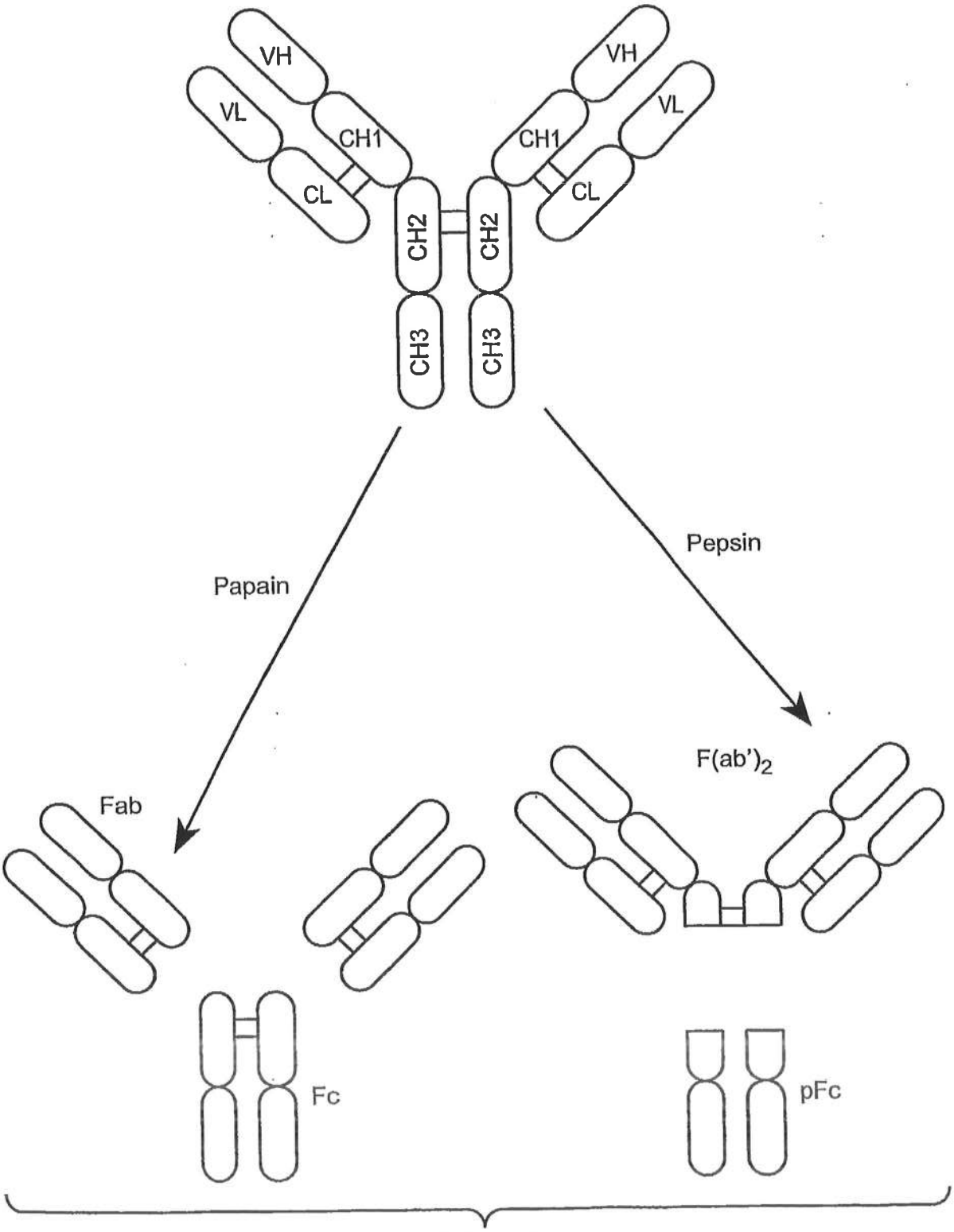

VH
VL
CH1
CL
VH
VL
CH1
CL
CH2
CH2
CH3
CH3
Papain
Pepsin
Fab
F(ab')2
Fc
pFc

FIG. 1

```
FcgR2A     1 ----------MAMETQMSQNVCPRNLWLLQPLTVLLLLASADSQAAAPPKA  41
FcgR2B 2   1 MGILSFLPVLATESDWADCKSPQPWGHMLLWTAVLFLAPVAGTPAAPPKA  50

FcgR2A    42 VLKLEPPWINVLQEDSVTLTCQGARSPESDSIQWFHNGNLIPTHTQPSYR  91
FcgR2B 2  51 VLKLEPQWINVLQEDSVTLTCRGTHSPESDSIQWFHNGNLIPTHTQPSYR 100

FcgR2A    92 FKANNNDSGEYTCQTGQTSLSDPVHLTVLSEWLVLQTPHLEFQEGETIML 141
FcgR2B 2 101 FKANNNDSGEYTCQTGQTSLSDPVHLTVLSEWLVLQTPHLEFQEGETIVL 150

FcgR2A   142 RCHSWKDKPLVKVTFFQNGKSQKFSRLDPTFSIPQANHSHSGDYHCTGNI 191
FcgR2B 2 151 RCHSWKDKPLVKVTFFQNGKSKKFSRSDPNFSIPQANHSHSGDYHCTGNI 200

FcgR2A   192 GYTLFSSKPVTITVQVPSMGSSSPMGIIVAVVIATAVAAIVAAVVALIYC 241
FcgR2B 2 201 GYTLYSSKPVTITVQAP---SSSPMGIIVAVVTGIAVAAIVAAVVALIYC 247

FcgR2A   242 RKKRISANSTDPVKAAQFEPPGRQMIAIRKRQLEETNNDYETADGGYMTL 291
FcgR2B 2 248 RKKRISANPTNPDEADKV---G----------AENTITYS------LLM 277
                                                ITIM Motif

FcgR2A   292 NPRAPTDDDKNIYLTLPPNDHVNSNN 317  SEQ ID NO: 9
FcgR2B 2 278 HPDALEEPDDQNRI---------- 291  SEQ ID NO: 10
```

FIG. 2A

FcgR2B1 Amino Acid Sequence:

```
  1 mgilsflpvl atesdwadck spqpwghmll wtavlflapv agtpaappka vlklepqwin
 61 vlqedsvtlt crgthspesd siqwfhngnl ipthtqpsyr fkannndsge ytcqtgqtsl
121 sdpvhltvls ewlvlqtphl efqegetivl rchswkdkpl vkvtffqngk skkfsrsdpn
181 fsipqanhsh sgdyhctgni gytlysskpv titvqapsss pmgiivavvt giavaaivaa
241 vvaliycrkk risalpgype cremgetlpe kpanptnpde adkvgaenti tysllmhpda
301 leepddqnri (SEQ ID NO: 11)
```

FIG. 2B

```
          230        240        250        260        270
humIgG1     PAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYV
