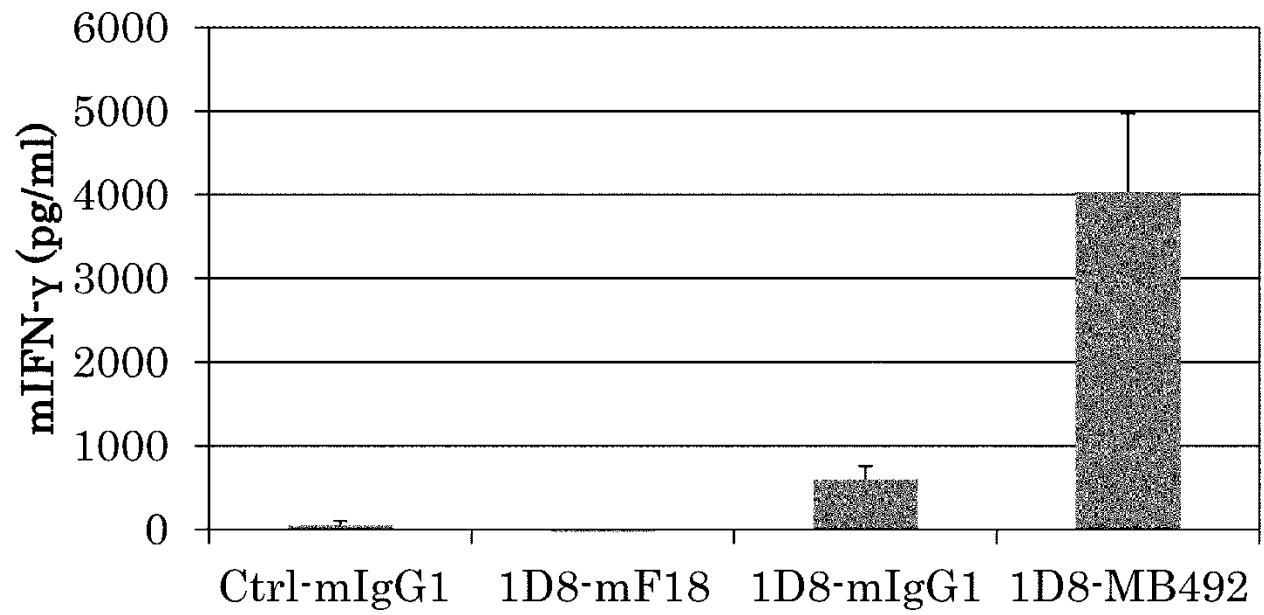


**FIG. 1**

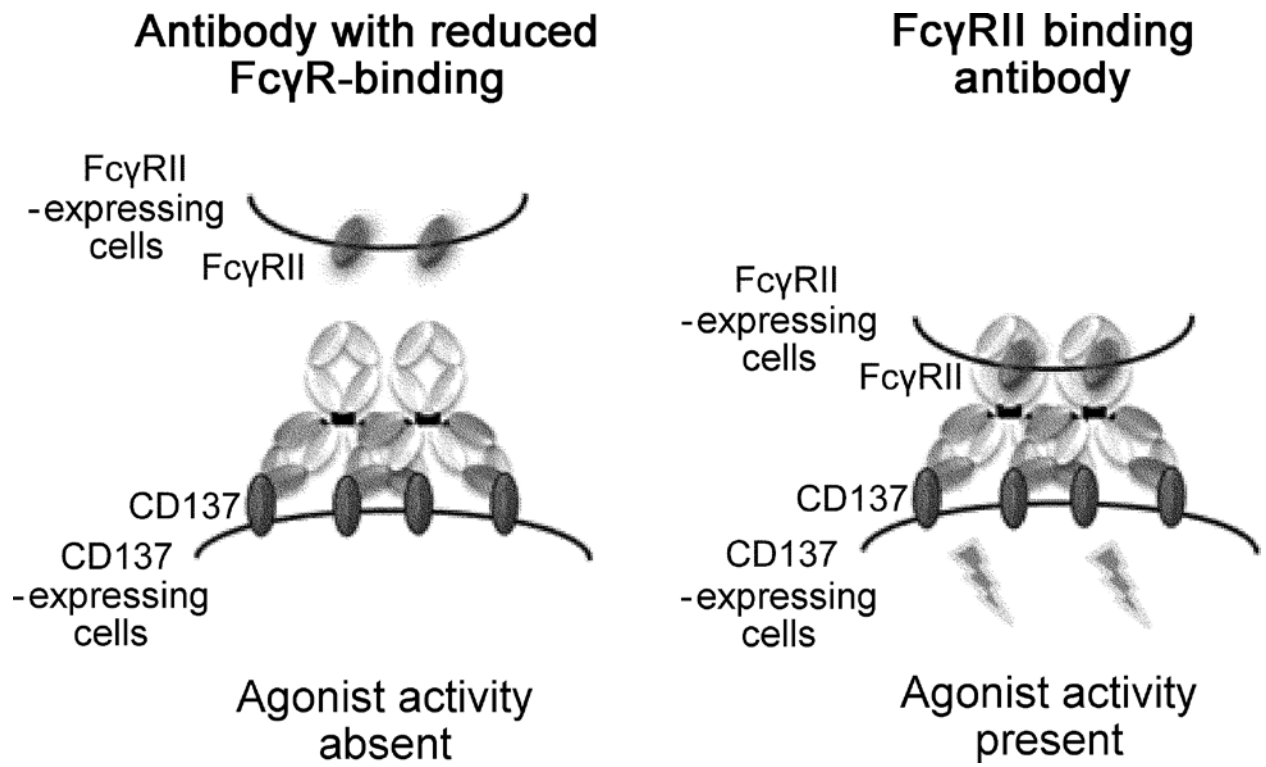


FIG. 2

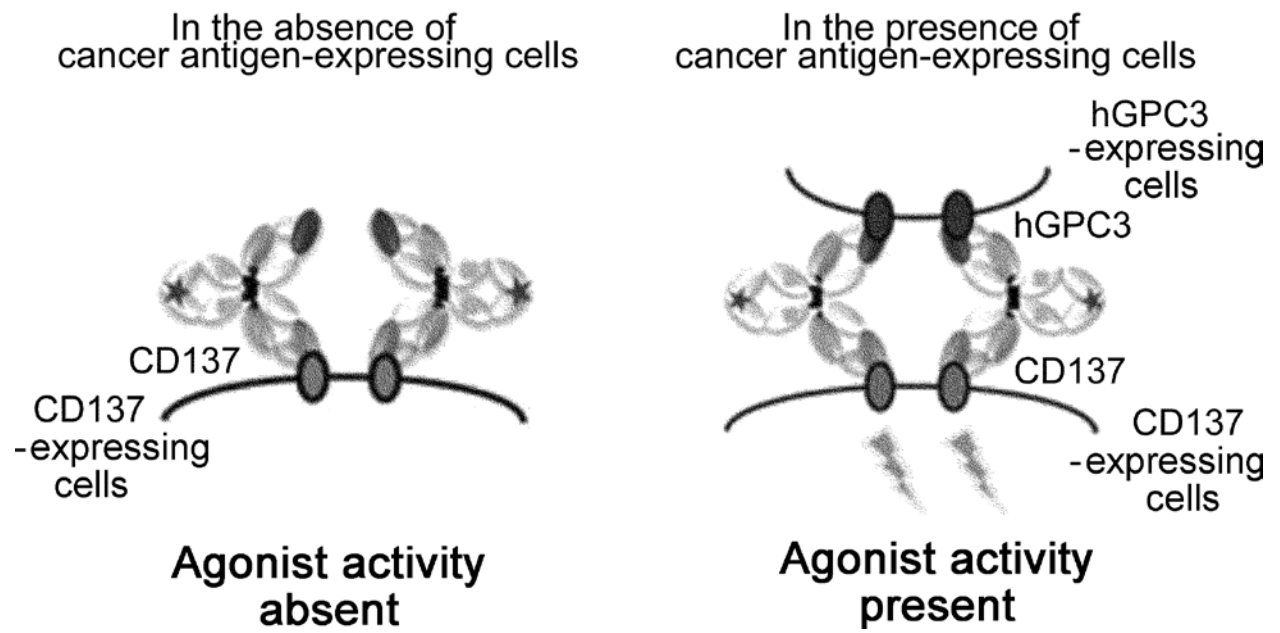


