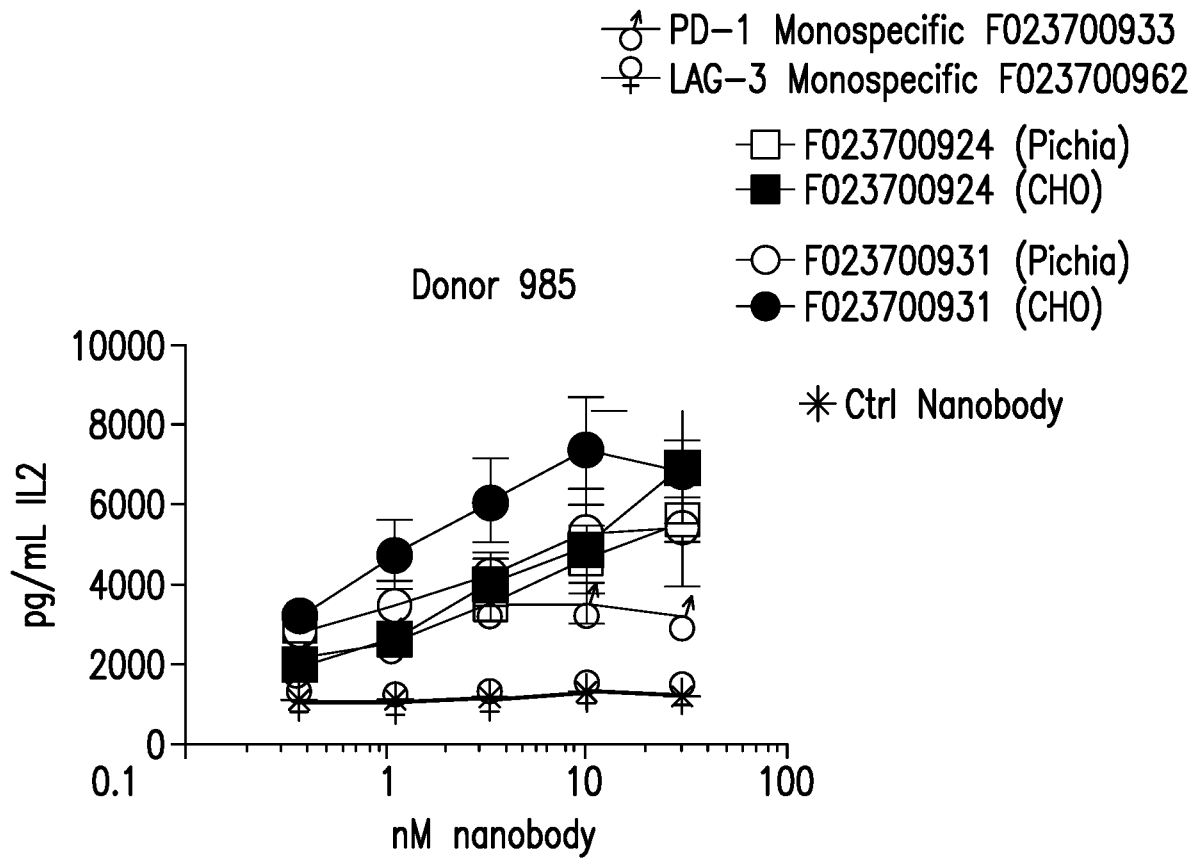


FIG.13E

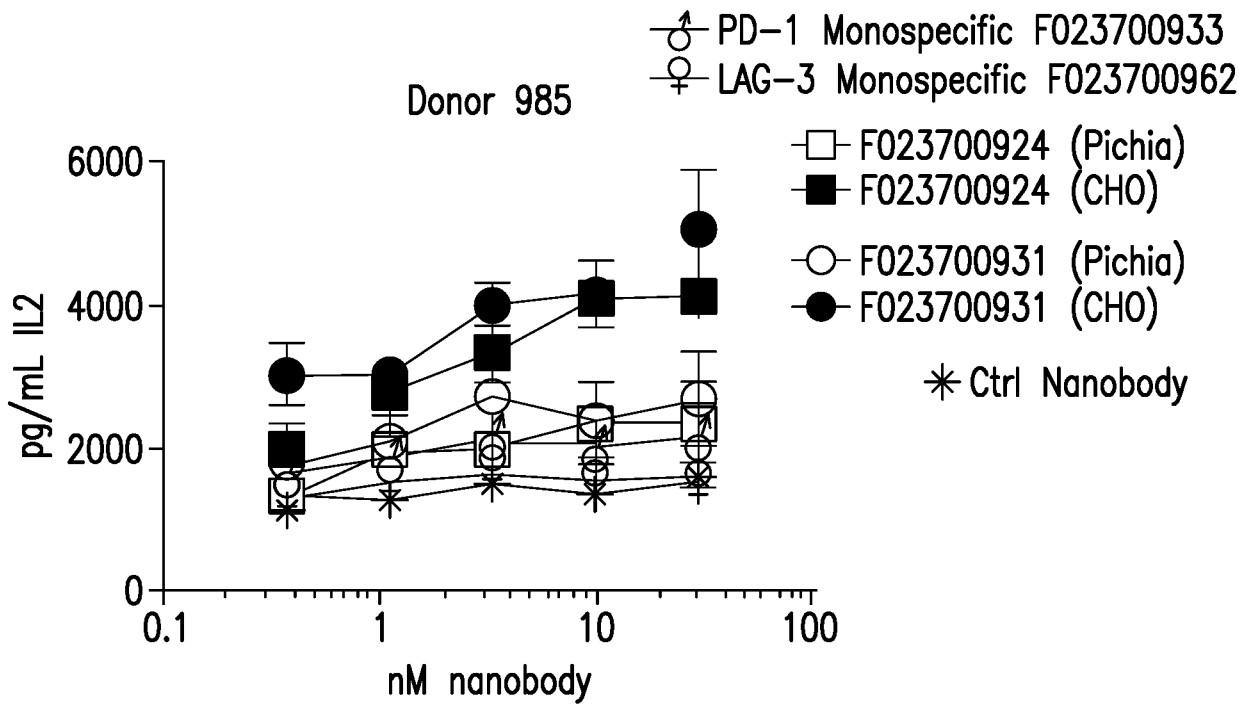


FIG.13F

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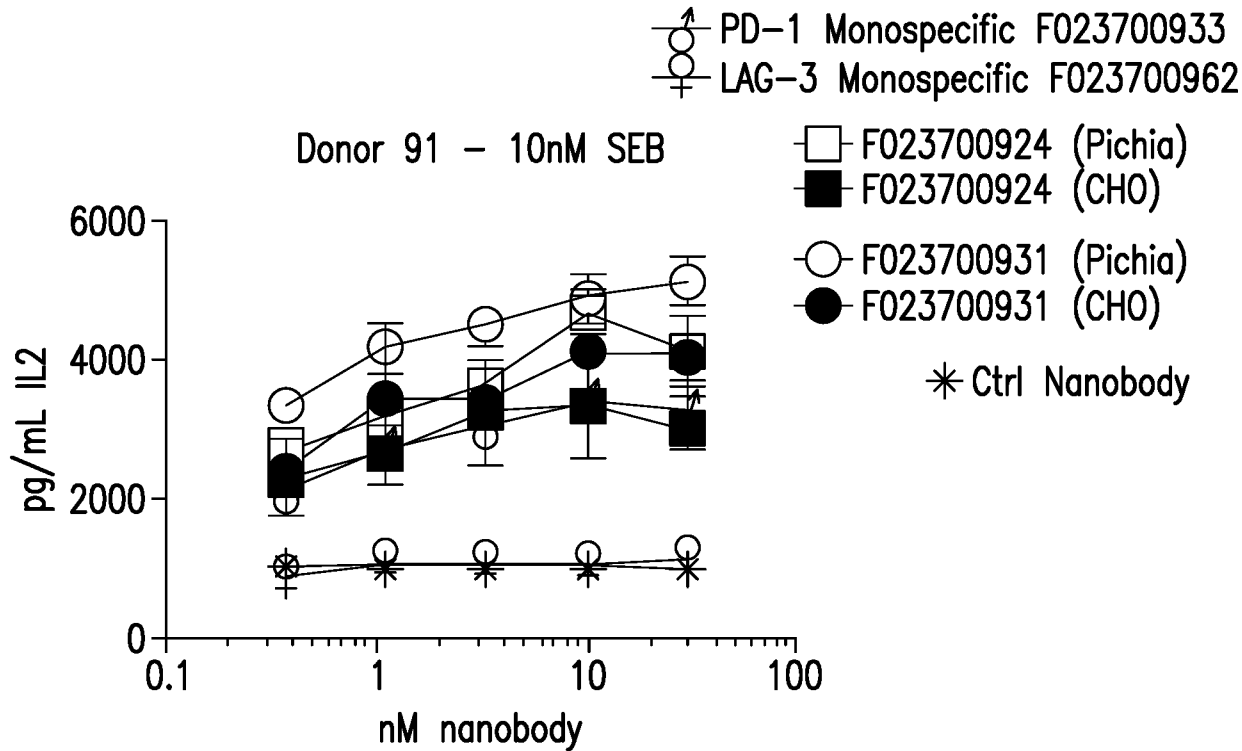


FIG.13G

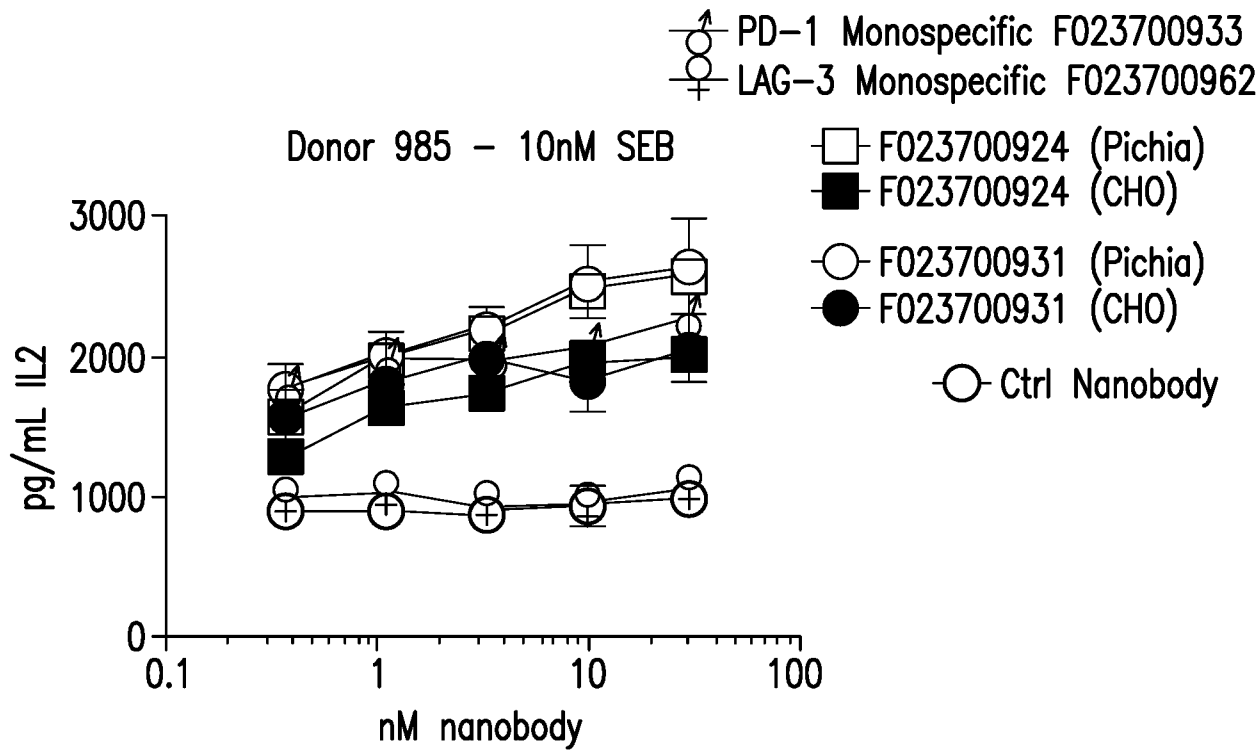


FIG.13H

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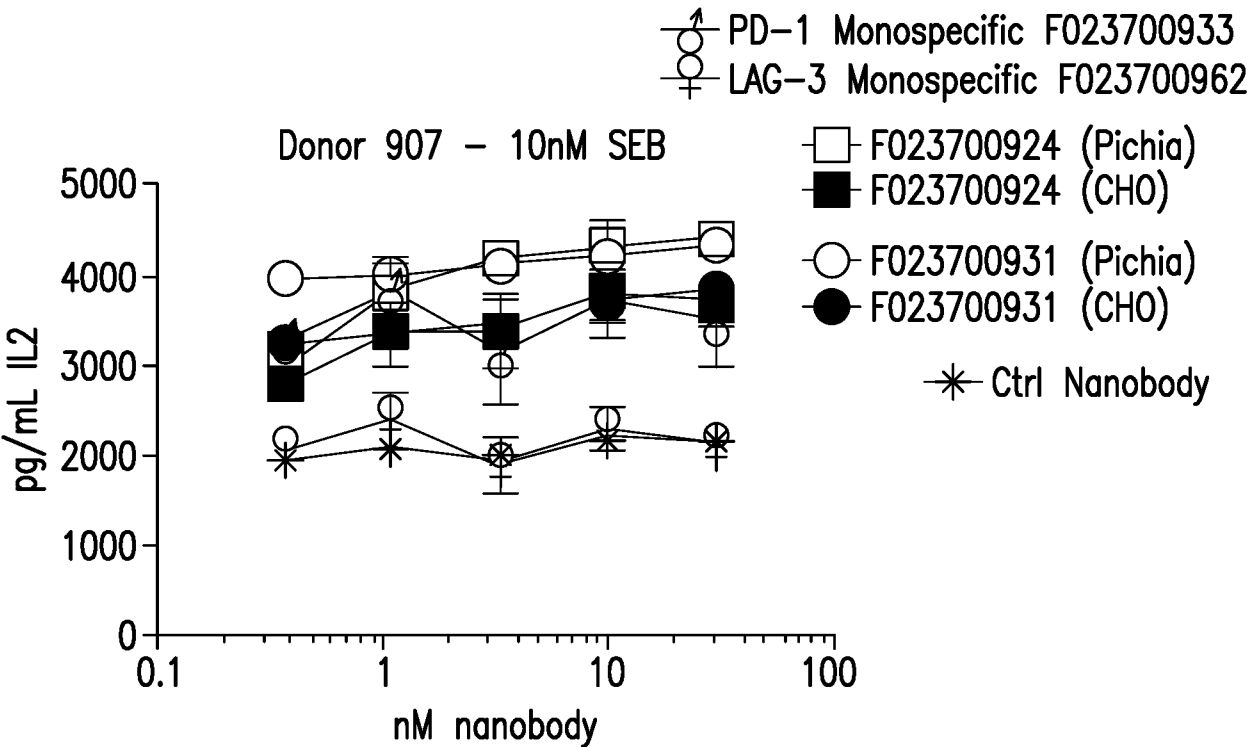