humIgG2     PAP-PVAGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYV
humIgG3     PAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFKWYV
humIgG4     PAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYV
               ****                                  *     * *

          280        290        300        310        320
humIgG1     DGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALP
humIgG2     DGVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLP
humIgG3     DGVEVHNAKTKPREEQFNSTFRVVSVLTVLHQDWLNGKEYKCKVSNKALP
humIgG4     DGVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLP
                           *   *         *                   *

          330        340        350        360        370
humIgG1     APIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
                                          D L
humIgG2     APIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
humIgG3     APIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAV
humIgG4     SSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAV
            **         *                  *

          380        390        400        410        420
humIgG1     EWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH
humIgG2     EWESNGQPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMH
humIgG3     EWESSGQPENNYNTTPPMLDSDGSFFLYSKLTVDKSRWQQGNIFSCSVMH
humIgG4     EWESNGQPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMH
                 *         *    *              *           *   *

          430        440
humIgG1     EALHNHYTQKSLSLSPGK SEQ ID NO.: 31
humIgG2     EALHNHYTQKSLSLSPGK SEQ ID NO.: 32
humIgG3     EALHNRFTQKSLSLSPGK SEQ ID NO.: 33
humIgG4     EALHNHYTQKSLSLSLGK SEQ ID NO.: 34
                  **         *
```