FIG. 3

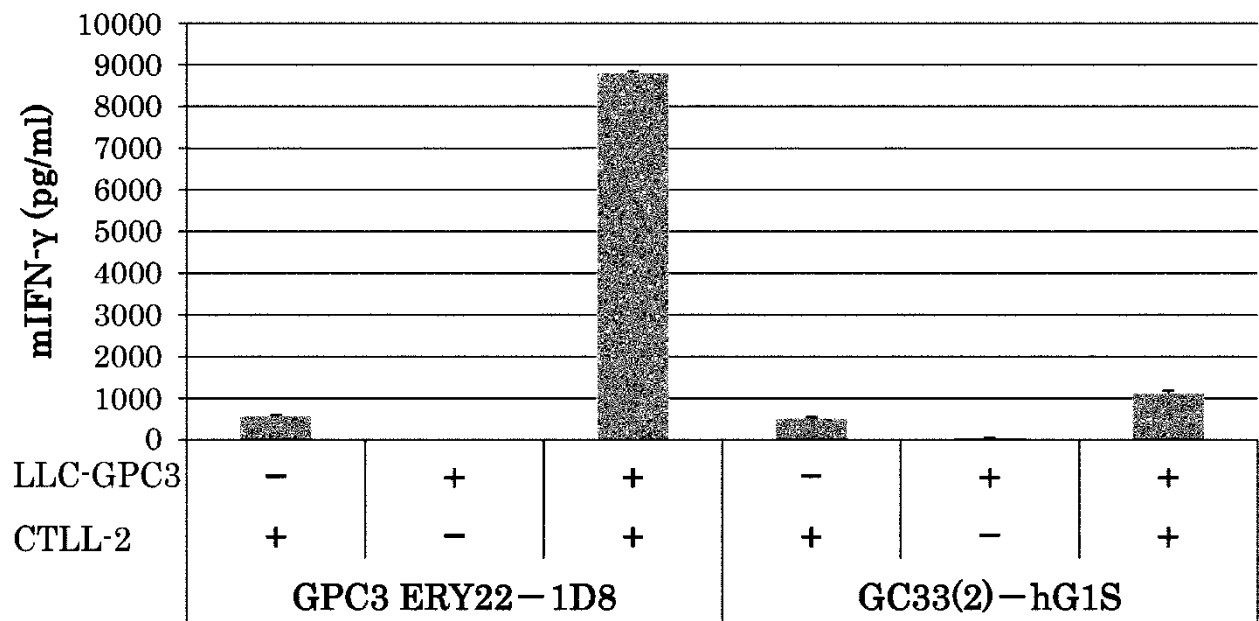


FIG. 4

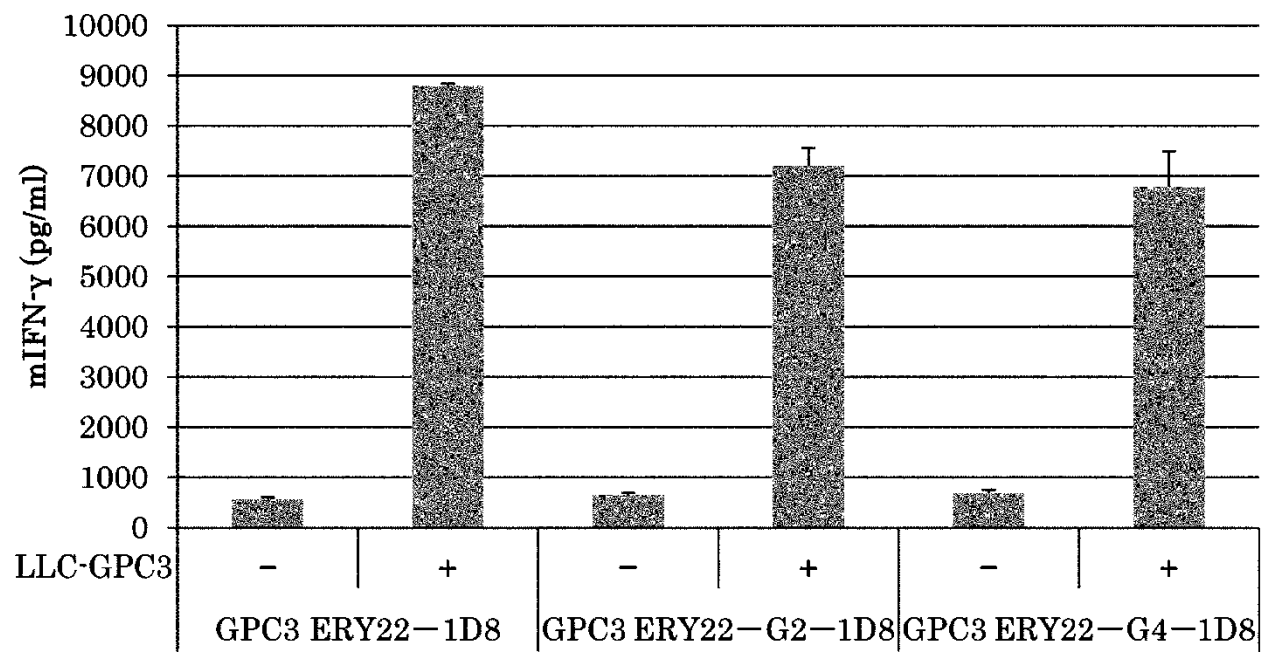


FIG. 5

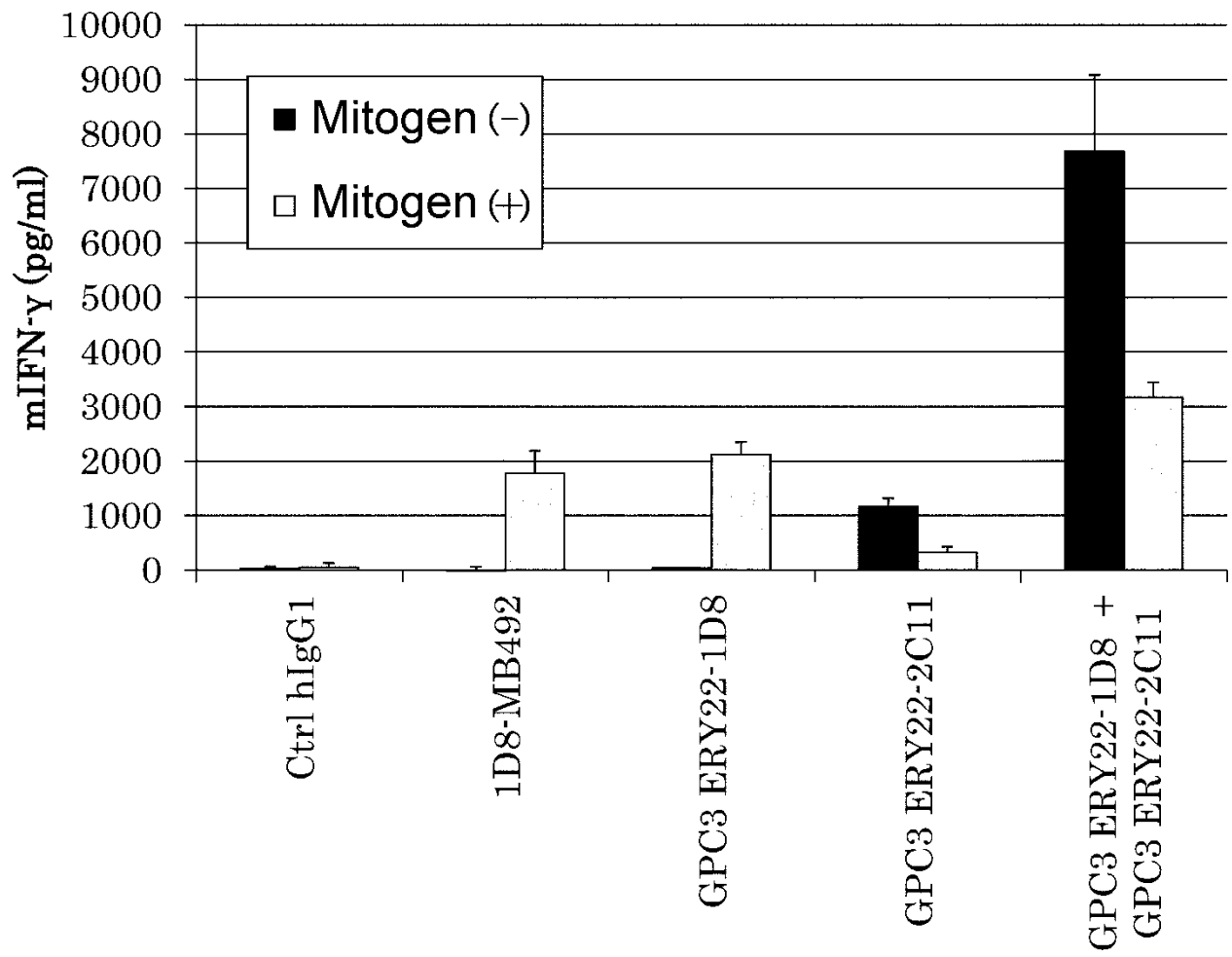