FIG.13I

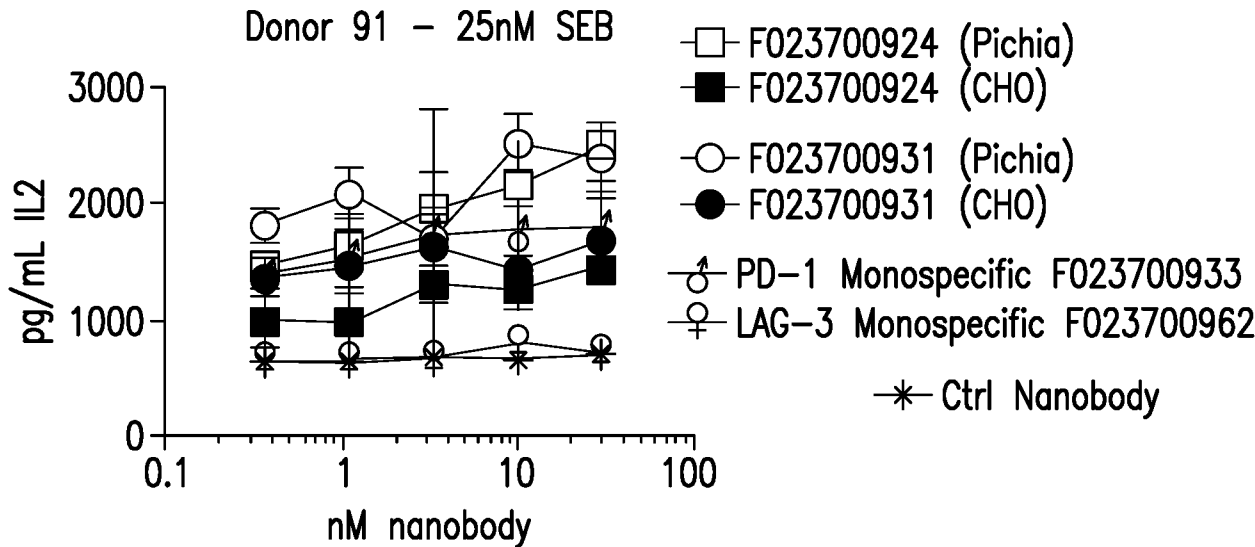


FIG.13J

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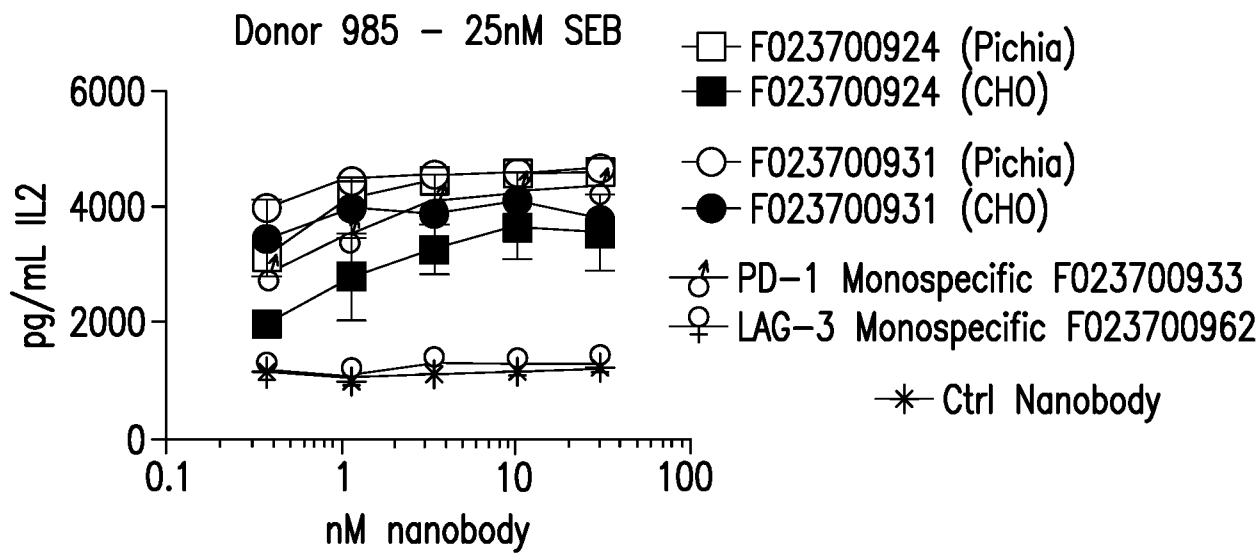


FIG.13K

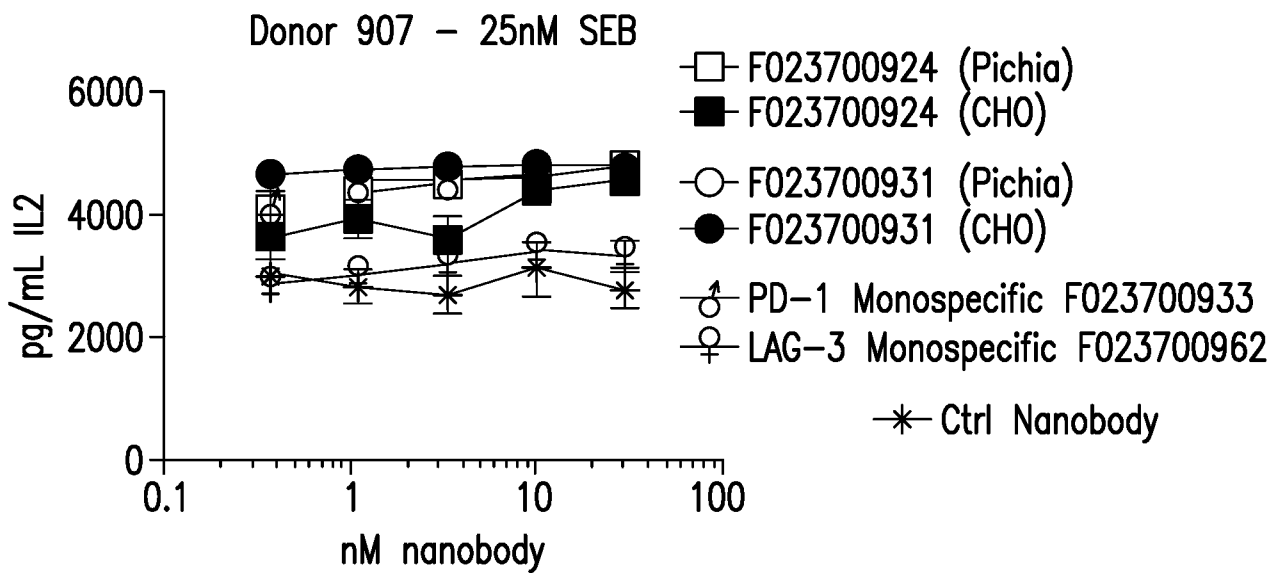


FIG.13L

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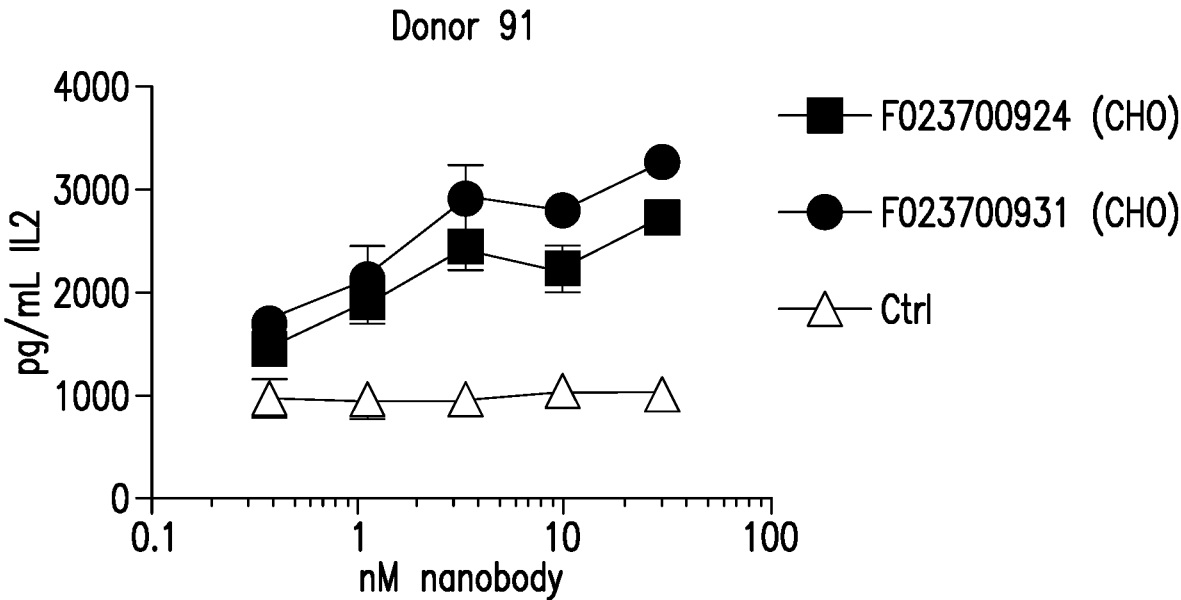


FIG.13M

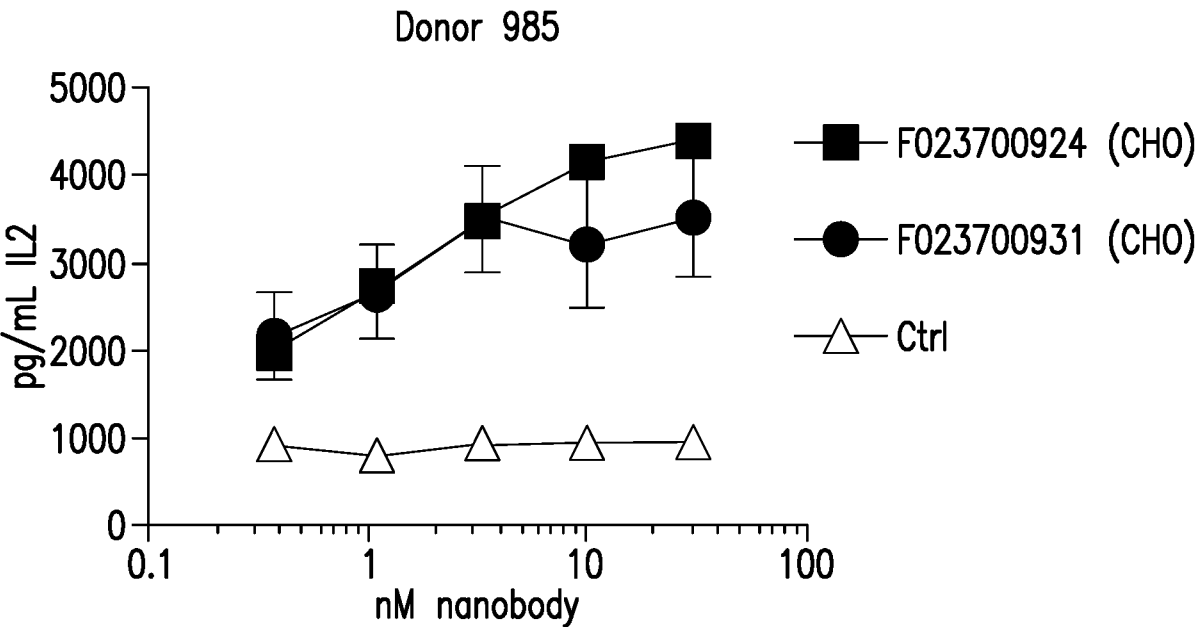


FIG.13N

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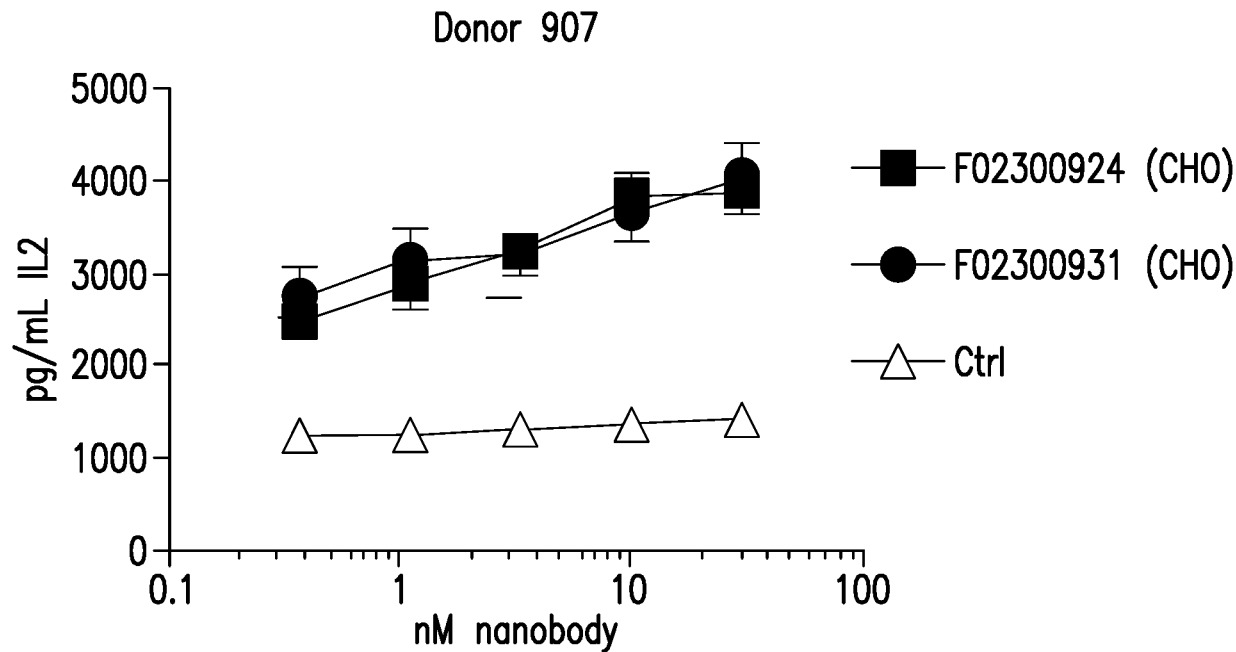