FIG. 3

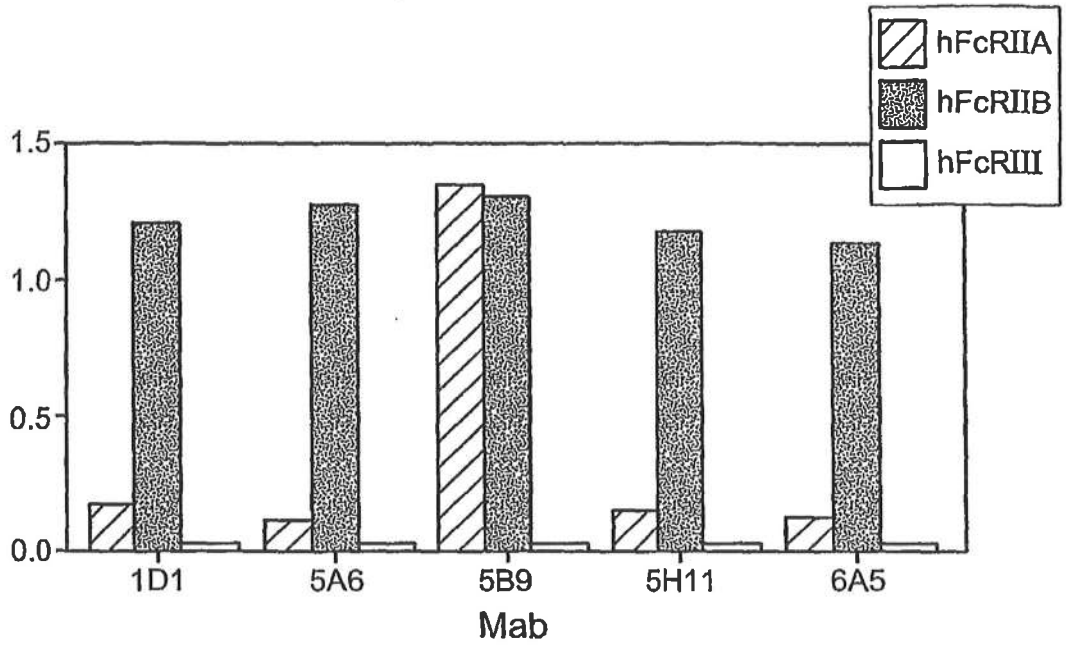

hFcRIIA
hFcRIIB
hFcRIII
1.5
1.0
0.5
0.0
1D1
5A6
5B9
5H11
6A5
Mab

FIG. 4

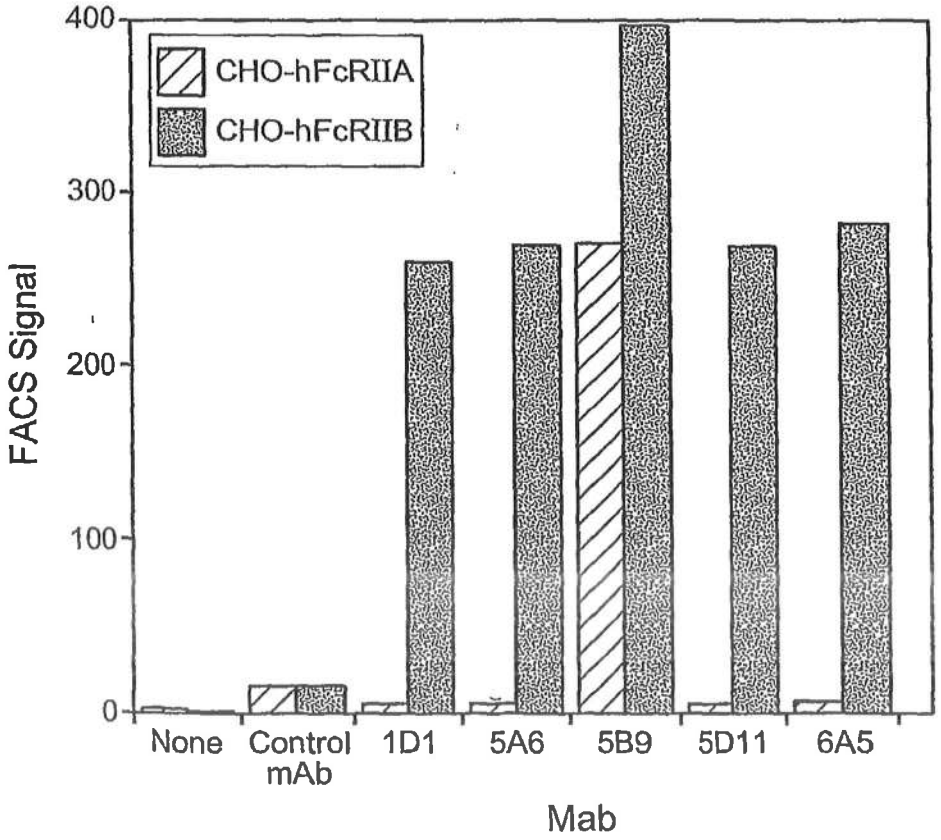

CHO-hFcRIIA
CHO-hFcRIIB
400
300
200
100
0
FACS Signal
None
Control mAb
1D1
5A6
5B9
5D11
6A5
Mab