FIG. 6

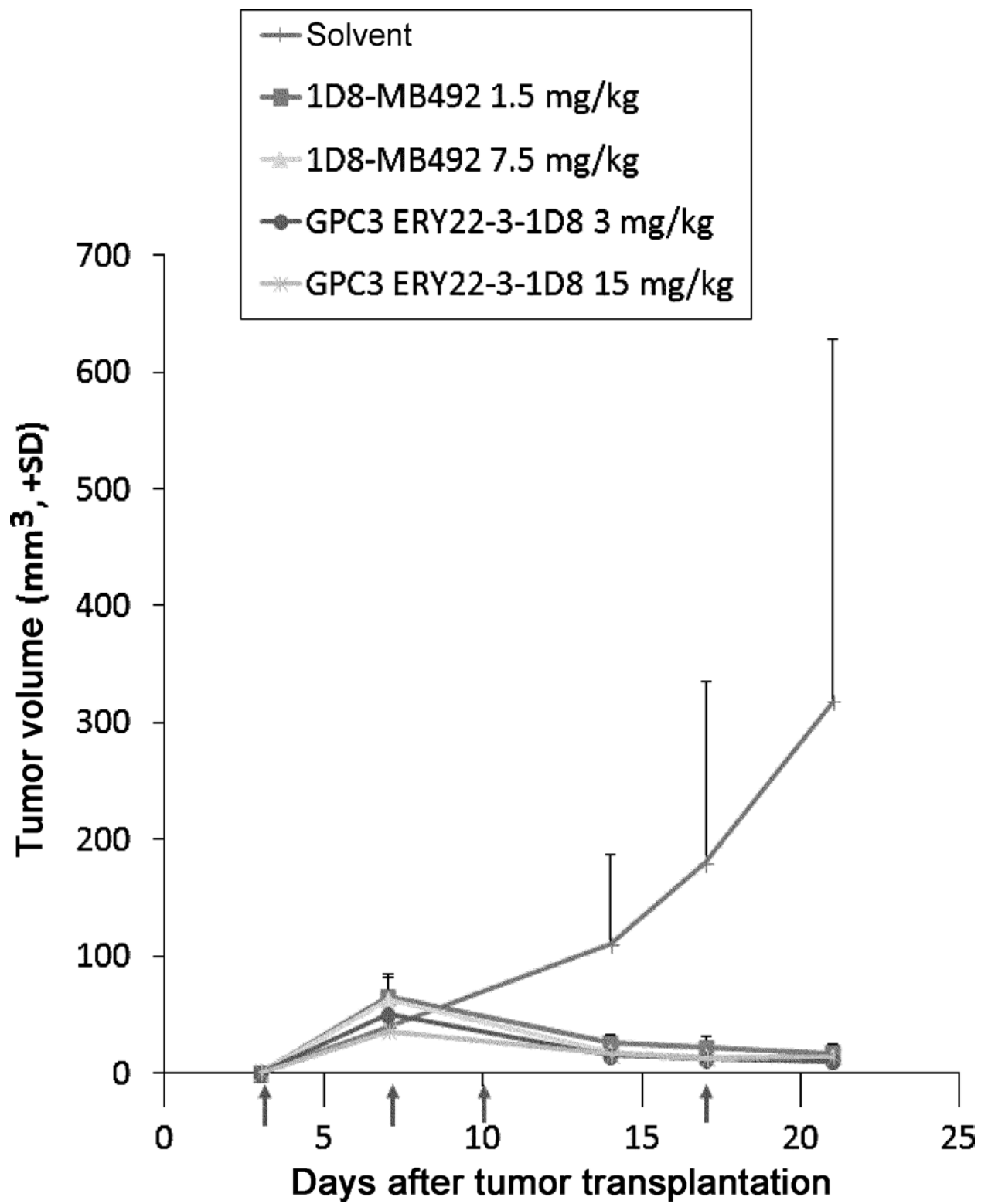


FIG. 7

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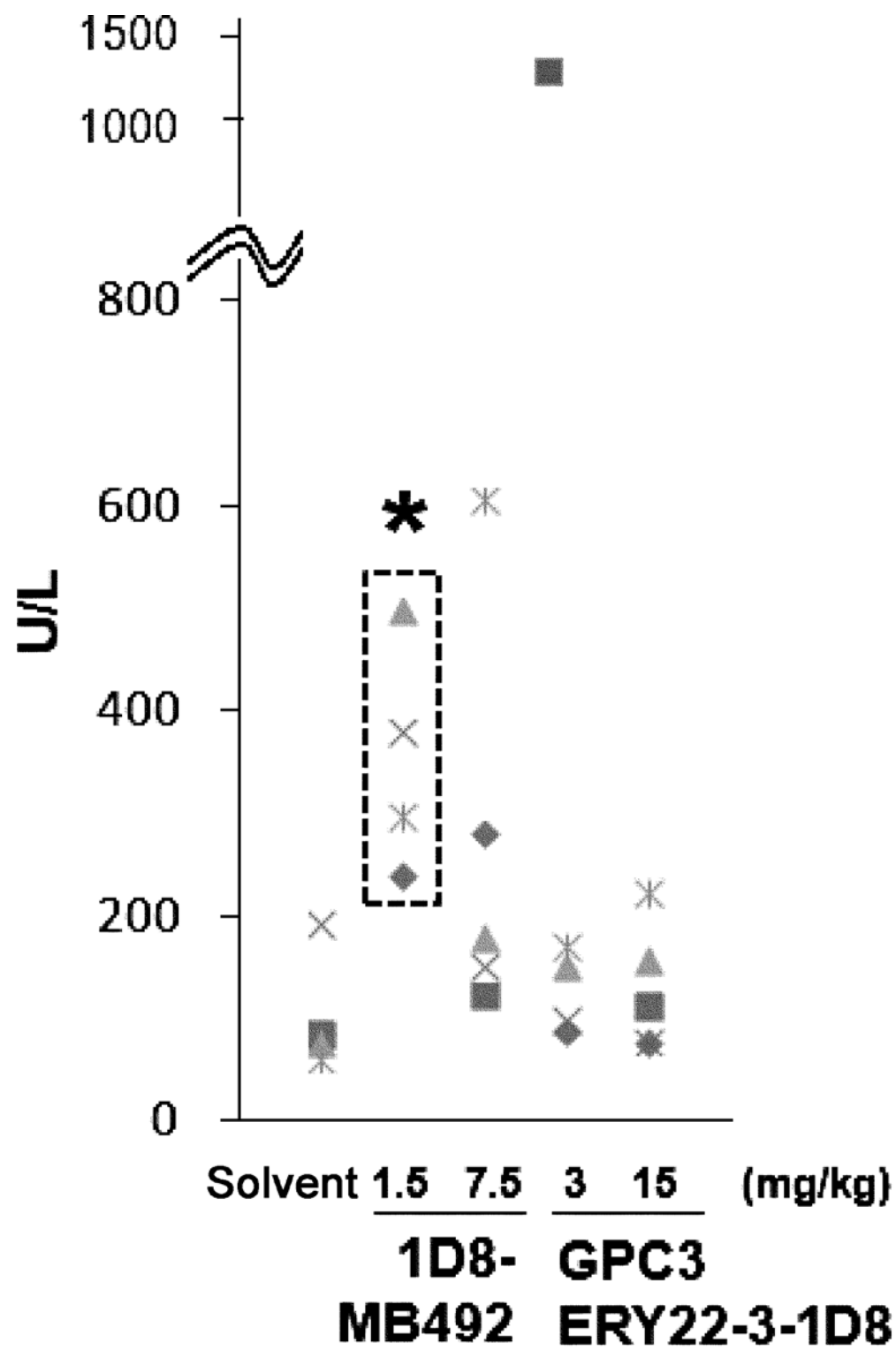