FIG.13O

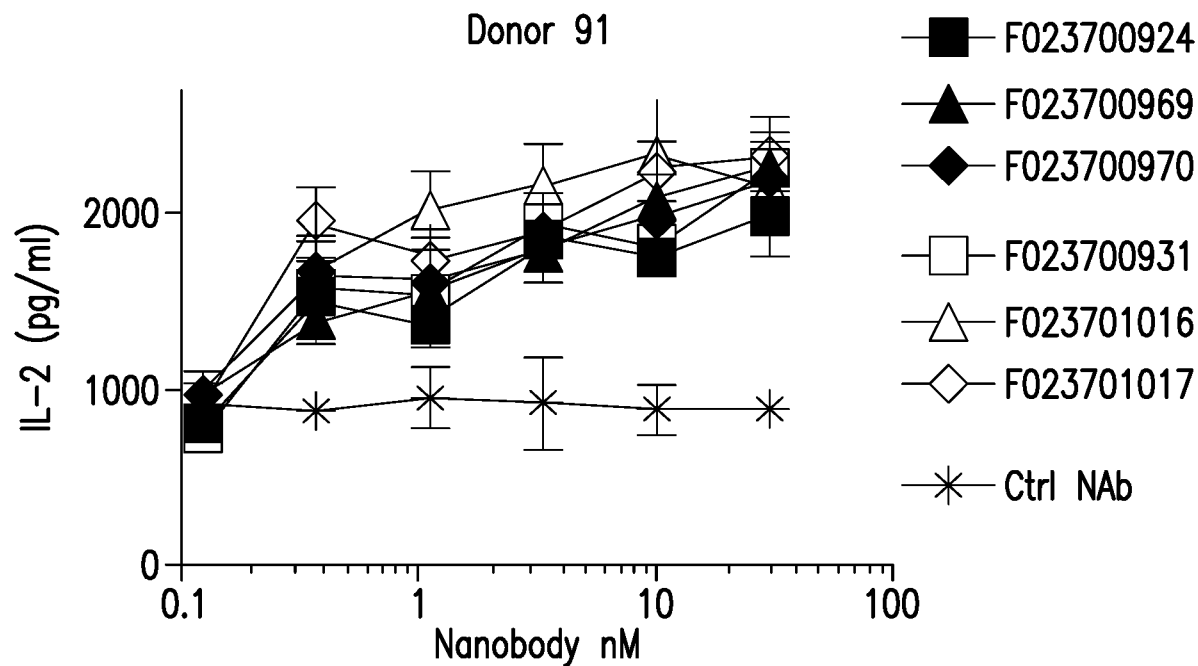


FIG.13P

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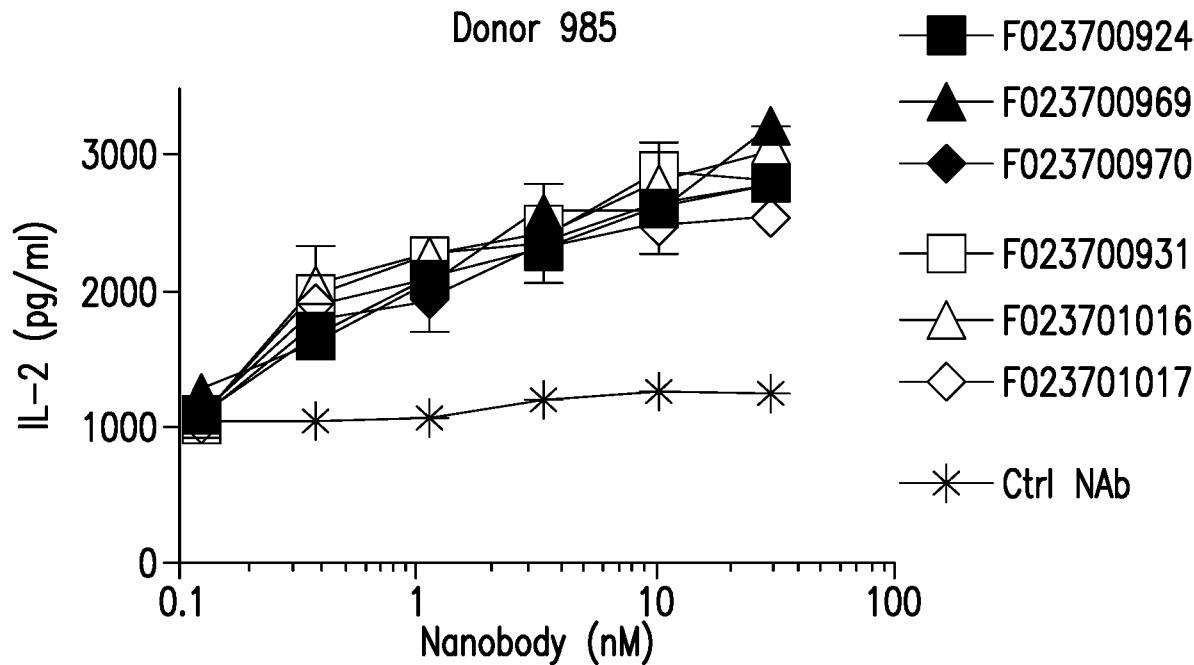


FIG.13Q

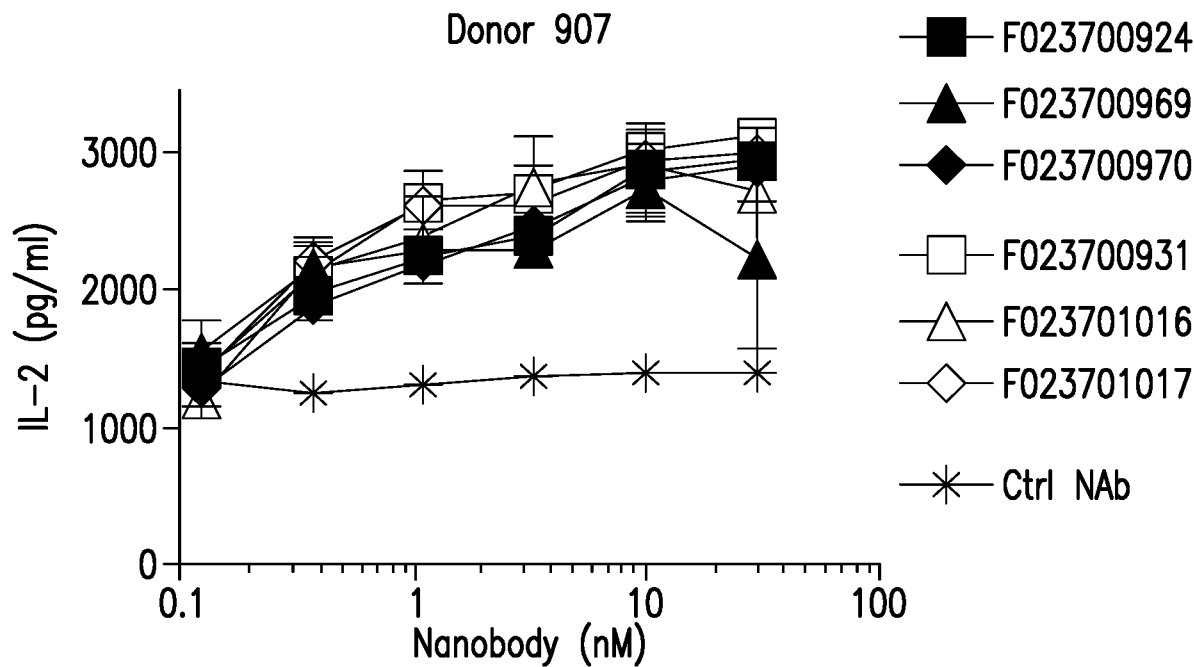


FIG.13R

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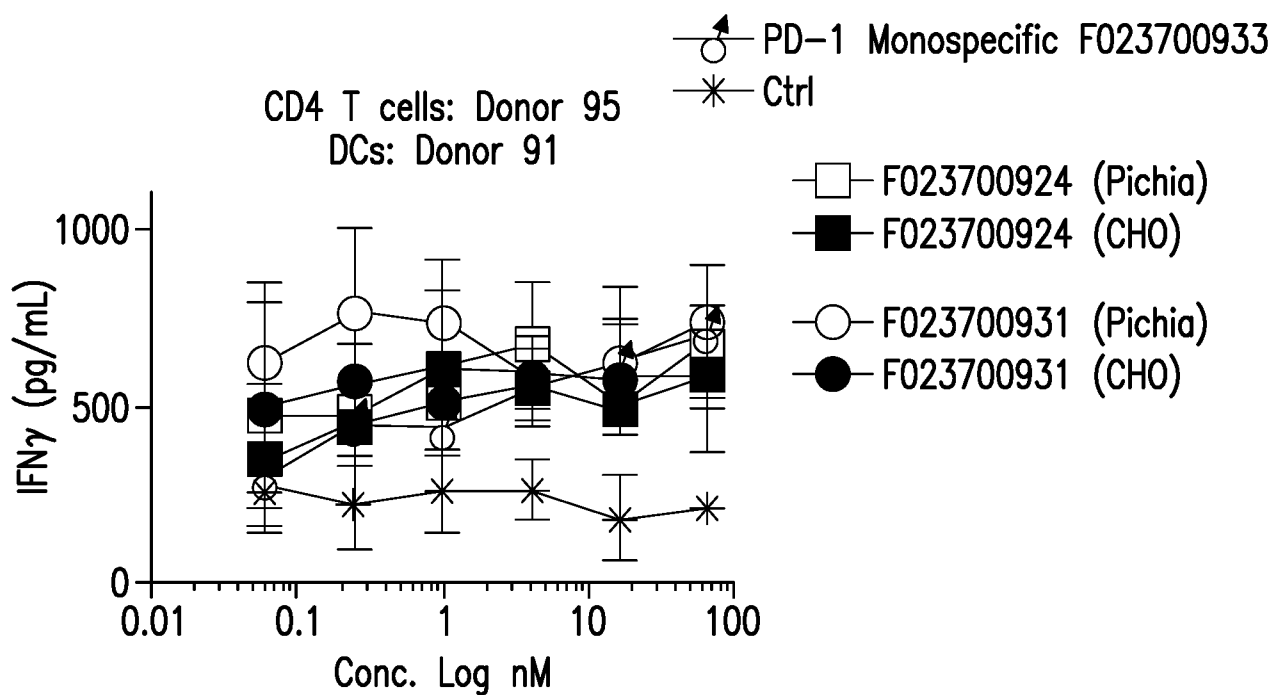


FIG.14A

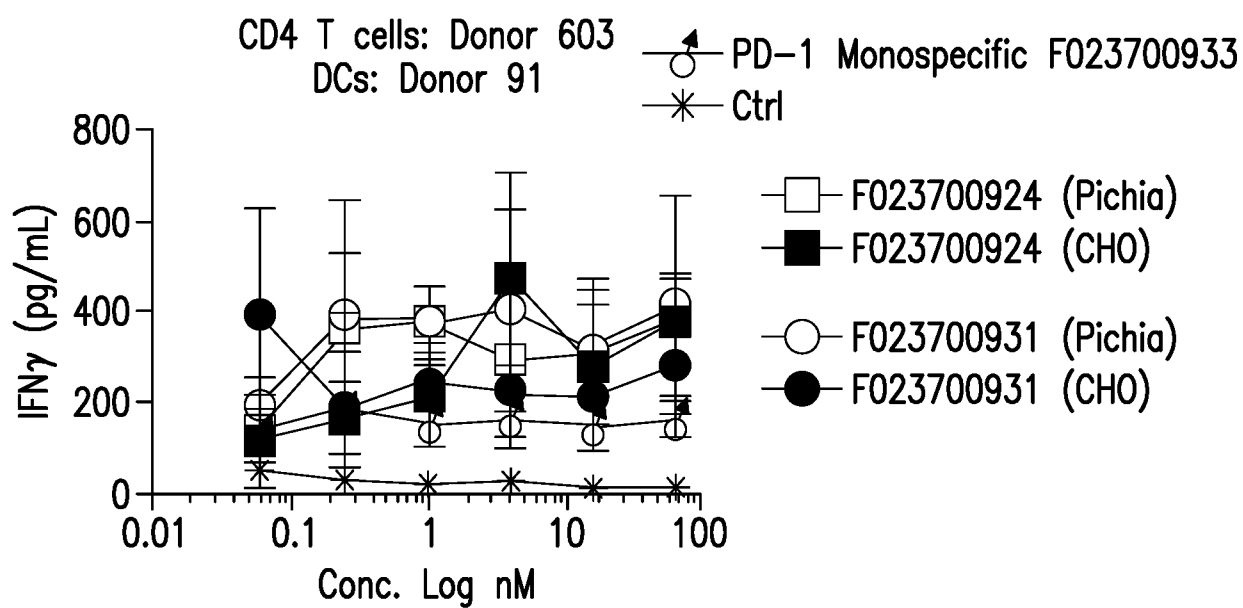
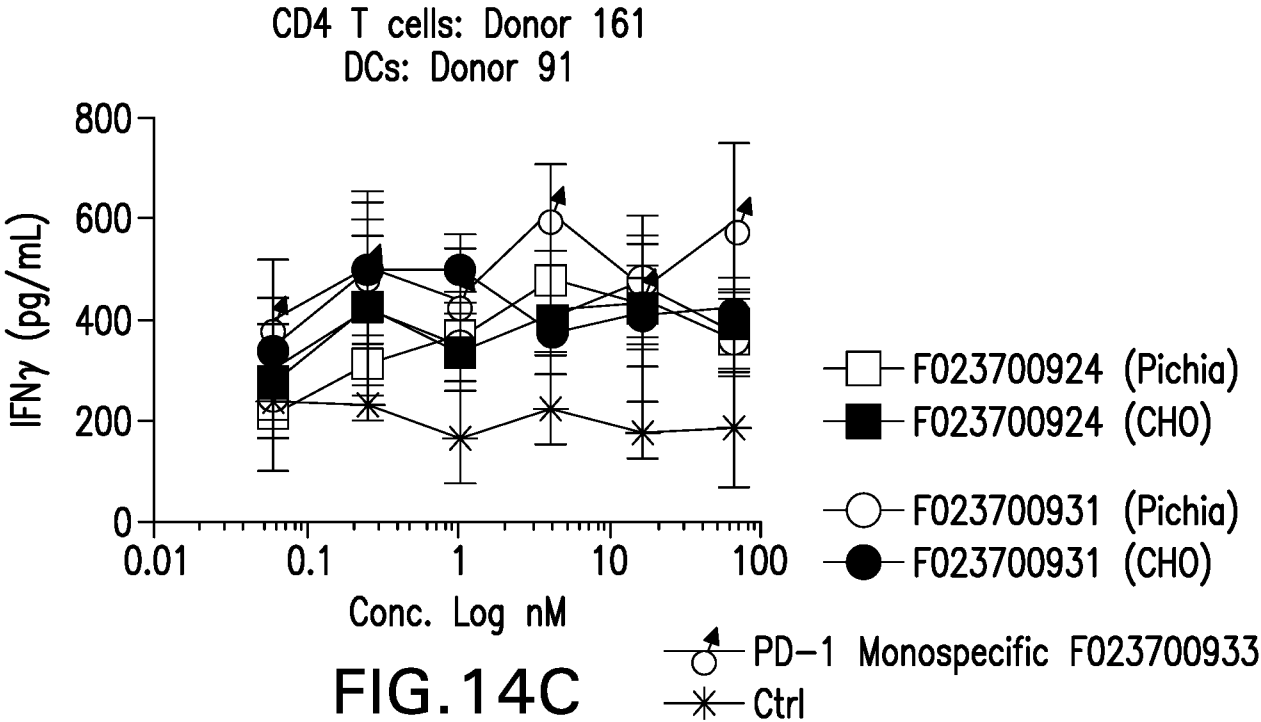
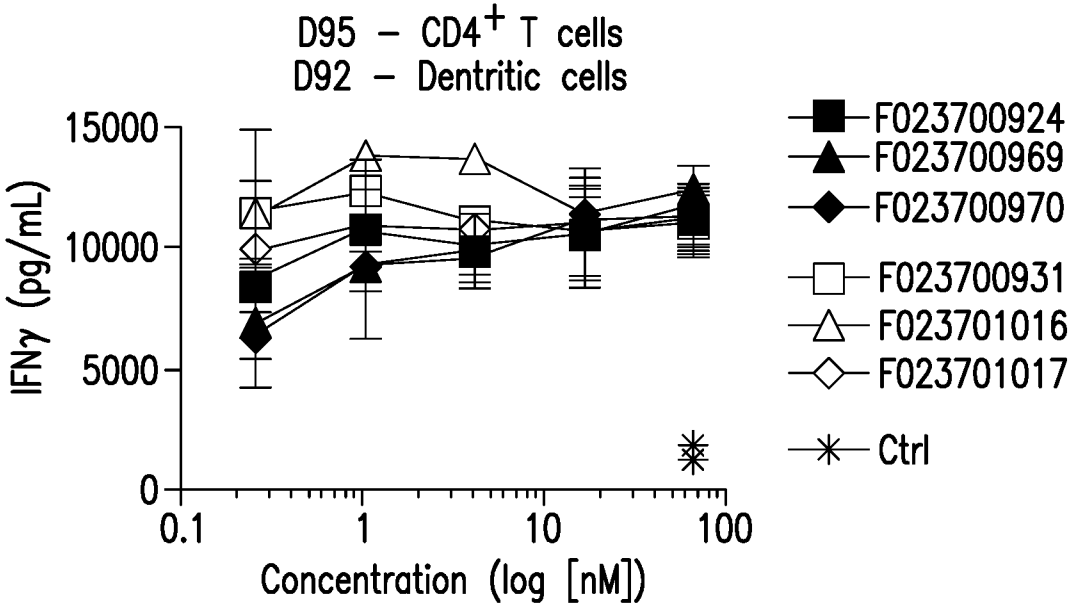