FIG. 5

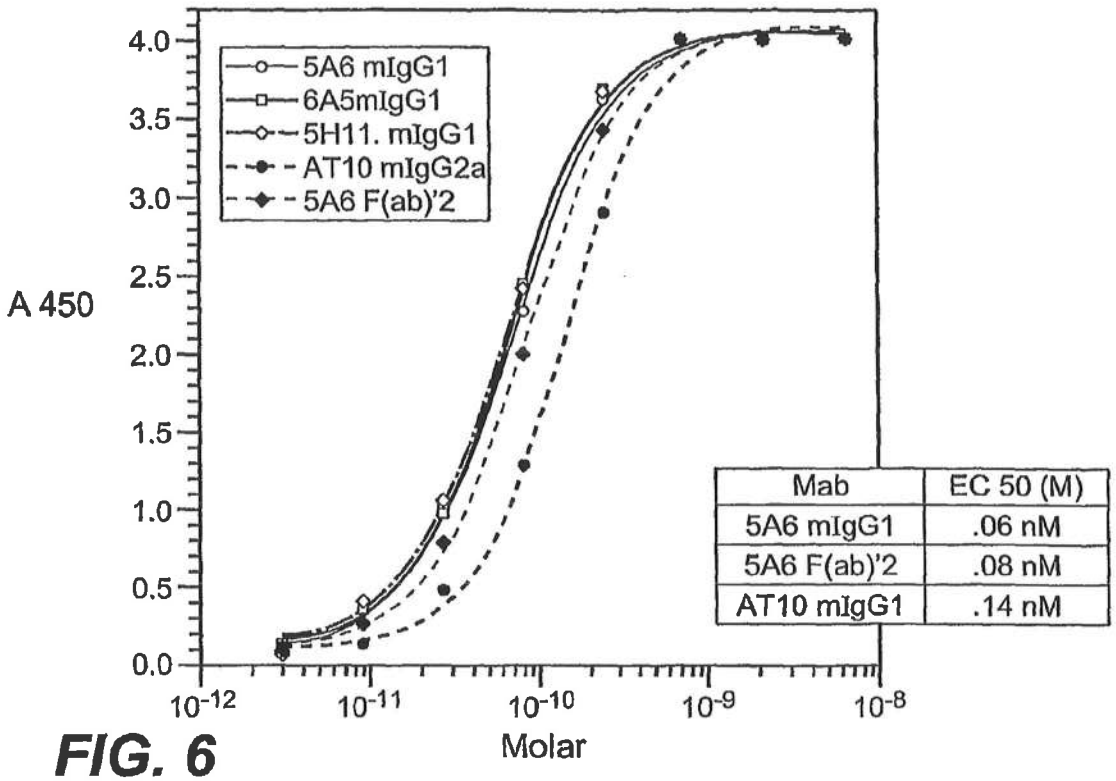

5A6 mIgG1
6A5mIgG1
5H11. mIgG1
AT10 mIgG2a
5A6 F(ab)'2
A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
10-12
10-11
10-10
10-9
10-8
Molar
Mab | EC 50 (M)
5A6 mIgG1 | .06 nM