FIG. 8

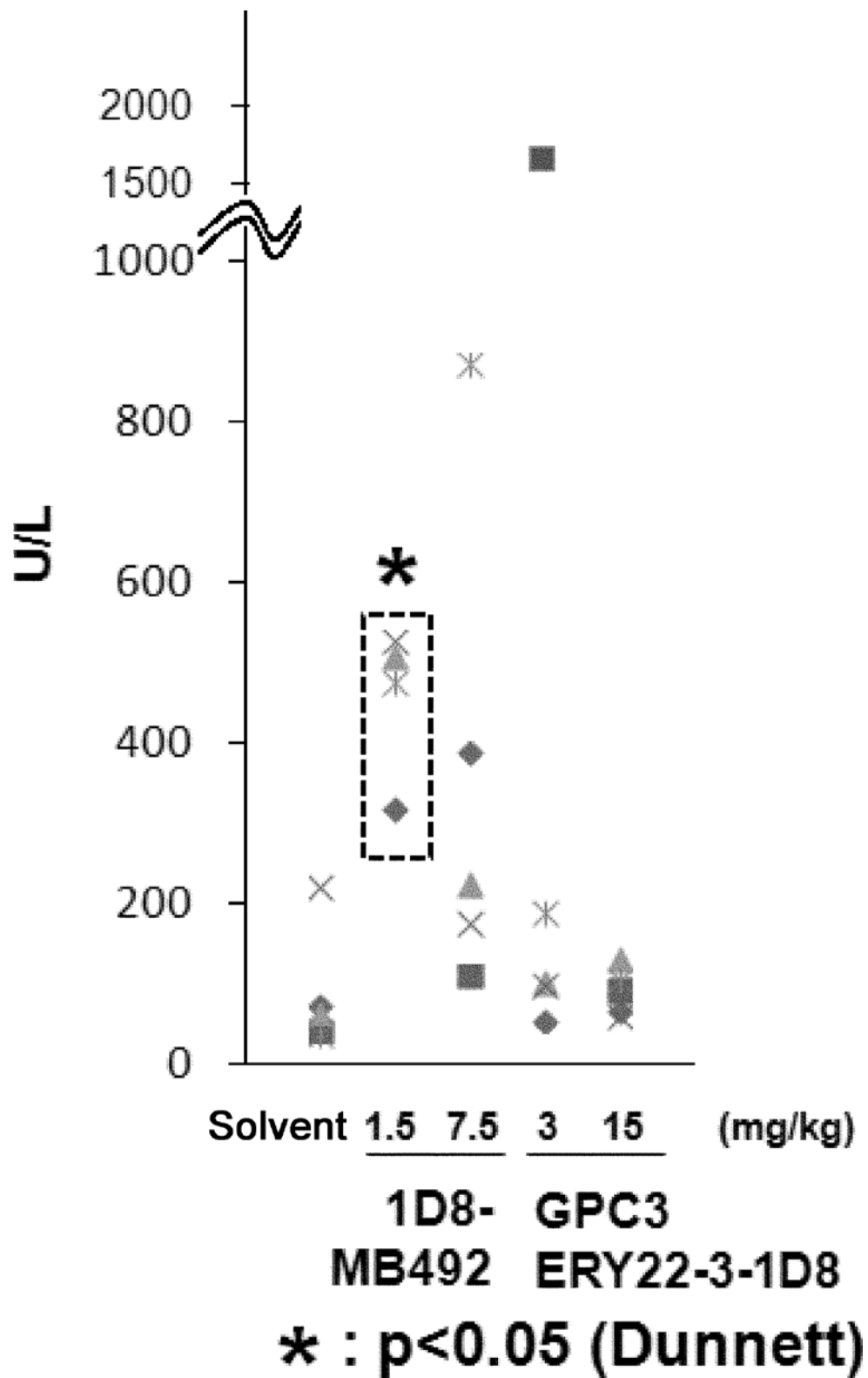


FIG. 9

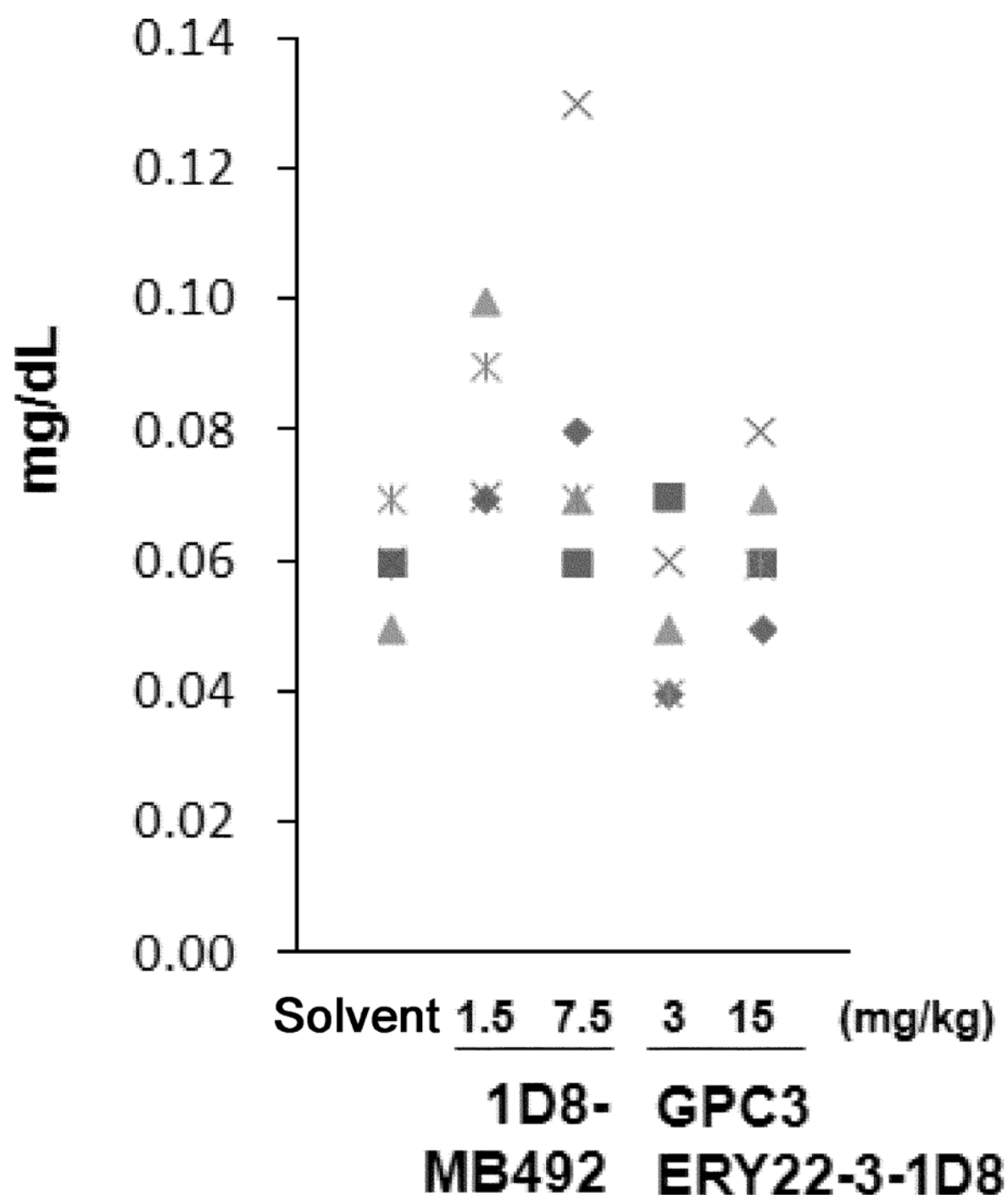


FIG. 10

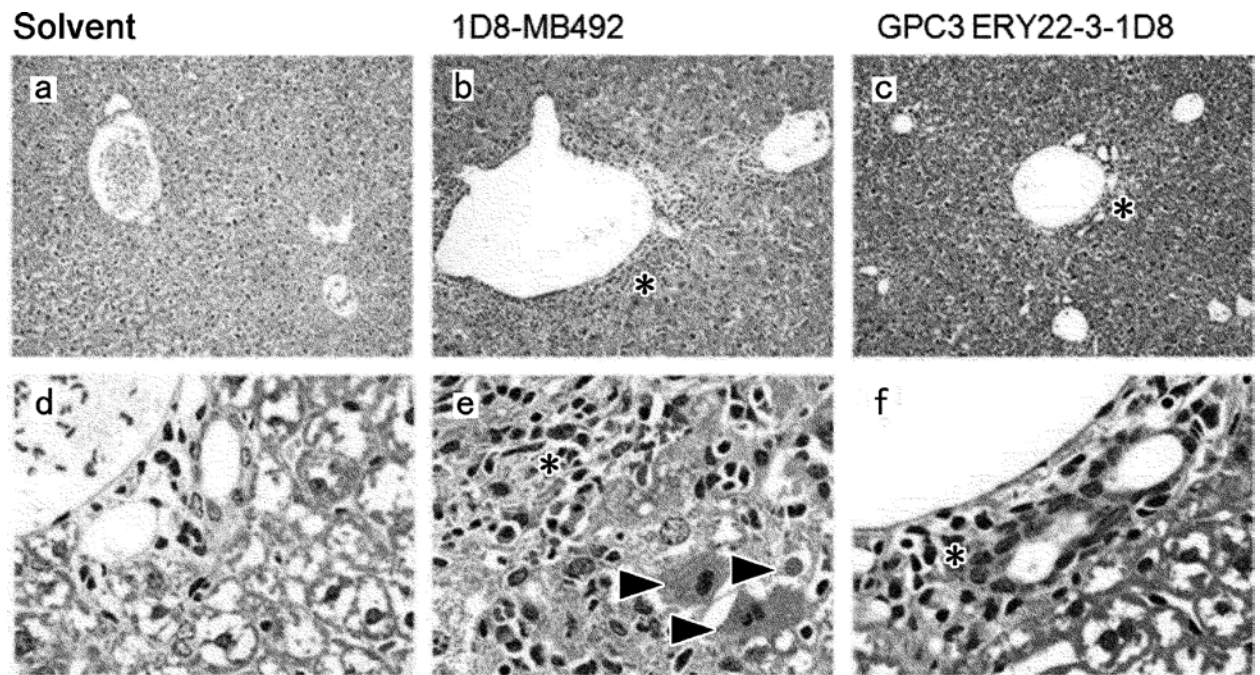


FIG. 11

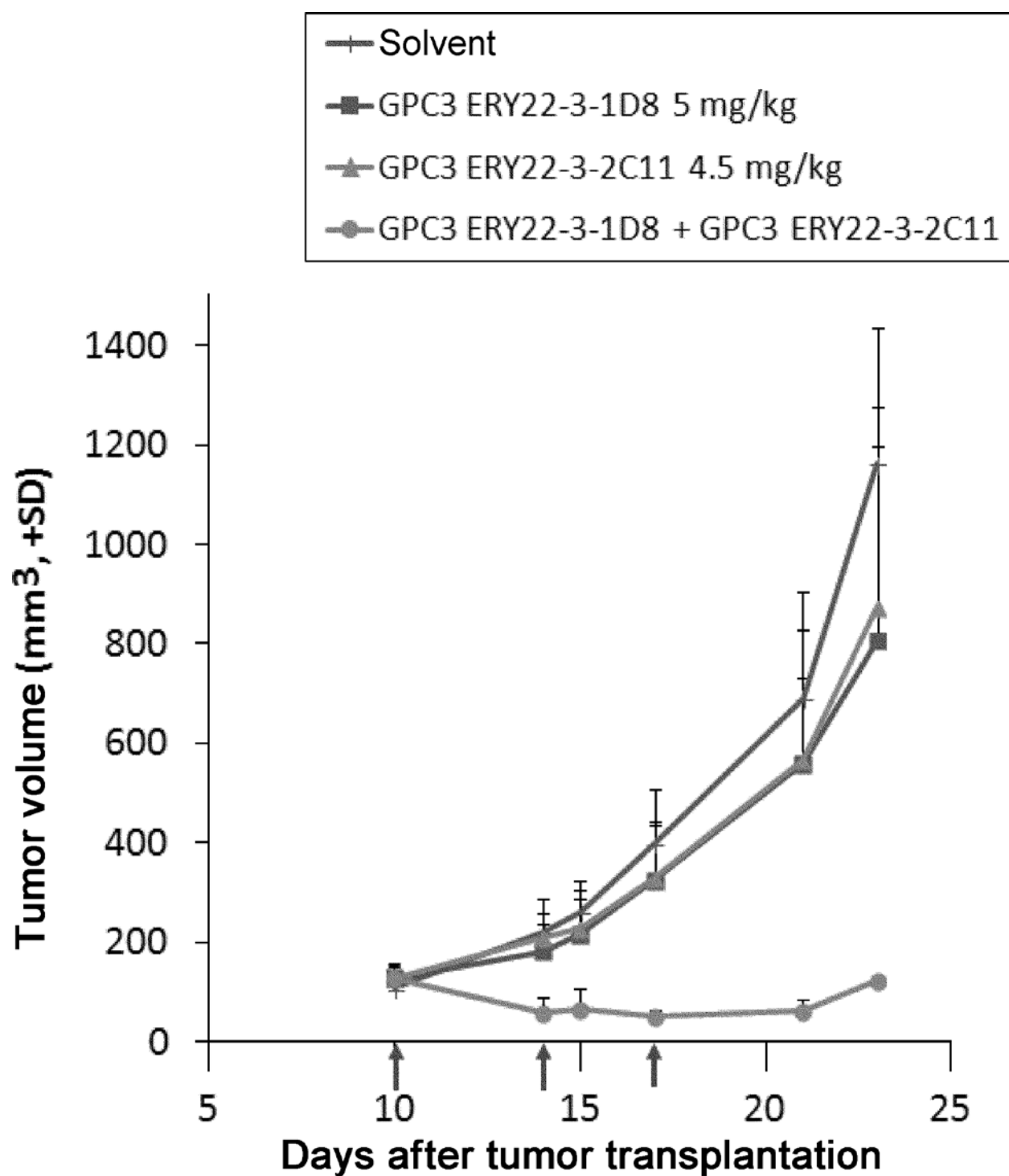


FIG. 12

Kabat	1
EU index	1-2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----
IgG1	ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTPFSSSLGTQTYTCNNVNHKPSNTKVDKKVEPKSCD-
IgG2	ASTKGPSVFPLAPCSRSTSESTAAGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTPFSSNFGTQTYTCNVDPKHPSNTKVDKTVERK--CC
IgG3	ASTKGPSVFPLAPCSRSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTPFSSSLGTQTYTCNNVNHKPSNTKVDKRVELKTPLG
IgG4	ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVTPFSSSLGTQTYTCNVDPKHPSNTKVDKRVESKYG--
Kabat	2
EU index	2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----
IgG1	-KTHICPP-----CPAPELLGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD
IgG2	-V-E-CPP-----CPAPPVA-GPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD
IgG3	DTHHCPCRCPEPKSCTPPCPRCPEPKSCTPPCPCPAPPELLGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD
IgG4	---PPCPS-----CPAPEFLGGPSVFLFPPKPKDTLMI SRTPEVTCVVVDVSHEDPEVKFNWYVD
Kabat	3
EU index	2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----3-----4-----5-----6-----7-----8-----
IgG1	GVEVHNAKTKPREEQYNSTRVRSVLTIVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYITLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNG
IgG2	GVEVHNAKTKPREEQFNSTRVRSVLTIVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYITLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
IgG3	GVEVHNAKTKPREEQYNSTRVRSVLTIVLHQDWLNGKEYKCKVSNKALPAPIEKTISKTKGQPREPQVYITLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESSG
IgG4	GVEVHNAKTKPREEQFNSTRVRSVLTIVLHQDWLNGKEYKCKVSNKGLPSSIEKTI SKAKGQPREPQVYITLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNG
Kabat	4
EU index	8----9-----0-----1-----2-----3-----4-----5-----6-----7-----8-----9-----0-----1-----2-----3-----4-----