FIG.14B

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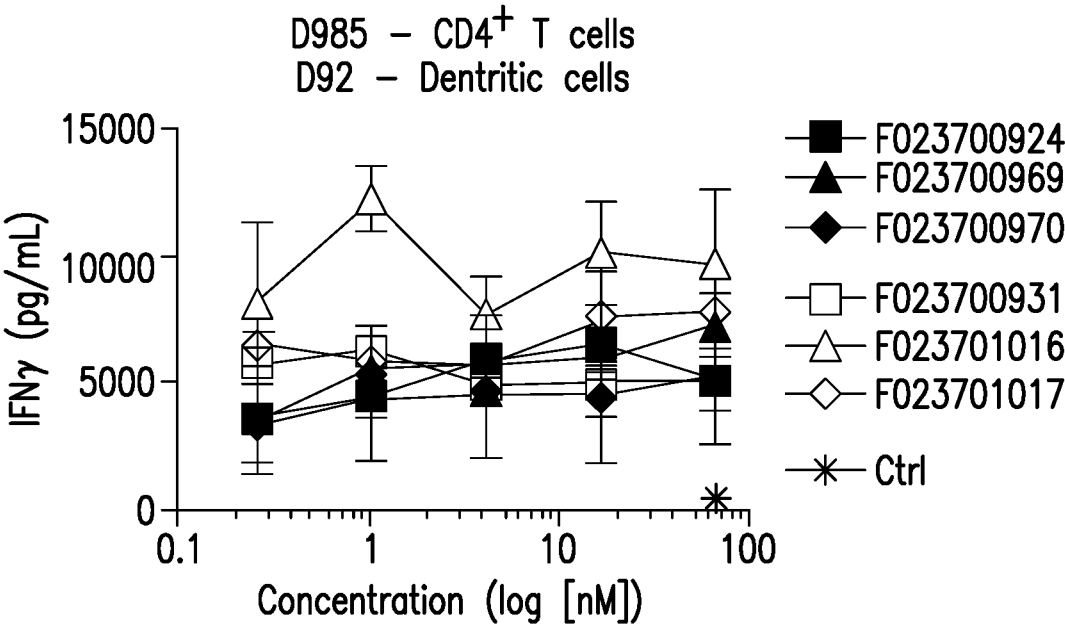


FIG.14E

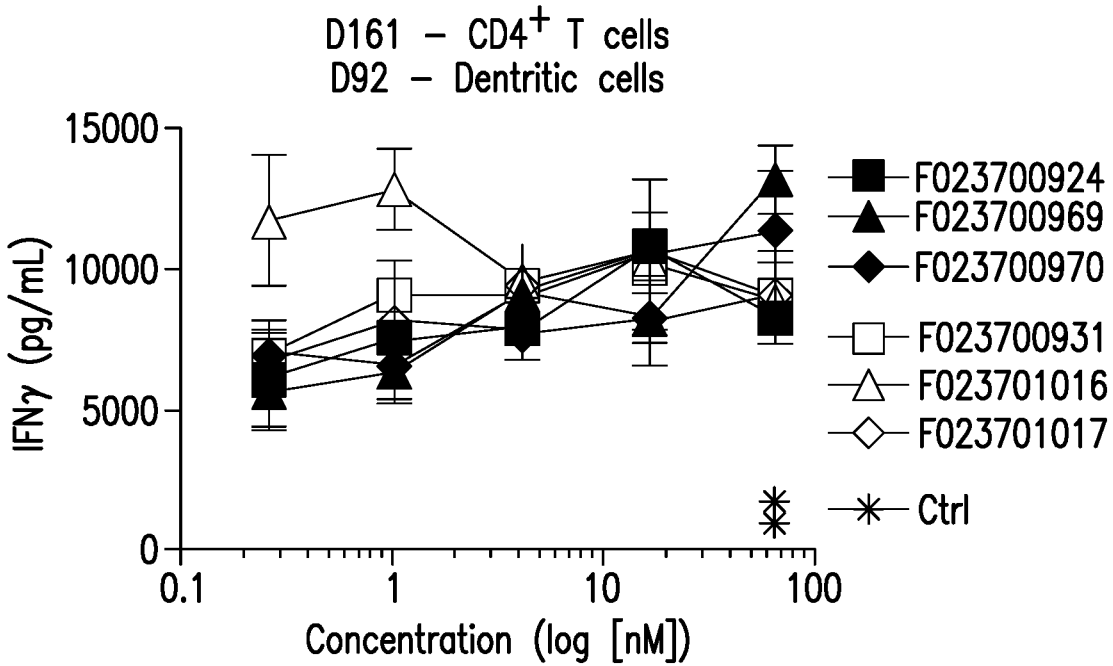


FIG.14F

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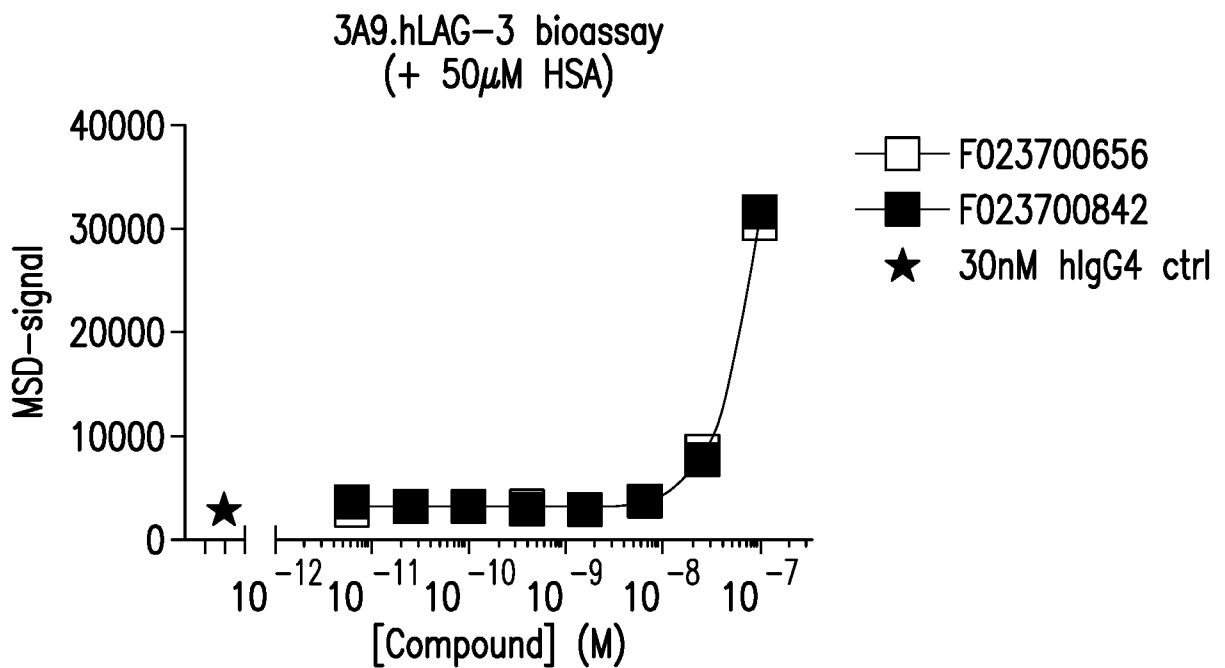


FIG.15A

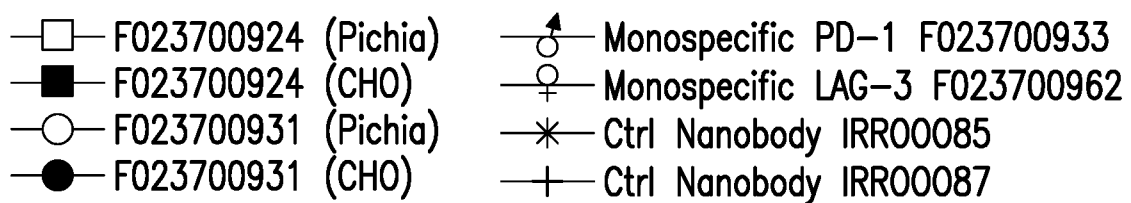
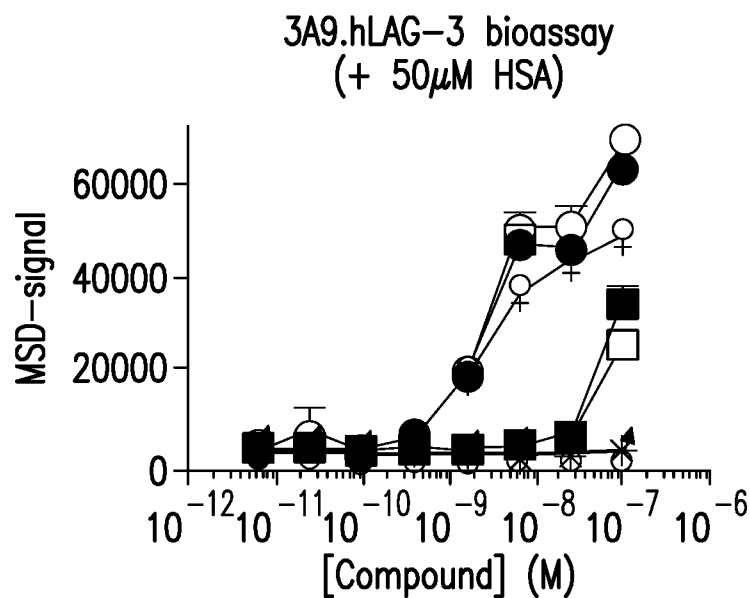


FIG.15B

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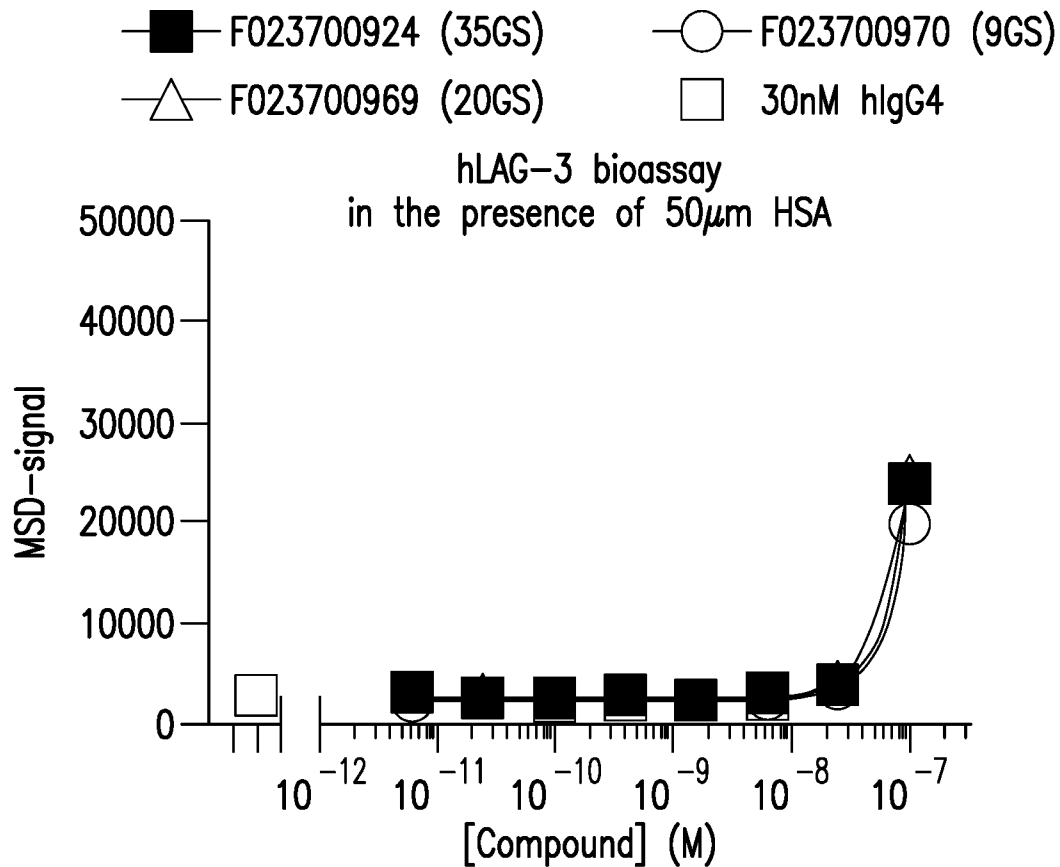