5A6 F(ab)'2 | .08 nM
AT10 mIgG1 | .14 nM

FIG. 6

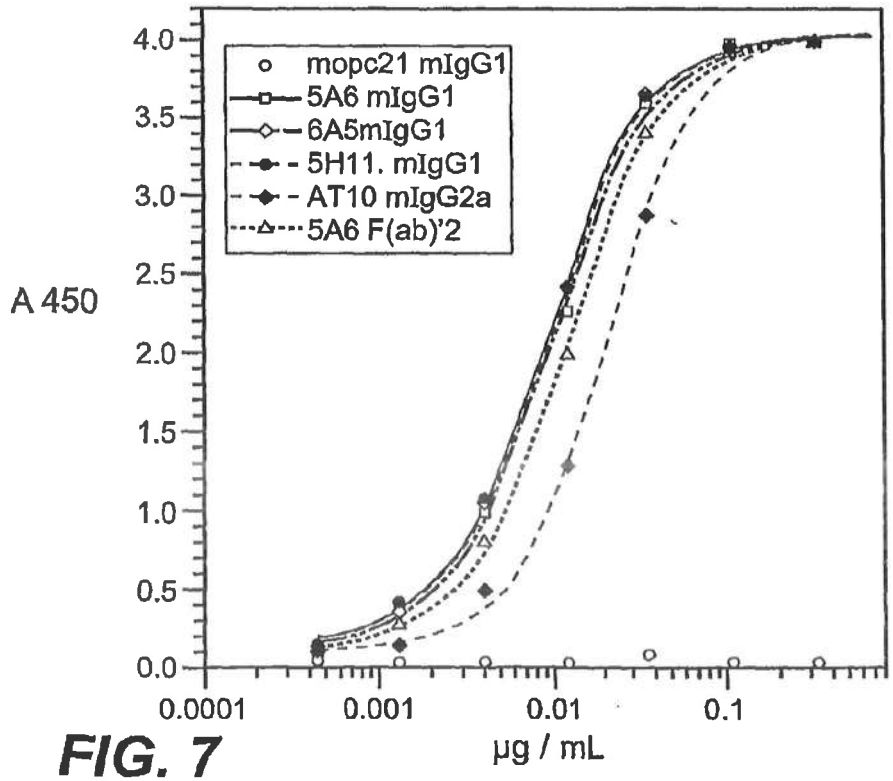

mopc21 mIgG1
5A6 mIgG1
6A5mIgG1
5H11. mIgG1
AT10 mIgG2a
5A6 F(ab)'2
A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
µg / mL