IgG1	QPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:5)
IgG2	QPENNYKTTTPMLDSGDSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:6)
IgG3	QPENNYNTTPMLDSGDSFFLYSKLTVDKSRWQQGNIFSCSVMEALHNRYTQKSLSLSPGK (SEQ ID NO:7)
IgG4	QPENNYKTTTPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMEALHNHYTQKSLSLSPGK (SEQ ID NO:8)

FIG. 13

Sample name		ELISA color development level							
		Full length	CRD1	CRD1-3	CRD1-2	CRD2-4	CRD2-3	CRD3-4	Non
Control	M	2.123	0.093	0.067	0.085	0.863	0.081	2.258	0.055
Control	B	2.674	1.75	2.326	2.584	0.097	0.089	0.074	0.049
R1	BB_BBNM001H01-P253/BBNM001_L_01-lam	1.795	0.1235	0.473	0.865	0.0935	0.1165	0.0875	0.065
R2	BB_BBNM002H01-P253/BBNM002_L_01-lam	0.2055	0.226	0.2255	0.2015	0.1505	0.19	0.11	0.202
R3	BB_BBNM003H01-P253/BBNM003_L_01-lam	2.056	0.103	1.1225	1.737	0.0875	0.0995	0.077	0.061
R4	BB_BBNM004H01-P253/BBNM004_L_01-lam	1.8905	0.0635	0.7795	1.4945	0.065	0.0585	0.056	0.051
R5	BB_BBNM005H01-P253/BBNM005_L_01-lam	1.8775	0.2775	1.361	1.7045	0.25	0.274	0.161	0.216
R6	BB_BBSM001H01-P253/BBSM001_L_01-k0	2.157	0.42	2.3015	0.4015	2.3375	2.5565	2.7345	0.165
R7	BB_BBSM002H01-P253/BBSM002_L_01-k0	1.9165	0.61	2.2285	0.814	2.1895	2.516	2.63	0.4435
R8	BB_BBSM003H01-P253/BBSM003_L_01-k0	2.088	0.736	2.254	0.5805	2.232	2.422	2.517	1.114
R9	BB_BBSM004H01-P253/BBSM004_L_01-k0	1.9005	1.147	2.202	0.996	2.1185	2.6105	2.608	1.4935
R10	BB_BBSM005H01-P253/BBSM005_L_01-k0	2.5885	0.211	2.464	0.222	2.4555	2.636	2.7475	0.101
R11	BB_BBSM006H01-P253/BBSM006_L_01-k0	2.058	1.8175	2.4485	1.6925	2.297	2.73	2.8825	2.0265
R12	BB_BBSM007H01-P253/BBSM007_L_01-k0	2.1665	1.152	2.5955	1.127	2.3475	2.707	2.9035	1.956
R13	BB_BBSM004H02-P253/BBSM004_L_02-k0	0.4745	0.6005	0.7875	0.45	0.4545	0.555	0.2595	1.146
R14	BB_BBSM010H01-P253/BBSM010_L_01-k0	1.9685	1.6375	2.4225	1.701	2.205	2.719	2.7595	2.2055
R15	BB_BBSM011H01-P253/BBSM011_L_01-k0	1.254	1.3025	1.889	1.2485	1.521	2.299	1.4745	1.94