FIG. 15C

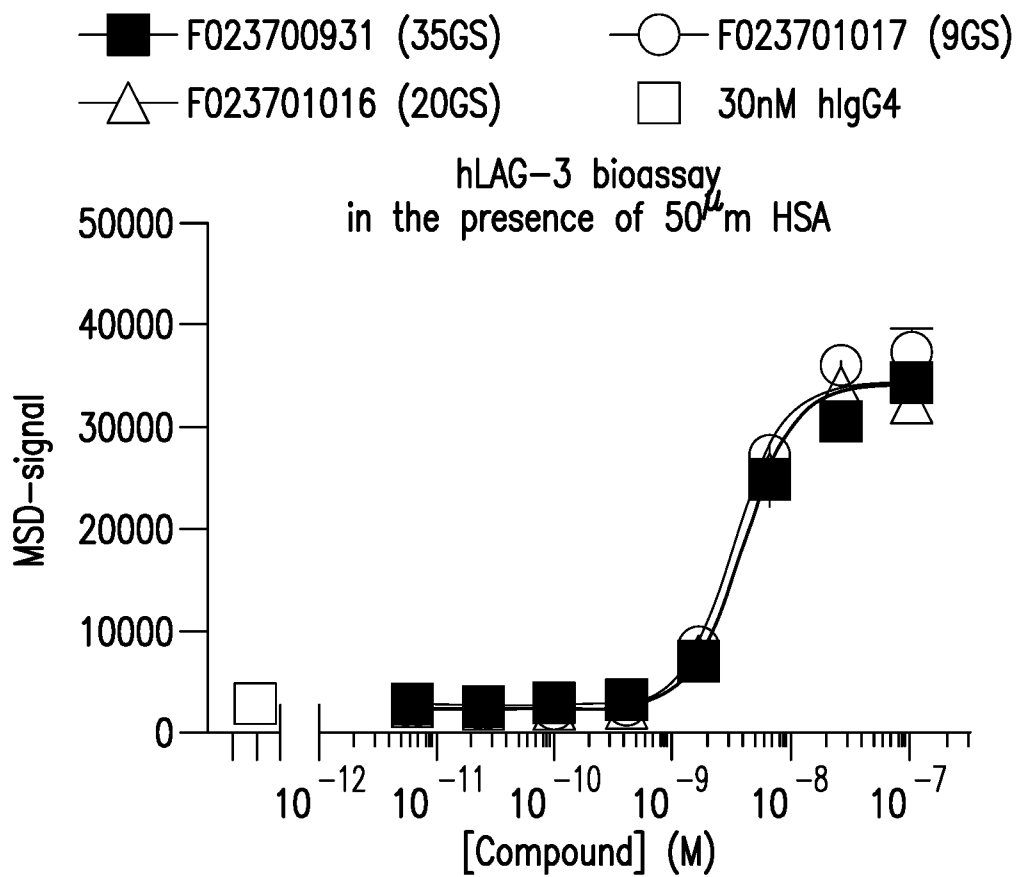


FIG. 15D

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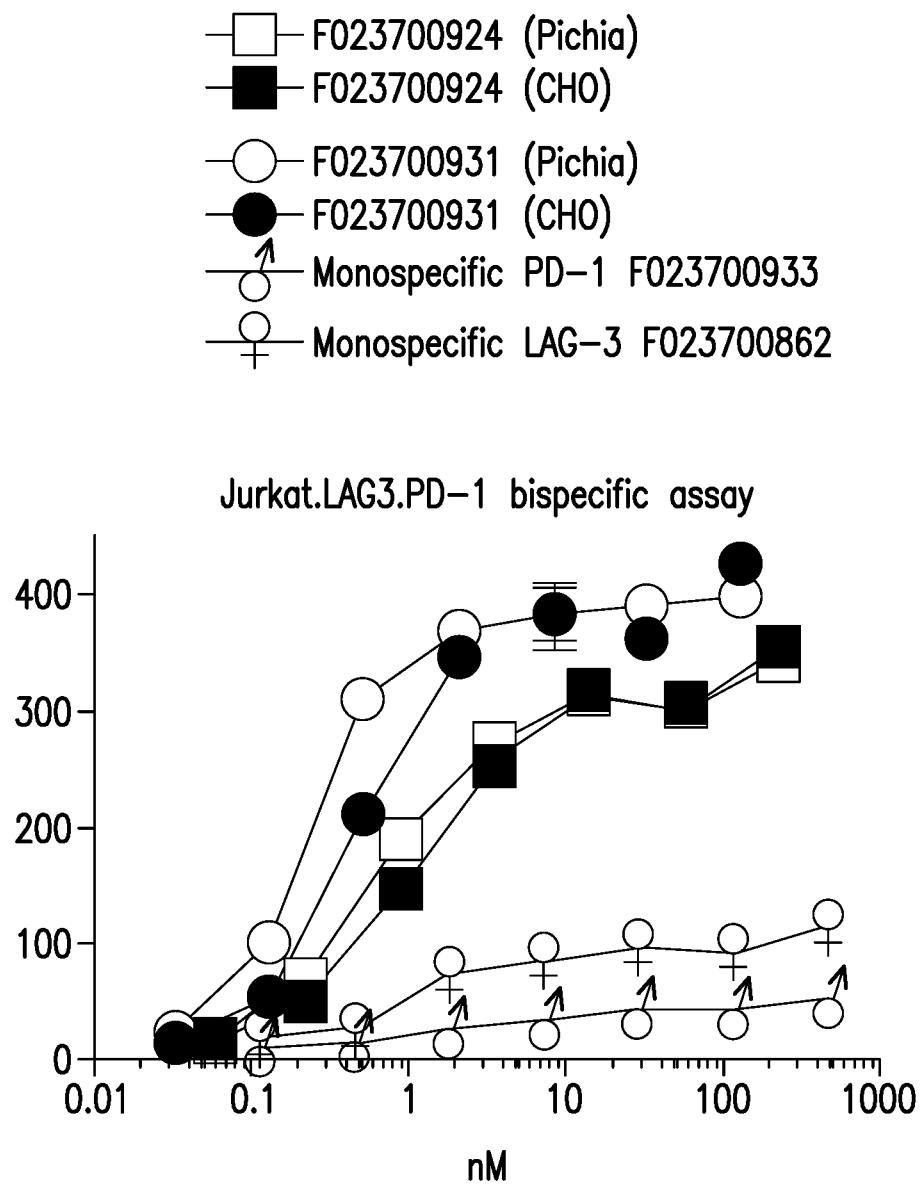


FIG. 16A

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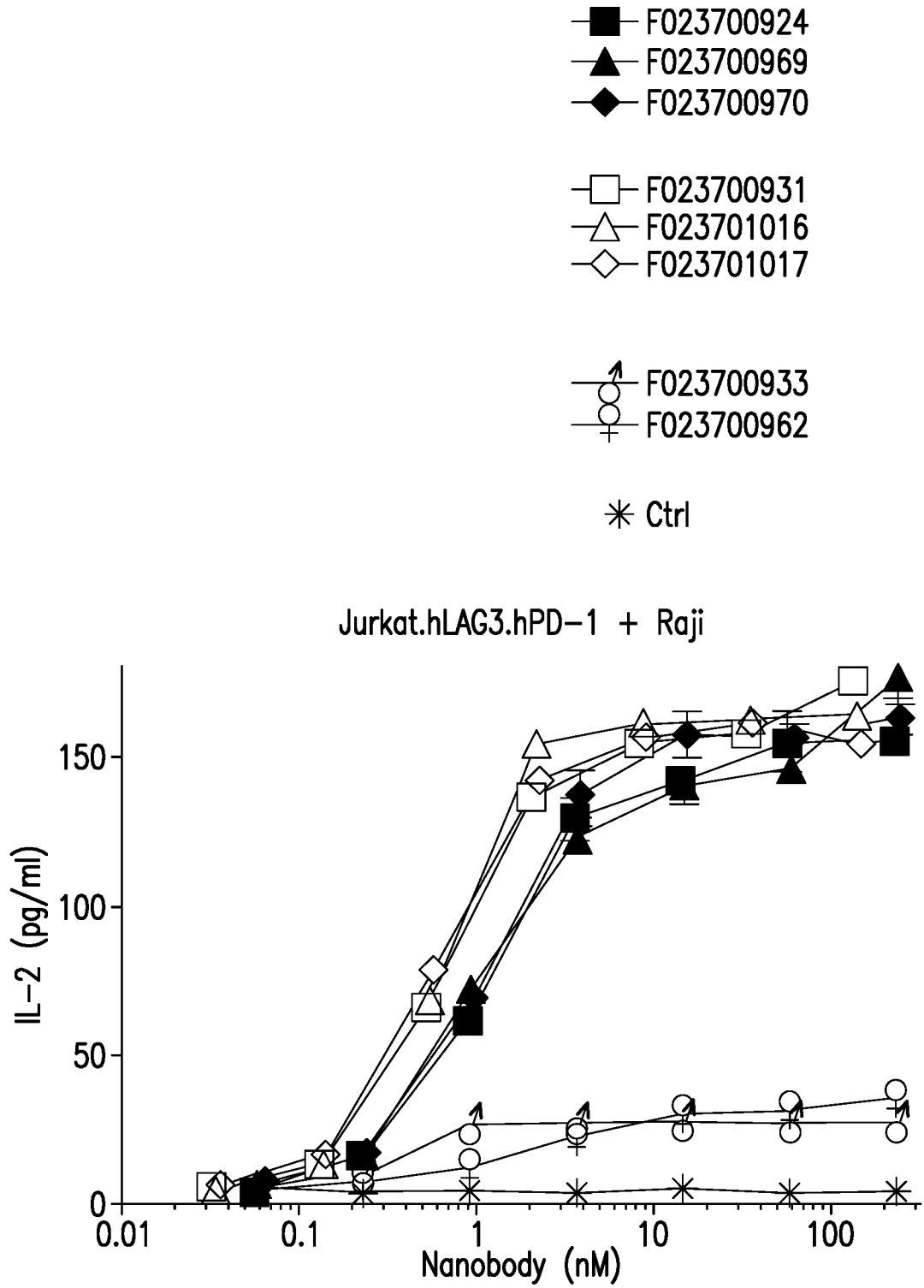


FIG.16B

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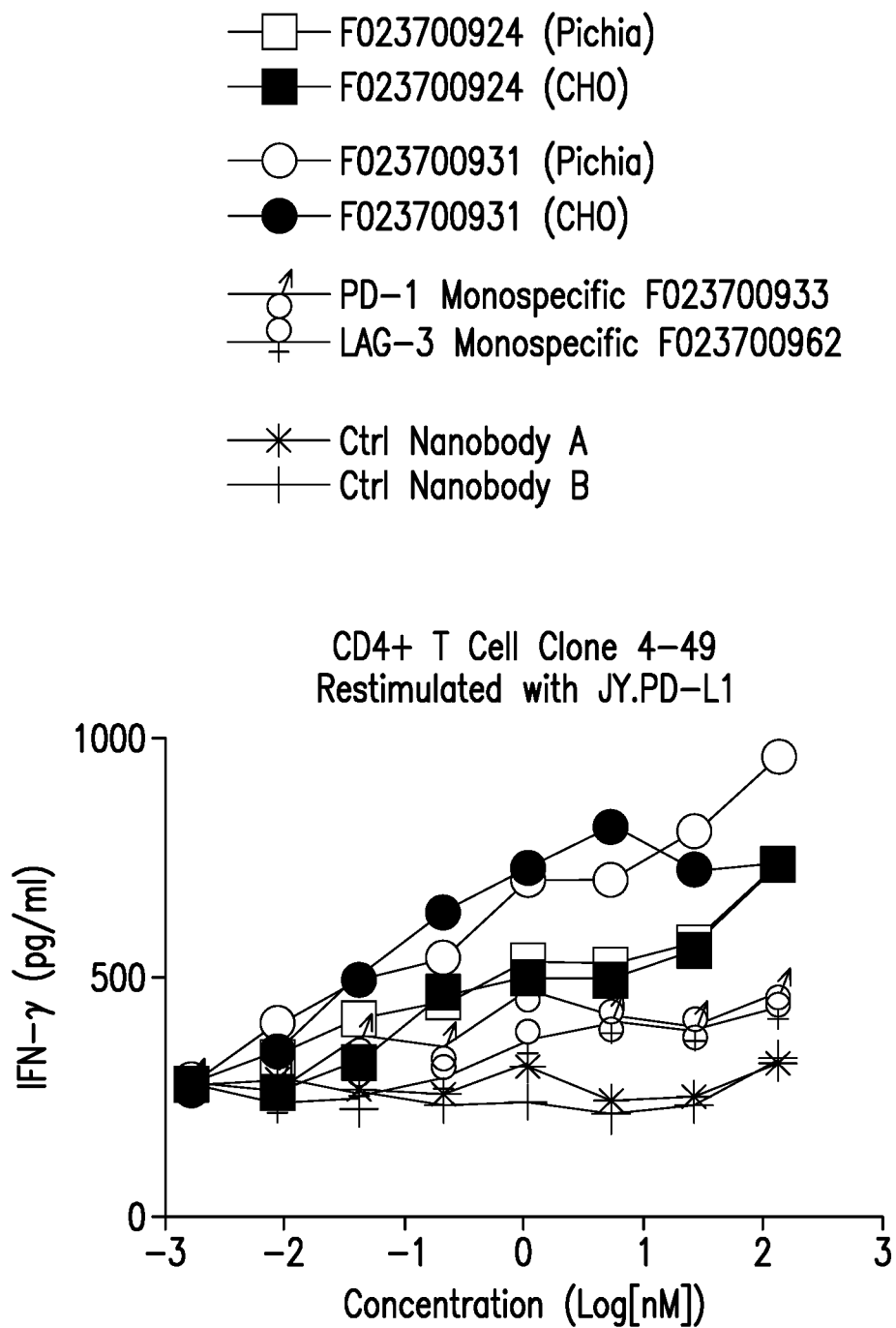


FIG.17A

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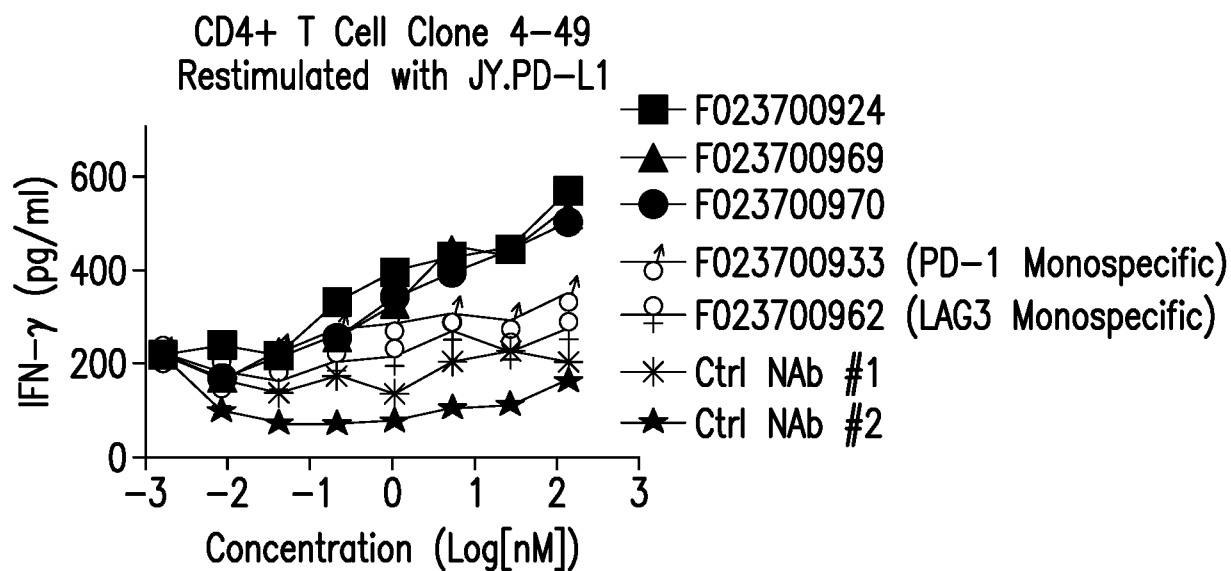