FIG. 7

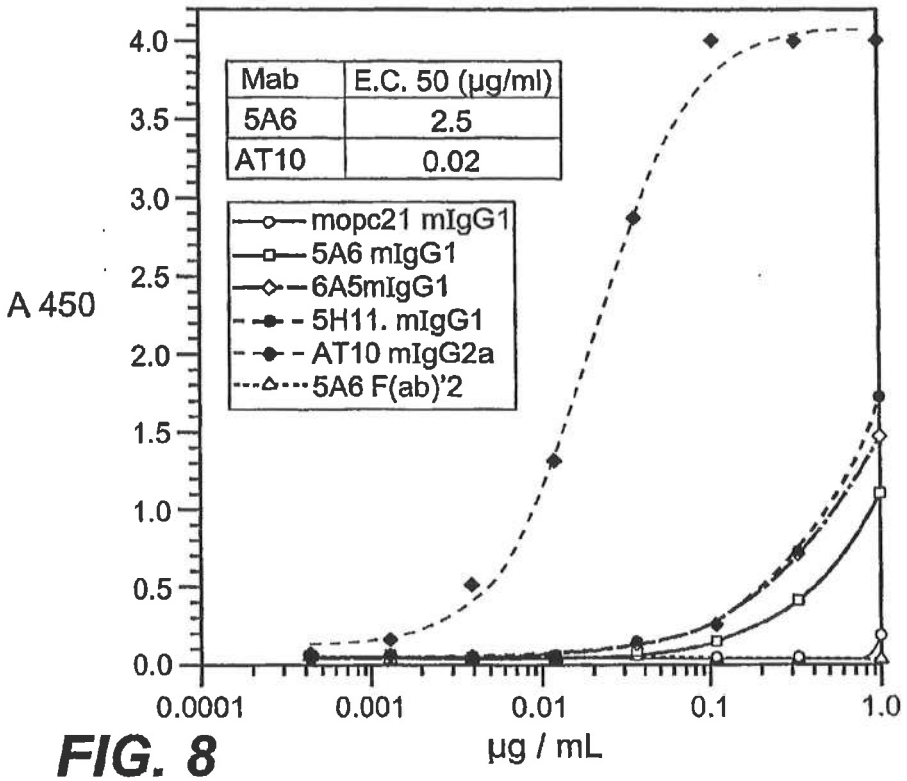

A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
1.0
µg / mL
Mab | E.C. 50 (µg/ml)
5A6 | 2.5
AT10 | 0.02
mopc21 mIgG1
5A6 mIgG1
6A5mIgG1
5H11. mIgG1
AT10 mIgG2a
5A6 F(ab)'2