R16	BB_BBSM012H01-P253/BBSM012_L_01-k0	1.929	0.2865	2.2405	0.269	2.1695	2.543	2.6265	0.1705
R17	BB_BBSM014H01-P253/BBSM014_L_01-k0	1.3375	0.197	2.052	0.169	1.9245	2.4415	2.474	0.166
R18	BB_BBSM015H01-P253/BBSM015_L_01-k0	2.027	0.4	2.2945	0.4195	2.2725	2.4905	2.655	0.3465
R19	BB_BBSM010H02-P253/BBSM010_L_02-k0	2.1065	2.281	2.19	2.2045	1.898	2.0045	1.6175	2.401

FIG. 14-1

Sample name		Ratio with respect to Non-Coating								
		Full length	CRD1	CRD1-3	CRD1-2	CRD2-4	CRD2-3	CRD3-4	Non	
Control	M	38.6	1.7	1.2	1.5	15.7	1.5	41.1	1.0	
Control	B	54.6	35.7	47.5	52.7	2.0	1.8	1.5	1.0	
R1	BB_BBNM001H01-P253/BBNM001_L_01-lam	27.6	1.9	7.3	13.3	1.4	1.8	1.3	1.0	
R2	BB_BBNM002H01-P253/BBNM002_L_01-lam	1.0	1.1	1.1	1.0	0.7	0.9	0.5	1.0	
R3	BB_BBNM003H01-P253/BBNM003_L_01-lam	33.7	1.7	18.4	28.5	1.4	1.6	1.3	1.0	
R4	BB_BBNM004H01-P253/BBNM004_L_01-lam	37.1	1.2	15.3	29.3	1.3	1.1	1.1	1.0	
R5	BB_BBNM005H01-P253/BBNM005_L_01-lam	8.7	1.3	6.3	7.9	1.2	1.3	0.7	1.0	
R6	BB_BBSM001H01-P253/BBSM001_L_01-k0	13.1	2.5	13.9	2.4	14.2	15.5	16.6	1.0	
R7	BB_BBSM002H01-P253/BBSM002_L_01-k0	4.3	1.4	5.0	1.8	4.9	5.7	5.9	1.0	
R8	BB_BBSM003H01-P253/BBSM003_L_01-k0	1.9	0.7	2.0	0.5	2.0	2.2	2.3	1.0	
R9	BB_BBSM004H01-P253/BBSM004_L_01-k0	1.3	0.8	1.5	0.7	1.4	1.7	1.7	1.0	
R10	BB_BBSM005H01-P253/BBSM005_L_01-k0	25.6	2.1	24.4	2.2	24.3	26.1	27.2	1.0	
R11	BB_BBSM006H01-P253/BBSM006_L_01-k0	1.0	0.9	1.2	0.8	1.1	1.3	1.4	1.0	
R12	BB_BBSM007H01-P253/BBSM007_L_01-k0	1.1	0.6	1.3	0.6	1.2	1.4	1.5	1.0	
R13	BB_BBSM004H02-P253/BBSM004_L_02-k0	0.4	0.5	0.7	0.4	0.4	0.5	0.2	1.0	
R14	BB_BBSM010H01-P253/BBSM010_L_01-k0	0.9	0.7	1.1	0.8	1.0	1.2	1.3	1.0	
R15	BB_BBSM011H01-P253/BBSM011_L_01-k0	0.6	0.7	1.0	0.6	0.8	1.2	0.8	1.0	
R16	BB_BBSM012H01-P253/BBSM012_L_01-k0	11.3	1.7	13.1	1.6	12.7	14.9	15.4	1.0	
R17	BB_BBSM014H01-P253/BBSM014_L_01-k0	8.1	1.2	12.4	1.0	11.6	14.7	14.9	1.0	
R18	BB_BBSM015H01-P253/BBSM015_L_01-k0	5.8	1.2	6.6	1.2	6.6	7.2	7.7	1.0	
R19	BB_BBSM010H02-P253/BBSM010_L_02-k0	0.9	1.0	0.9	0.9	0.8	0.8	0.7	1.0	