FIG.17B

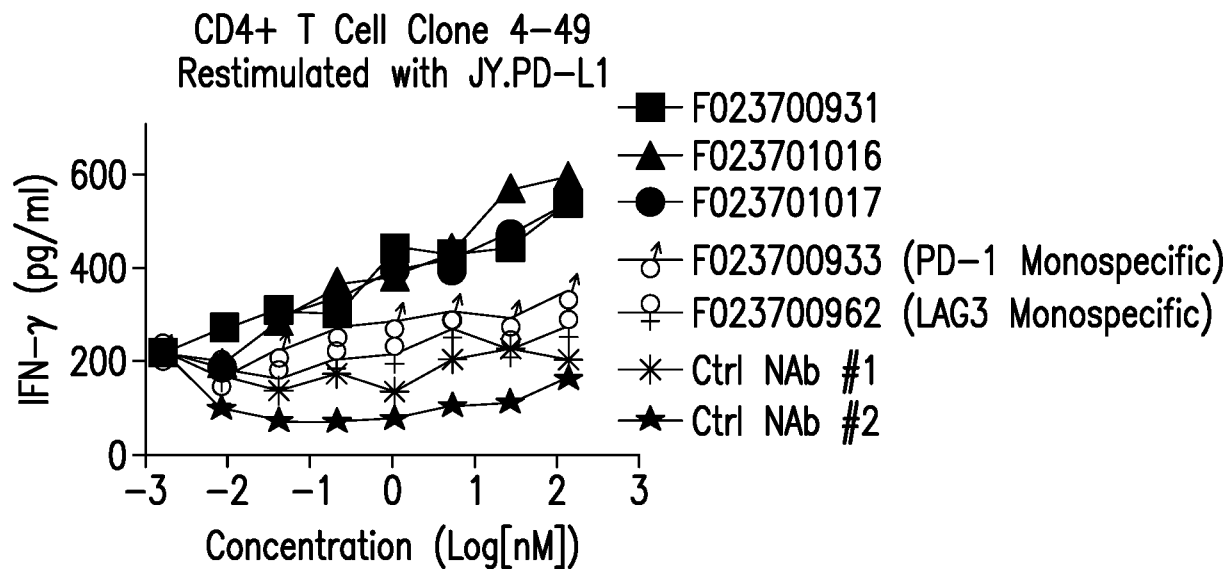


FIG.17C

	Reagent	Description	Target	Sequence
Parent 611B09	F0237611B09	F0237611B09-FLAG3-HIS6 (SEQ ID NO: 128)	hLAG-3	EVQLVESGGGLVQAGGSLRLSCAASGRFSDYVMGWFRQARGNEREFVAAI SESGGR THYADAVKGRFTISRDNKNTLYLQMNSLKPEDTAVYYCATTLWWTSEYAPIKAND YDYWGQGTLVTVSSAAADYKDHDIDYKDDDDKGAAHHHHH
611B09 with E1D	F023700656	F0237611B09(E1D)-HIS6 (SEQ ID NO: 129)	hLAG-3	DVQLVESGGGLVQAGGSLRLSCAASGRFSDYVMGWFRQARGNEREFVAAI SESGGR THYADAVKGRFTISRDNKNTLYLQMNSLKPEDTAVYYCATTLWWTSEYAPIKAND YDYWGQGTLVTVSSAAAAHHHHH
S0 611B09 monomer	F023700842	F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R, V89L)-FLAG3-HIS6 (SEQ ID NO: 130)	hLAG-3	EVQLVESGGGVQPGGSLRLSCAASGRFSDYVMGWFRQAPGKEREFVAAI SESGGR THYADSVKGRFTISRDNKNTLYLQMNSLRPDTALYYCATTLWWTSEYAPIKAND YDYWGQGTLVTVSSAAADYKDHDIDYKDDDDKGAAHHHHH
Monovalent S0 611B09 + ALB201	F023701128	F0237611B09(E1D,L11V,A14 P,R41P,N43K,A62S,A74S,K8 3R,V89L)-35GS-ALB11002-A (SEQ ID NO: 96)	hLAG-3	DVQLVESGGGVQPGGSLRLSCAASGRFSDYVMGWFRQAPGKEREFVAAI SESGGR THYADSVKGRFTISRDNKNTLYLQMNSLRPDTALYYCATTLWWTSEYAPIKAND YDYWGQGTLVTVSSGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQL VESG GGVVQPGNSLRLSCAASGFTFSFGMSWVRQAPGKGLEWVSSI SCGSGSDLTYADSVK GRFTISRDNKNTLYLQMNSLRPDTALYYCTIGGSLSRSSQGT LVTVSSA

FIG. 18A

Bivalent S0 611B09 + ALB201	F023700962	F0237611B09(E1D,L11V,A14 P,R41P,N43K,A62S,A74S,K8 3R,V89L)–35GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R, V89L)–35GS–ALB11002–A (SEQ ID NO: 97)	hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGRTFSDYVMGWFRQAPGKEREFVAAISESGGR THYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTLWWTSEYAPIKAND YDYWGQGTLVTVSSGGGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESG GGWQPGGSLRLSCAASGRTFSDYVMGWFRQAPGKEREFVAAISESGGRTHYADSVK GRFTISRDNKNTLYLQMNSLRPEDTALYYCATTLWWTSEYAPIKANDYDYWGQG TLVTVSSGGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGN SLRLSCAASGRTFSSFGMSWVRQAPGKGLEWVSSI SSGSGSDTLYADSVKGRFTISR D NAKTTLYLQMNSLRPEDTALYYCTIGGSLSRSSQGTLVTVSSA
Partial S0 1PD102C 12	F023700275	1PD102C12(A14P,A74S,K83 R)–FLAG3–HIS6 (SEQ ID NO: 131)	hPD–1	EVQLVESGGGLVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVLYLQMNSLRPEDTAYYACGDKHQSSWYDYWGQGT L VTSSAAADYKDHGDYKDHDIDYKDDDDDKGAHHHHH
S0 1PD102C 12 monomer	F023700706	1PD102C12(L11V,A14P,A74 S,K83R,I89L)–FLAG3–HIS6 (SEQ ID NO: 132)	hPD–1	EVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVLYLQMNSLRPEDTALYYACGDKHQSSWYDYWGQGT L VTSSAAADYKDHGDYKDHDIDYKDDDDDKGAHHHHH

FIG. 18B

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S0 1PD102C 12 monomer	F023700929	1PD102C12(L11V,A14P,A74 S,K83R,I89L)-HIS6 (SEQ ID NO: 133)	hPD-1	EVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTL VTVSSHHHHH
Monovalent S0 1PD102C 12 + ALB201	F023701127	1PD102C12(E1D,L11V,A14P, A74S,K83R,I89L)-35GS- ALB11002-A (SEQ ID NO: 101)	hPD-1	DVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTL VTVSSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVWQPGNS LRLSCAASGFTFSFGMSWVRQAPGKGLEWVSSIISGSGSDTLYADSVKGRFTISRDN AKTTLYLQMNSLRPEDTALYYCTIGGSLSRSSQGLVTVSSA
Bivalent S0 1PD102C 12 + ALB201	F023700933	1PD102C12(E1D,L11V,A14P, A74S,K83R,I89L)-35GS- 1PD102C12(L11V,A14P,A74 S,K83R,I89L)-35GS- ALB11002-A (SEQ ID NO: 102)	hPD-1	DVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTL VTVSSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVWQPGGS LRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGGITYYADSVKGRFTISRDN SKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTLVTVSSGGGSGGGSGG GGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVWQPGNSLRSCAASGFTFSFGM SWVRQAPGKGLEWVSSIISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDT ALYYCTIGGSLSRSSQGLVTVSSA

FIG. 18C

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Enhanced S0 1PD102C 12 monomer	F023701190	1PD102C12(E1D,L11V,A14P, W52aV,A74S,K83R,I89L,W10 0aF)–HIS6 (SEQ ID NO: 134)	hPD–1	DVQLVESGGGWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSAAHHHHHH
Enhanced S0 1PD102C 12 monomer	F023701192	1PD102C12(E1D,L11V,A14P, W52aV,N73Q,A74S,K83R,I89 L,W100aF)–HIS6 (SEQ ID NO: 135)	hPD–1	DVQLVESGGGWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRQSKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSAAHHHHHH
Enhanced S0 1PD102C 12 monomer	F023701193	1PD102C12(E1D,L11V,A14P, W52aV,N73P,A74S,K83R,I89 L,W100aF)–HIS6 (SEQ ID NO: 136)	hPD–1	DVQLVESGGGWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSAAHHHHHH

FIG. 18D

Pentamer #1	F023700899	1PD102C12(A14P,A74S,K83 R)–35GS– 1PD102C12(A14P,A74S,K83 R)–35GS–F023611B09– 35GS–F0237611B09–35GS– ALB11 (SEQ ID NO: 106)	hPD– 1/hLAG3	EVQLVESGGGLVQPGGSLRLSCAASGSIASIHAMGWFRRQAPGKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTAIYYCAGDKHQSSWYDYMCGGTL VTVSSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGLVQPGGSL LRLSCAASGSIASIHAMGWFRRQAPGKEREFVAVITWGGIYYADSVKGRFTISRDN SKNTVYLQMNSLRPEDTAIYYCAGDKHQSSWYDYMCGGTLVTVSSGGGSGGGSGG GGSGGGSGGGSGGGSGGGSEVQLVESGGGLVQAGGSLRLSCAASGRTFSDYVM GWFRQARGNEREFVAAISESGRTHYADAVKGRFTISRDNKNTLYLQMNSLKPEDT AVYYCATLLWWTSEYAPIKANDYDYMCGGTLVTVSSGGGSGGGSGGGSGGGSGG GGSGGGSGGGSGGGSEVQLVESGGGLVQAGGSLRLSCAASGRTFSDYVMGWFRRQARG NEREFVAAISESGRTHYADAVKGRFTISRDNKNTLYLQMNSLKPEDTAVYYCAT LLWWTSEYAPIKANDYDYMCGGTLVTVSSGGGSGGGSGGGSGGGSGGGSGGG GSGGGSEVQLVESGGGLVQPGNSLRLSCAASGRTFSSFGMSWVRQAPGKGLEWVSS ISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTAVYYCTIGGSLSRSSQ GTLVTVSS
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FIG.18E

Pentamer	F023700931	<p>1PD102C12 (E1D,L11V,A14P,A74S,K83R, I89L)–35GS–1PD102C12 (L11V,A14P,A74S,K83R,I89L) –35GS–F0237600B09 (L11V,A14P,R41P,N43K,A62 S,A74S,K83R,V89L)–35GS– F0237611B09 (L11V,A14P,R41P,N43K,A62 S,A74S,K83R,V89L)–35GS– ALB11002–A (SEQ ID NO: 107)</p>	hPD– 1/hLAG–3	<p>DVQLVESGGGVVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYGQGTL VTSSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVVQPGGS LRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWSGITYYADSVKGRFTISRDN SKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYGQGTLVTSSGGGSGGGSGGG GGSGGGSGGGSGGGSGGGSEVQLVESGGGVVQPGGSLRLSCAASGRFTSDYVM GWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDT ALYYCATTLWWTSEYAPIKANDYDYGQGTLVTSSGGGSGGGSGGGSGGGSGGG GGGSGGGSGGGSEVQLVESGGGVVQPGGSLRLSCAASGRFTSDYVMGWFRQAPG KEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCAT LLWWTSEYAPIKANDYDYGQGTLVTSSGGGSGGGSGGGSGGGSGGGSGGG SGGGSEVQLVESGGGVVQPGNSLRLSCAASGFTSFSGMSWVRQAPGKGLEWSS ISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCTIGGSLSRSSQ GTLVTVSSA</p>
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FIG. 18F

Pentamer with 20GS	F023701016	102C12(E1D,L11V,A14P,A74 S,K83R,I89L)–20GS– 102C12(L11V,A14P,A74S,K8 3R,I89L)–20GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R, 89L)–20GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R,V89L –20GS–ALB11002–A (SEQ ID NO: 108)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTL VTVSSGGGGSGGGSGGGGSEVQLVESGGGVQPGGSLRLSCAASGSIASIH AMGWFRQAPGKEREFVAVITWGGITYYADSVKGRFTISRDNKNTVYLQMNSLRPE DTALYYCAGDKHQSSWYDYWGQGTLLTVSSGGGGSGGGGSEVQLVES GGGVQPGGSLRLSCAASGRTFSDYMGWFRQAPGKEREFVAAISESGGRTHYADSV KGRFTISRDNKNTLYLQMNSLRPEDTALYYCATLLWWTSEYAPIKANDYDYWGQG TLTVTSSGGGGSGGGSGGGGSEVQLVESGGGVQPGGSLRLSCAASGRTFS DYMGWFRQAPGKEREFVAAISESGGRTHYADSVKGRFTISRDNKNTLYLQMNSLR PEDTALYYCATLLWWTSEYAPIKANDYDYWGQGTLLTVTSSGGGGSGGGGSGGGSG GGSEVQLVESGGGVQPGNSLRSCAASGTFSSFGMSWVRQAPGKLEWVSSIIG SGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCTIGGSLSRSSQGTL VTVSSA
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FIG. 18G

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Pentamer with 9GS	F023701017	102C12(E1D,L11V,A14P,A74 S,K83R,I89L)–9GS– 102C12(L11V,A14P,A74S,K8 3R,I89L)–9GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R, V89L)–9GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R, 89L)–9GS–ALB11002–A (SEQ ID NO: 109)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYGQGT LVTSSGGGGSGGSEVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPK EREFVAVITWGGITYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDK HQSSWYDYGQGT LVTSSGGGGSGGSEVQLVESGGGVQPGGSLRLSCAASGRFT SDYVMGWFRAQPKEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSL RPEDTALYYCATTLLWMTSEYAPIKANDYDYGQGT LVTSSGGGGSGGSEVQLVE SGGGVQPGGSLRLSCAASGRFTSDYVMGWFRAQPKEREFVAAISESGRTHYADS VKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTLLWMTSEYAPIKANDYDYGQ GTLVTSSGGGGSGGSEVQLVESGGGVQPGNLSRLSCAASGFTSSFGMSWVRQA PGKLEWVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCT IGGSLSRSSQGT LVTVSSA
Trimer	F023700924	1PD102C12 (E1D,L11V,A14P,A74S,K83R, I89L)–35GS–F0237611B09 (L11V,A14P,R41P,N43K,A62 S,A74S,K83R,V89L)–35GS– ALB11002–A (SEQ ID NO: 110)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPKEREFVAVITWGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYGQGT LVTSSGGGGSGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGS LRLSCAASGRFTSDYVMGWFRAQPKEREFVAAISESGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTALYYCATTLLWMTSEYAPIKANDYDYGQGT LVTSSGGG GSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGNLSRLSCAAS GFTSSFGMSWVRQAPGKLEWVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQ MNSLRPEDTALYYCTIGGSLSRSSQGT LVTVSSA

FIG. 18H

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Trimer with 20GS	F023700969	102C12(E1D,L11V,A14P,A74 S,K83R,I89L)–20GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R,V 89L)–20GS–ALB11002–A (SEQ ID NO: 111)	hPD– 1/hLAG–3	DVQLVESGGGWQPGGSLRLSCAASGSIASIHANGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTLL VTVSSGGGGSGGGSGGGGGSEVQLVESGGGWQPGGSLRLSCAASGRTFSDY VMGWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPE DTALYYCATTLWWTSEYAPIKANDYDYWGQGTLLTVSSGGGGSGGGSGGGSGGG GSEVQLVESGGGWQPGNSLRLSCAASGFTFSFGMSWVRQAPGKLEWSSISGSG SDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCTIGGSLSRSSQGTLLVT VSSA
Trimer with 9GS	F023700970	102C12(E1D,L11V,A14P,A74 S,K83R,I89L)–9GS– F0237611B09(L11V,A14P,R4 1P,N43K,A62S,A74S,K83R,V 89L)–9GS–ALB11002–A (SEQ ID NO: 112)	hPD– 1/hLAG–3	DVQLVESGGGWQPGGSLRLSCAASGSIASIHANGWFRQAPGKEREFVAVITWSGGI TYYADSVKGRFTISRDNKNTVYLQMNSLRPEDTALYYCAGDKHQSSWYDYWGQGTLL VTVSSGGGGSGGGSEVQLVESGGGWQPGGSLRLSCAASGRTFSDYVMGWFRQAPGK EREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LWWTSEYAPIKANDYDYWGQGTLLTVSSGGGGSGGGSEVQLVESGGGWQPGNSLRL SCAASGFTFSFGMSWVRQAPGKLEWSSISGSGSDTLYADSVKGRFTISRDNKNT TLYLQMNSLRPEDTALYYCTIGGSLSRSSQGTLLVTSSA