FIG. 8

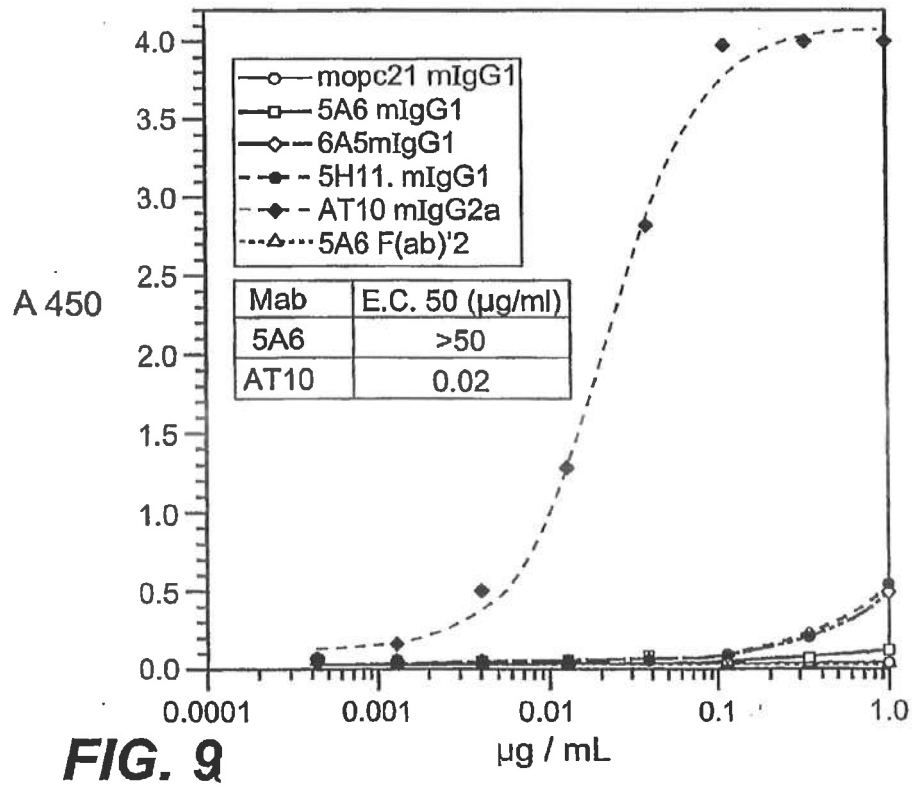

A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
1.0
µg / mL
mopc21 mIgG1
5A6 mIgG1
6A5mIgG1
5H11. mIgG1
AT10 mIgG2a
5A6 F(ab)'2
Mab | E.C. 50 (µg/ml)
5A6 | >50
AT10 | 0.02

FIG. 9

Amino Acid Sequence of Murine 5A6.2.1 mIgG1 (Anti-Human FcgRIIB)

Heavy Chain

EVKLEESGGGLVQPGGSMKLSCVASGFTFS[DAWMD]WVRQSPERGLEWVA[EIRSKPNNHATYYAESVKG]RFTISRDDS
^HC FR1 ^CDR1 ^HC FR2 ^HC CDR2 ^HC FR2

KSSVYLQMTSLRPEDTGIYYCTH[FDY]WGQGTTLTVSSAKTTGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWN
CDR3^ ^HC FR4

SGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCDKTHT SEQ ID NO: 7

Light Chain

DIQMTQSPSSLSASLGERVSLTC[RASQEISGYLS]WFQQKPDGTIKRLIY[AASALDS]GVPKRFSGSWSGSDYSLTISS
^LC FR1 ^LC CDR1 ^LC FR2 ^LC CDR2 ^LC FR3