FIG. 14-2

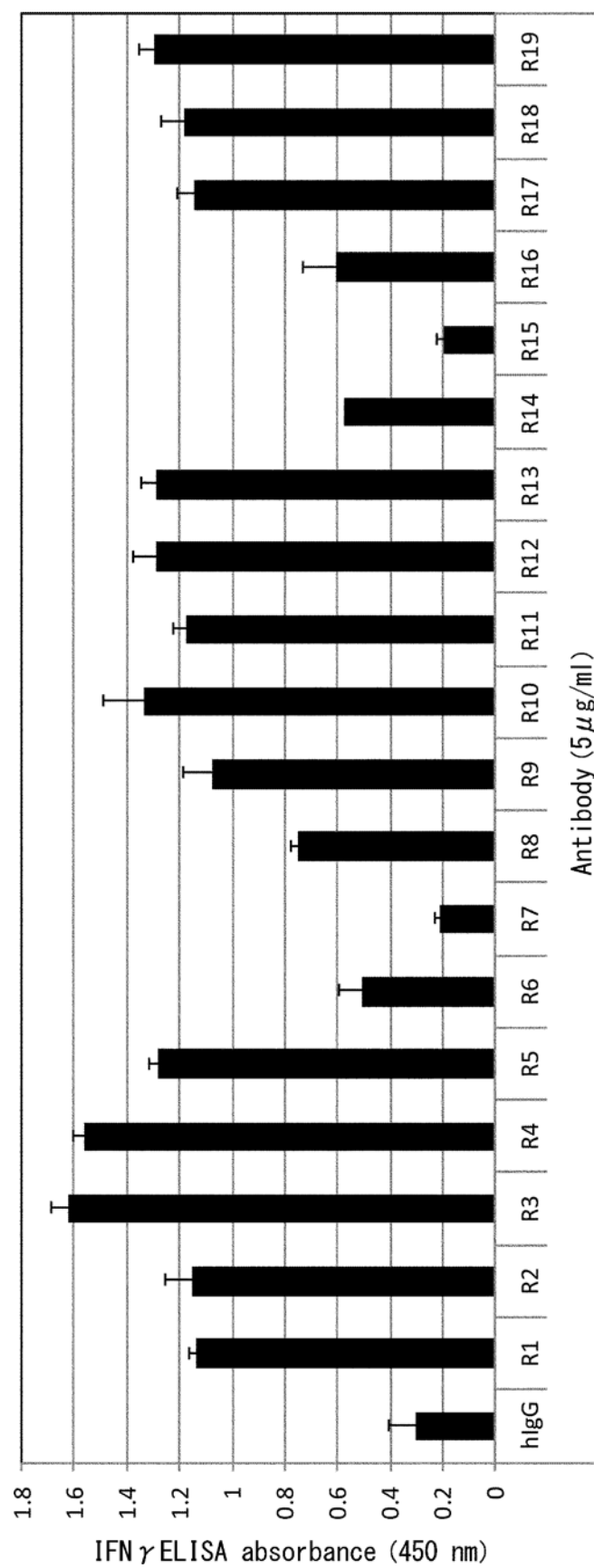


FIG. 15

Antibody	T cell activation	Epitope
R1	+	CRD1-2
R2	+	N.D.
R3	+	CRD1-2
R4	+	CRD1-2
R5	+	CRD1-2
R6	+	CRD2-3
R7	—	CRD2-3
R8	+	N.D.
R9	+	N.D.
R10	+	CRD2-3
R11	+	N.D.
R12	+	N.D.
R13	+	N.D.
R14	+	N.D.
R15	—	N.D.
R16	+	CRD2-3
R17	+	CRD2-3
R18	+	CRD2-3
R19	+	N.D.