FIG. 18I

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Pentamer /35GS	F023701163	1PD102C12 (E1D, L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–35GS– 1PD102C12 (L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 113)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDP SKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGS LRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGITYYADSVKGRFTISRDP SKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTLVTVSSGGGSGGGSGGG GGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRFTSDYVM GWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPEDT ALYYCATTLWWITSEYAPIKANDYDYWGQGTLVTVSSGGGSGGGSGGGSGGGGS GGGSGGGSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRFTSDYVMGWFRQAPG KEREFVAAISESGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTALYYCATT LLWWITSEYAPIKANDYDYWGQGTLVTVSSGGGSGGGSGGGSGGGSGGGSGGG GGGGSEVQLVESGGGVQPGNSLRLSCAASGRFTSFSGMSWVRQAPGKLEWSS ISGSGSDTLYADSVKGRFTISRDN AKTTLYLQMNSLRPEDTALYYCTIGGSLRSPSSQ GTLVTVSSA
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FIG. 18J

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Pentamer /9GS	F023701168	1PD102C12 (E1D, L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–9GS– 1PD102C12 (L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS– F023700842–9GS–ALB11002–A (SEQ ID NO: 114)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPKGEREFVAVITVSGGI TYYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGT LVTSKGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPKG EREFVAVITVSGGITYYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDK HQSSFYDYWGQGTLVTSKGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRFT SDYVMGWFRAQPKGEREFVAAISESGGRTHYADSVKGRFTISRDNKNTLYLQMNSL RPEDTALYYCATTLWWTSEYAPIKANDYDYWGQGTLVTSKGGSGGGSEVQLVE SGGVQPGGSLRLSCAASGRFTSDYVMGWFRAQPKGEREFVAAISESGGRTHYADS VKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTLWWTSEYAPIKANDYDYWGQ GTLVTSSGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGFTSSFGMSWVRQA PGKGLEWSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCT IGGSLSRSSQGTLVTVSSA
Trimer/ 35GS	F023701173	1PD102C12 (E1D, L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 115)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPKGEREFVAVITVSGGI TYYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGT LVTSKGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGS LRLSCAASGRFTSDYVMGWFRAQPKGEREFVAAISESGGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTALYYCATTLWWTSEYAPIKANDYDYWGQGTLVTVSSGGG GSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAAS GFTSSFGMSWVRQAQPKGLEWSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQ MNSLRPEDTALYYCTIGGSLSRSSQGTLVTVSSA

FIG. 18K

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Trimer /9GS	F023701178	1PD102C12 (E1D, L11V, A14P, W52aV, N73P, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS–ALB11002–A (SEQ ID NO: 116)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TTYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYGQGGL VTVSSGGGGGGSEVQLVESGGGVQPGGSLRLSCAASGRTFSDYVMGWFRQAPGK EREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LWWTSEYAPIKANDYDYGQGLVTVSSGGGGGGSEVQLVESGGGVQPGNSLRL SCAASGFTSSFGMSWVRQAPGKLEWSSISGSGSDTLYADSVKGRFTISRDNKNT TLYLQMNSLRPEDTALYYCTIGGSLSRSSQGLTVTVSSA
Pentamer /35GS	F023701161	1PD102C12 (E1D, L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–35GS– 1PD102C12 (L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 117)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TTYADSVKGRFTISRDPKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYGQGGL VTVSSGGGGGGSEVQLVESGGGVQPGGSLRLSCAASGRTFSDYVMGWFRQAPGK EREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LWWTSEYAPIKANDYDYGQGLVTVSSGGGGGGSEVQLVESGGGVQPGNSLRL SCAASGFTSSFGMSWVRQAPGKLEWSSISGSGSDTLYADSVKGRFTISRDNKNT TLYLQMNSLRPEDTALYYCTIGGSLSRSSQGLTVTVSSA

FIG. 18L

Pentamer /9GS	F023701166	1PD102C12 (E1D, L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–9GS– 1PD102C12 (L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS– F023700842–9GS–ALB11002–A (SEQ ID NO: 118)	hPD– 1/hLAG–3	DVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLYQMNSLRPDTALYYCAGDKHQSSFYDYWGQGT LVTSSGGGSGGGSEVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGK EREFVAVITVSGGIYYADSVKGRFTISRDSKNTVYLYQMNSLRPDTALYYCAGDK HQSSFYDYWGQGT LVTSSGGGSGGGSEVQLVESGGGVWQPGGSLRLSCAASGRTF SDYMGWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDSKNTLYLQMNSL RPDTALYYCATTLWWTSEYAPIKANDYDYWGQGT LVTSSGGGSGGGSEVQLVE SGGGVWQPGGSLRLSCAASGRTFSDYMGWFRQAPGKEREFVAAISESGRTHYADS VKGRFTISRDSKNTLYLQMNSLRPDTALYYCATTLWWTSEYAPIKANDYDYWGQ GTLVTSSGGGSGGGSEVQLVESGGGVWQPGGSLRLSCAASGRTFSSFGMSWVRQA PGKLEWSSISGSGSDTLYADSVKGRFTISRDNAKTTLYLQMNSLRPDTALYYCT IGGSLSRSSQGT LVTVSSA
Trimer /35GS	F023701171	1PD102C12 (E1D, L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 119)	hPD– 1/hLAG–3	DVQLVESGGGVWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLYQMNSLRPDTALYYCAGDKHQSSFYDYWGQGT LVTSSGGGSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVWQPGG LRLSCAASGRTFSDYMGWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPDTALYYCATTLWWTSEYAPIKANDYDYWGQGT LVTSSGGG SGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVWQPGGSLRLSCAAS GRTFSSFGMSWVRQAPGKLEWSSISGSGSDTLYADSVKGRFTISRDNAKTTLYLQ MNSLRPDTALYYCTIGGSLSRSSQGT LVTVSSA

FIG. 18M

Trimer /9GS	F023701176	1PD102C12 (E1D, L11V, A14P, W52aV, N73Q, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS–ALB11002–A (SEQ ID NO: 120)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRITFSDYVMGWFRAQPGK EREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LWWTSEYAPIKANDYDYGQGLVTVSSGGGSGGGSEVQLVESGGGVQPGNSLRRL SCAASGFTFSFGMSWVRQAPGKLEWVSSISGSGSDTLYADSVKGRFTISRDNKNT TLYLQMNSLRPEDTALYYCTIGGSLRSSQGLVTVSSA
Pentamer /35GS	F023701162	1PD102C12 (E1D, L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–35GS– 1PD102C12 (L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 121)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRAQPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGS LRLSCAASGSIASIHAMGWFRAQPGKEREFVAVITVSGGITYYADSVKGRFTISRDS SKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGLVTVSSGGGSGGGSGGG GGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRITFSDYVM GWFRAQPGKEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDT ALYYCATTLWWTSEYAPIKANDYDYGQGLVTVSSGGGSGGGSGGGSGGGSGGG GGSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRITFSDYVMGWFRAQPG KEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LLWWTSEYAPIKANDYDYGQGLVTVSSGGGSGGGSGGGSGGGSGGGSGGGSGGG GGGGSGGGSEVQLVESGGGVQPGNSLRSCAASGFTFSFGMSWVRQAPGKLEWVSS ISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCTIGGSLRSSQ GTLVTVSSA

FIG. 18N

Pentamer /9GS	F023701167	1PD102C12 (E1D, L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–9GS– 1PD102C12 (L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS– F023700842–9GS– ALB11002–A (SEQ ID NO: 122)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGT LVTSSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGK EREFVAVITVSGGIYYADSVKGRFTISRDSKNTVYLQMNSLRPEDTALYYCAGDK HQSSFYDYWGQGT LVTSSGGGSGGGSEVQLVESGGGVQPGGSLRLSCAASGRFT SDYVMGWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDNKNTLYLQMNSL RPEDTALYYCATILLWWTSEYAPIKANDYDYWGQGT LVTSSGGGSGGGSEVQLVE SGGVQPGGSLRLSCAASGRFTSDYVMGWFRQAPGKEREFVAAISESGRTHYADS VKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATILLWWTSEYAPIKANDYDYWGQ GTLVTSSGGGSGGGSEVQLVESGGGVQPGNSLRSCAASGFTFSFGMSWVRQA PGKLEWVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCT IGGSLRSSQGT LVTVSSA
Trimer /35GS	F023701172	1PD102C12 (E1D, L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–35GS– F023700842–35GS– ALB11002–A (SEQ ID NO: 123)	hPD– 1/hLAG–3	DVQLVESGGGVQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGT LVTSSGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGGS LRLSCAASGRFTSDYVMGWFRQAPGKEREFVAAISESGRTHYADSVKGRFTISRDN SKNTLYLQMNSLRPEDTALYYCATILLWWTSEYAPIKANDYDYWGQGT LVTSSGGG SGGGSGGGSGGGSGGGSGGGSGGGSGGGSEVQLVESGGGVQPGNSLRSCAAS GFTFSFGMSWVRQAPGKLEWVSSISGSGSDTLYADSVKGRFTISRDNKNTLYLQ MNSLRPEDTALYYCTIGGSLRSSQGT LVTVSSA

FIG. 180

Trimer /9GS	F023701177	1PD102C12 (E1D, L11V, A14P, W52aV, N73S, A74S, K83R, I89L, W100aF)–9GS– F023700842–9GS–ALB1102–A (SEQ ID NO: 123)	hPD– 1/hLAG–3	DVQLVESGGGWQPGGSLRLSCAASGSIASIHAMGWFRQAPGKEREFVAVITVSGGI TYYADSVKGRFTISRDSKNTVYLYQMNSLRPEDTALYYCAGDKHQSSFYDYWGQGTL VTVSSGGGGSGGSEVQLVESGGGWQPGGSLRLSCAASGRTFSDYYMGWFRQAPGK EREFVAAISESGGRTHYADSVKGRFTISRDNKNTLYLQMNSLRPEDTALYYCATTL LWWTSEYAPIKANDYDYWGQGTLLTVSSGGGGSGGSEVQLVESGGGWQPGGNSLRL SCAASGTFSSFGMSWVRQAPGKGLEWVSSI SCGSDTL YADSVKGRFTISRDNKNT TLYLQMNSLRPEDTALYYCTIGGSLSRSSQGTLLTVSSA
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FIG. 18P

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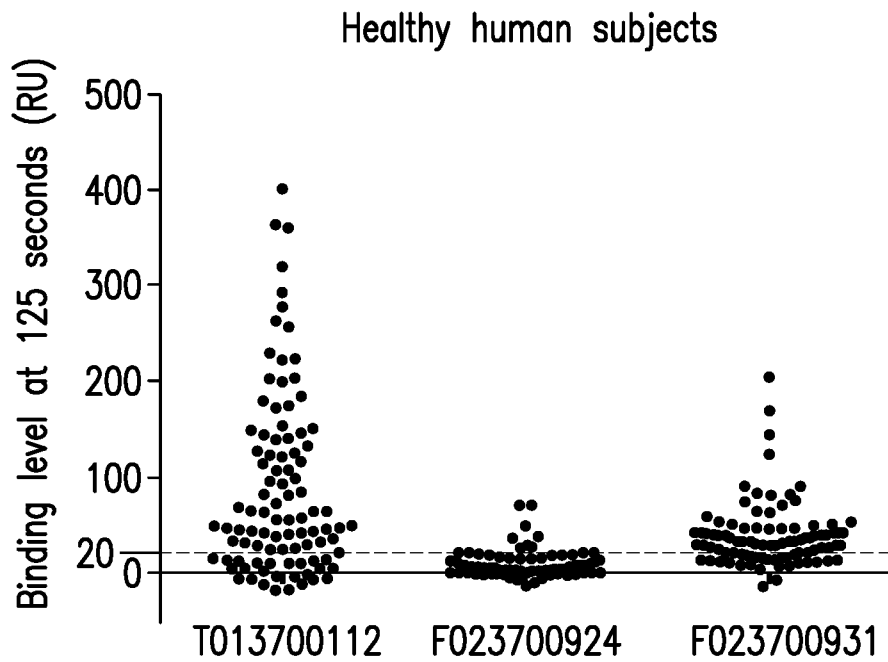


FIG.19A

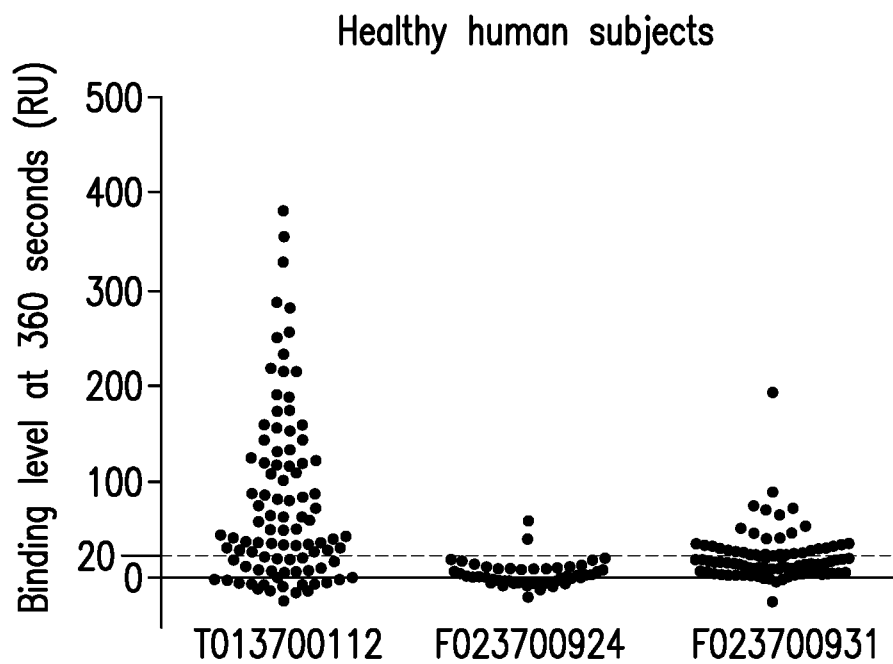


FIG.19B

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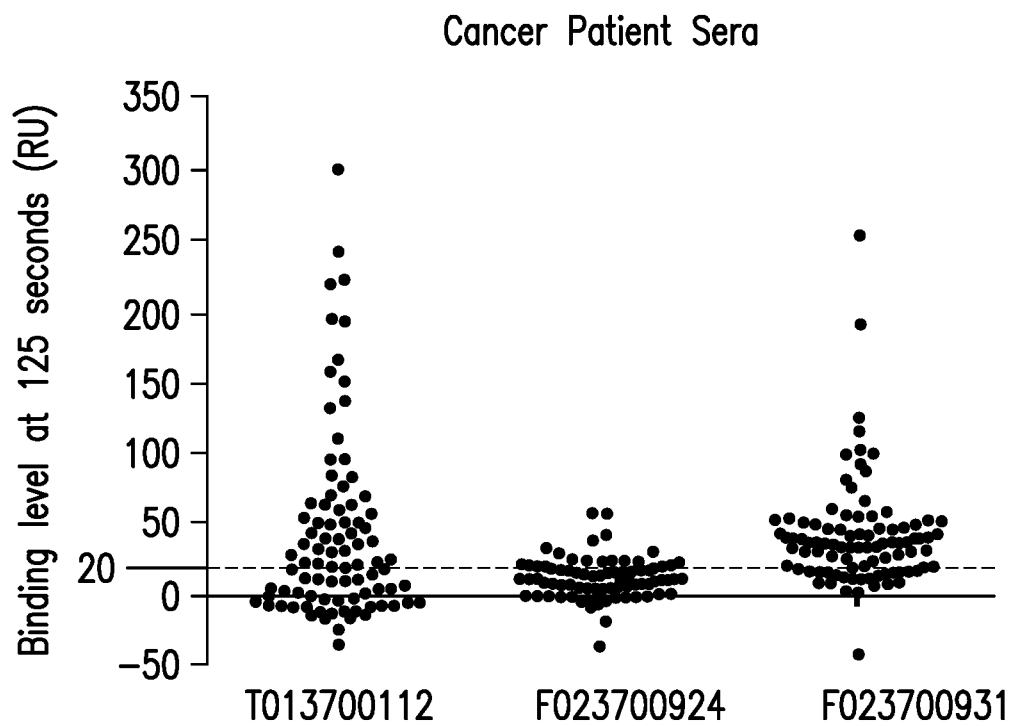