N.D. Not Determined

FIG. 16

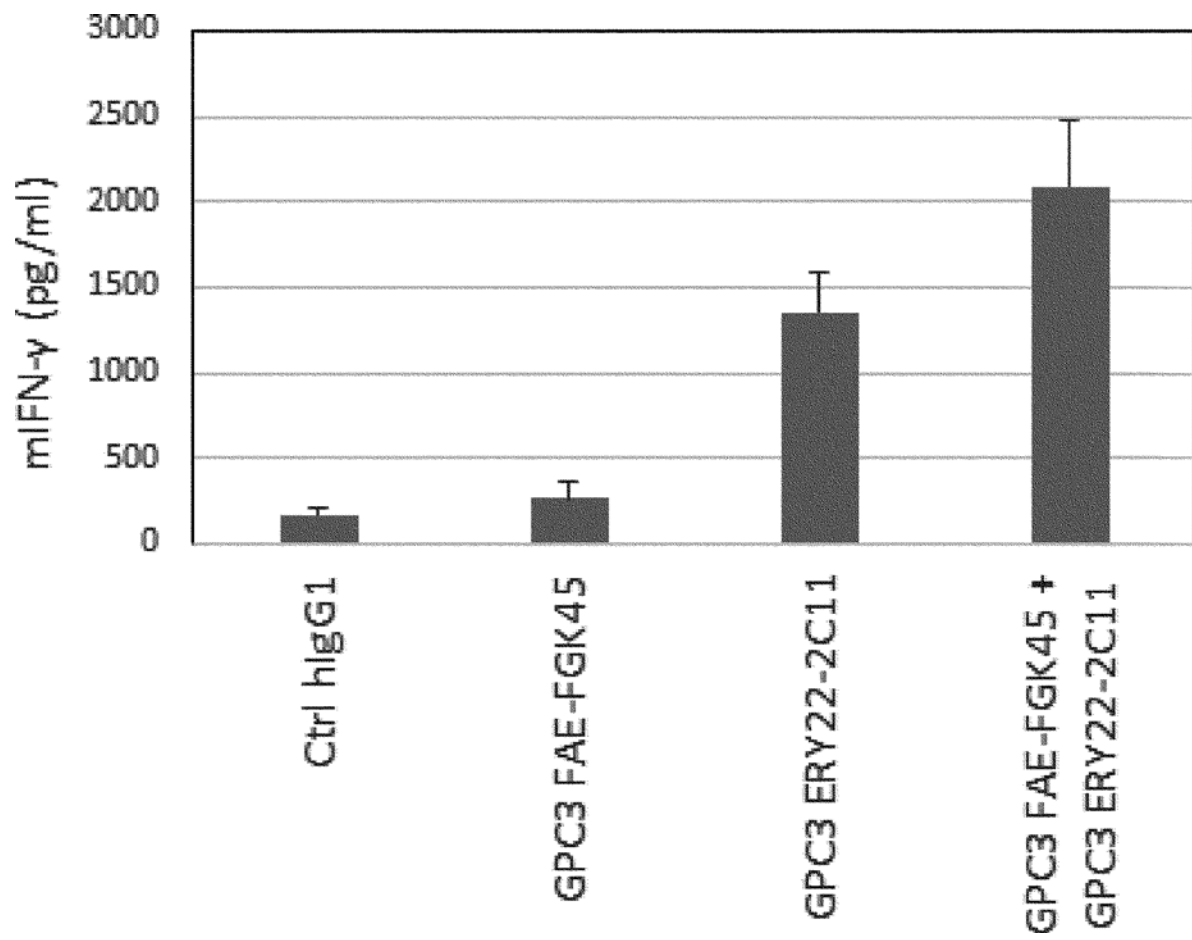


FIG. 17

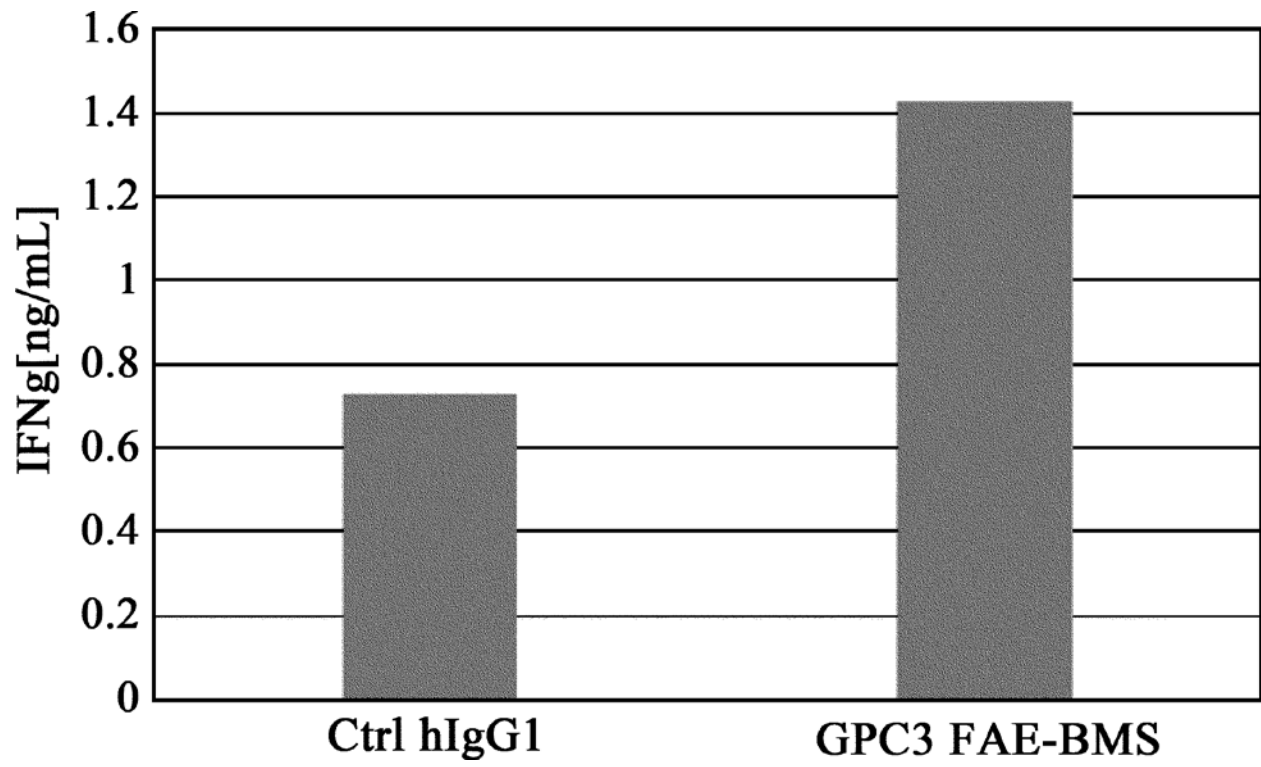


FIG. 18

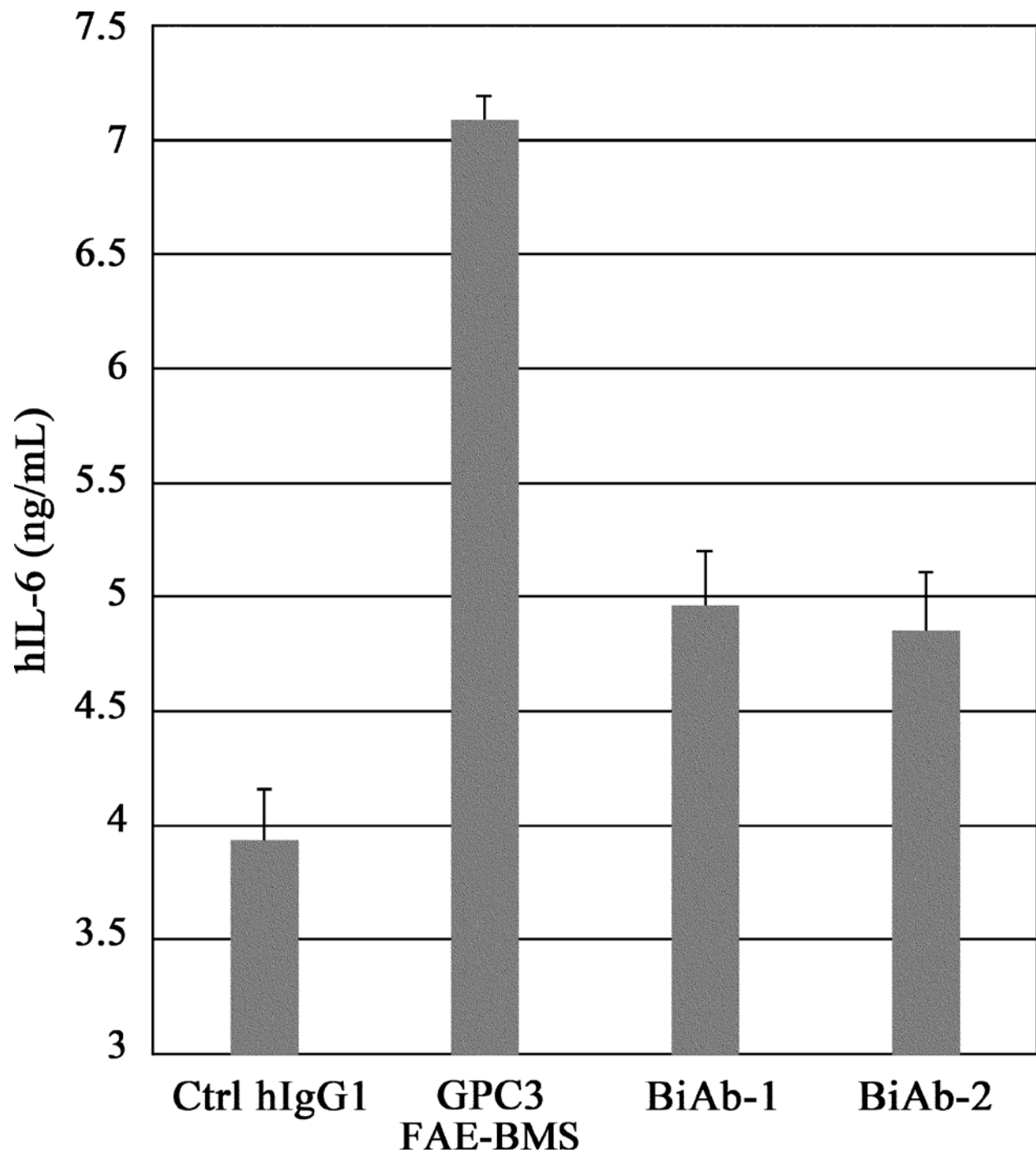


FIG. 19