FIG.19C

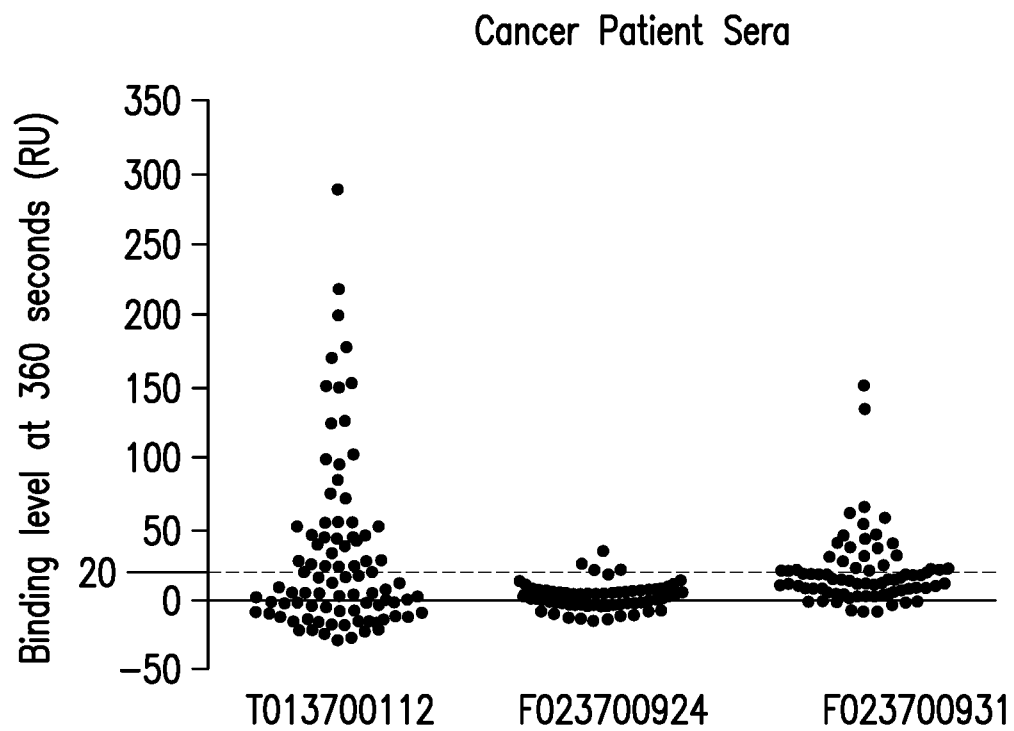


FIG.19D

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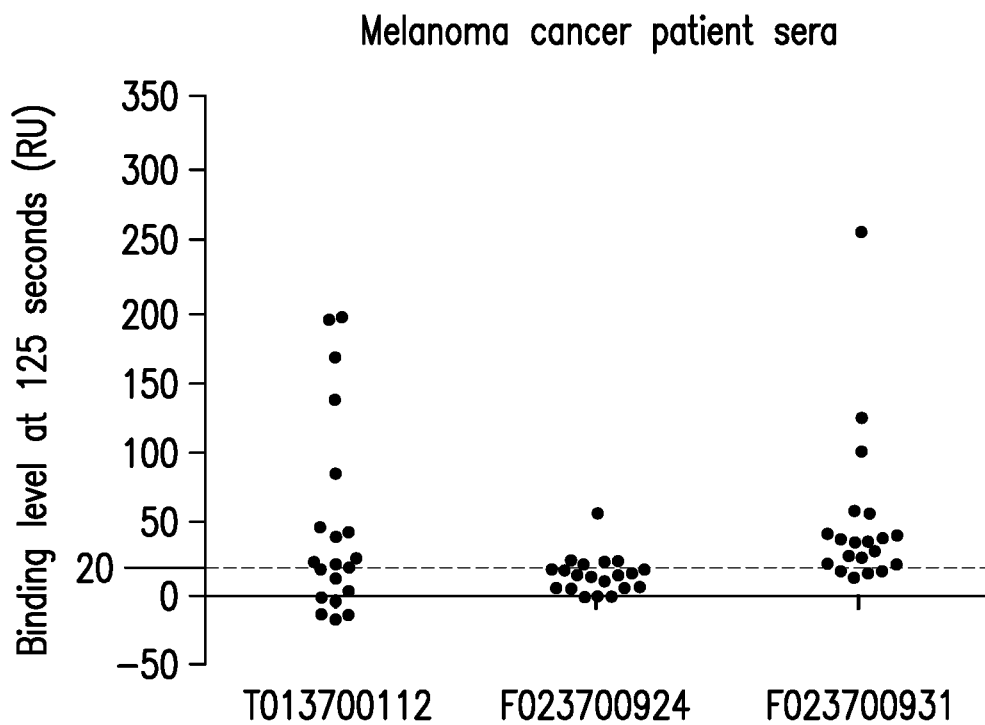


FIG.19E

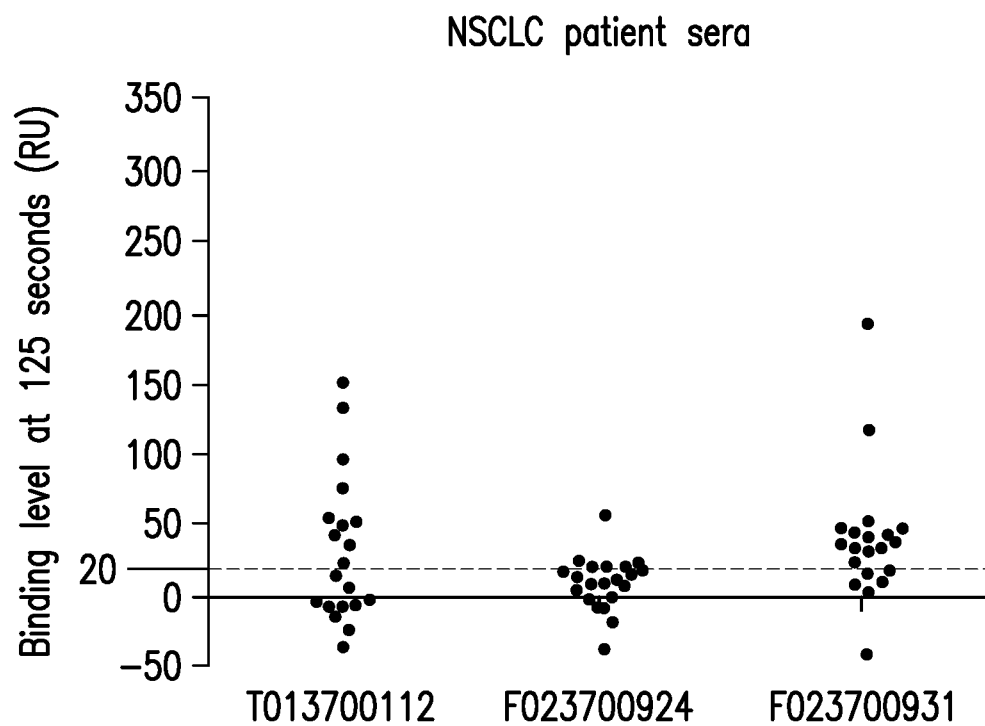


FIG.19F

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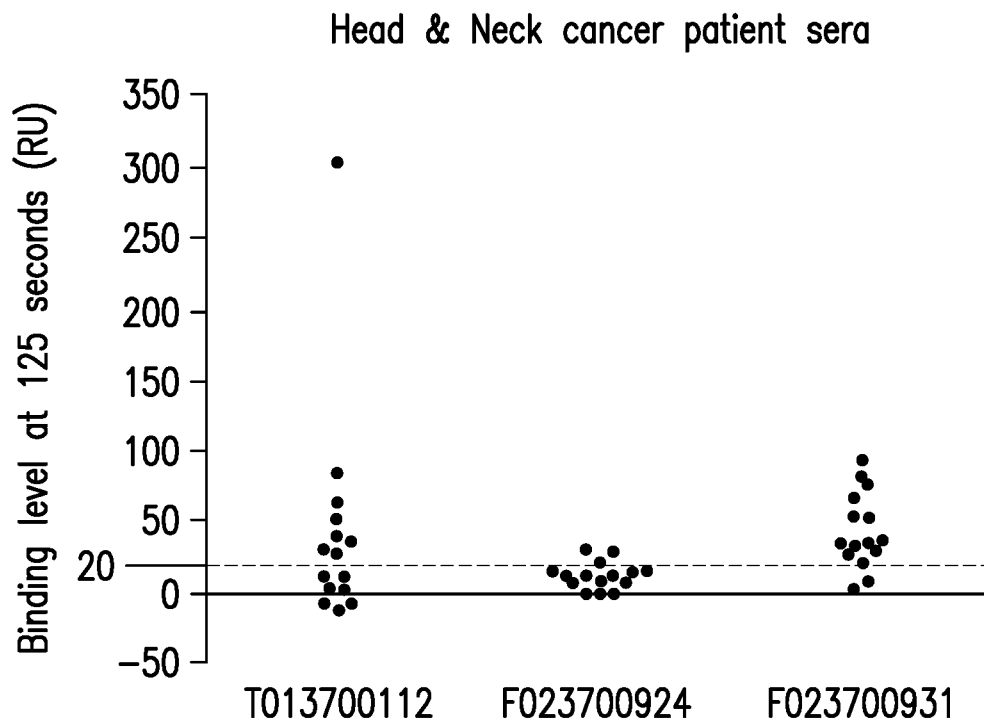


FIG. 19G

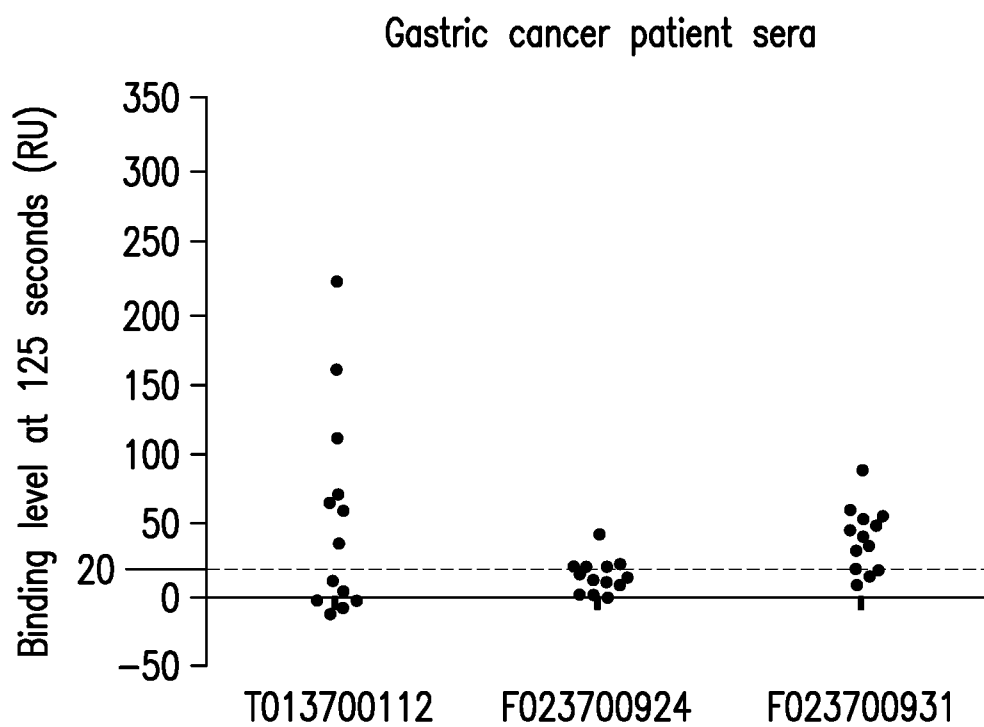


FIG. 19H

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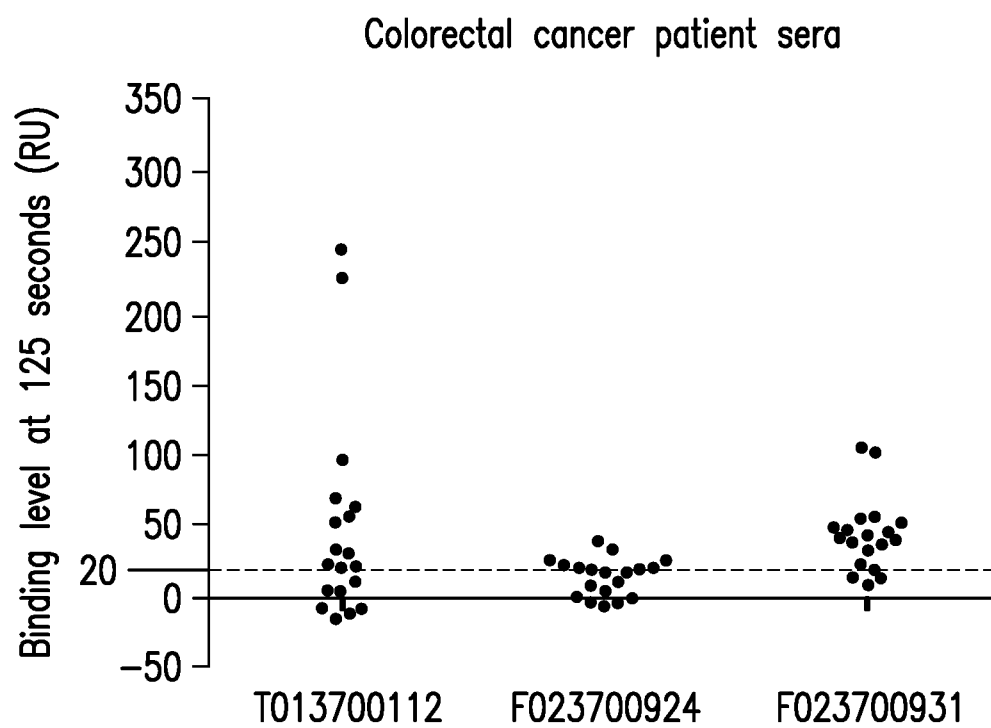


FIG. 19I