LESEDFADYYC[LQYVSYPL]TFGAGTKLELKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVD
^LC CDR3 ^LC FR4

NALQSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTKSFNRGEC SEQ ID NO: 8

FIG. 10

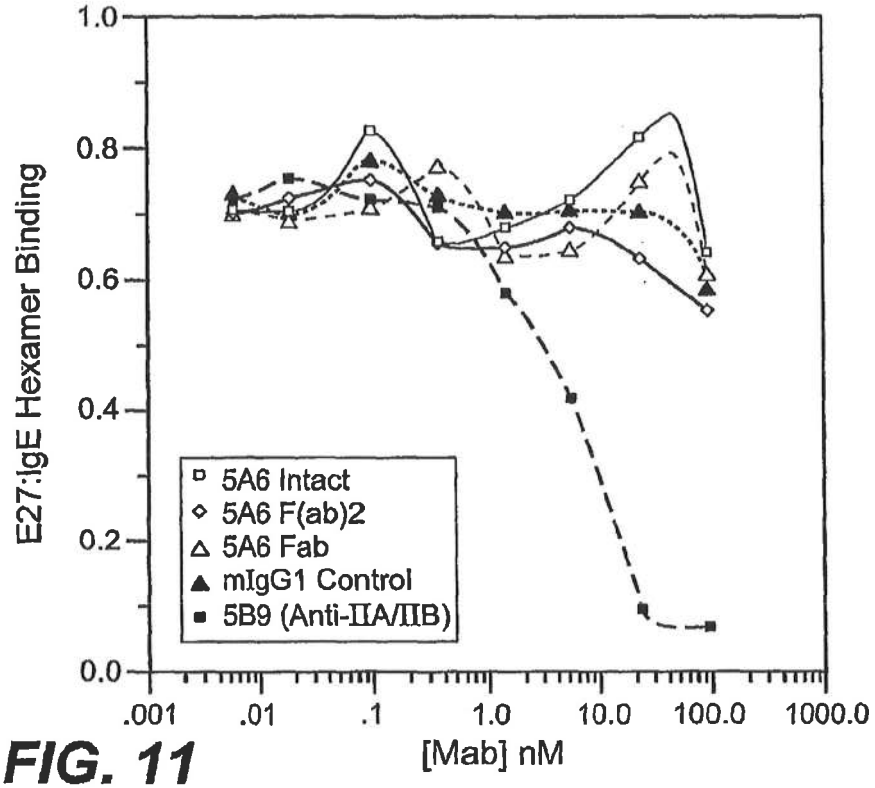

1.0
0.8
0.6
0.4
0.2
0.0
E27:IgE Hexamer Binding
5A6 Intact
5A6 F(ab)2
5A6 Fab
mIgG1 Control
5B9 (Anti-IIA/IIB)
.001
.01
.1
1.0
10.0
100.0
1000.0
[Mab] nM

FIG. 11

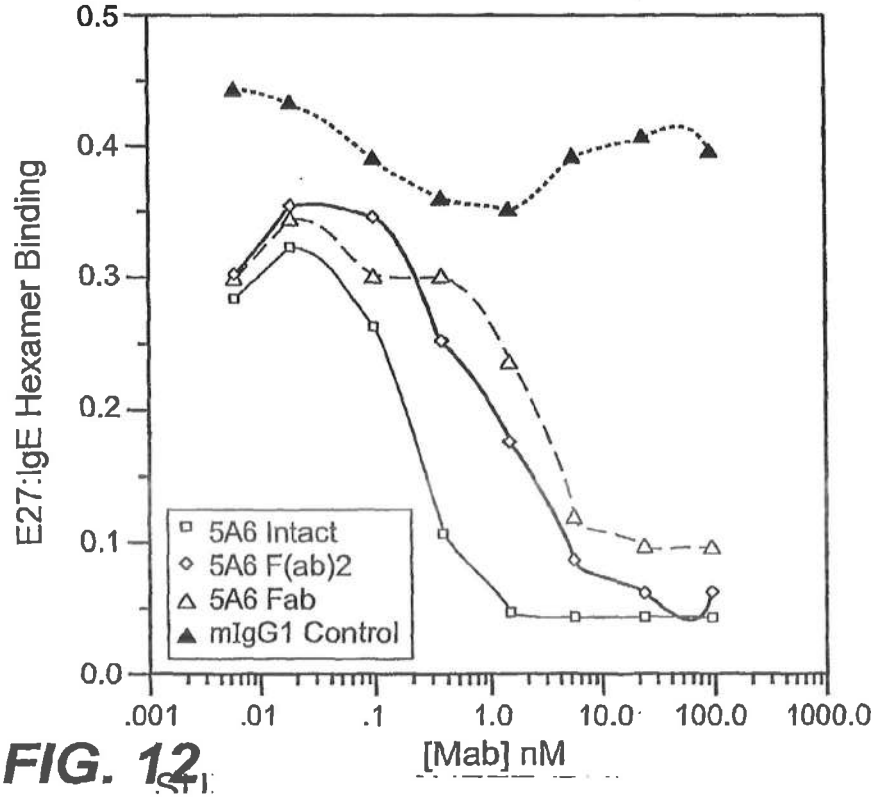

0.5
0.4
0.3
0.2
0.1
0.0
E27:IgE Hexamer Binding
5A6 Intact
5A6 F(ab)2
5A6 Fab
mIgG1 Control
.001
.01
.1
1.0
10.0
100.0
1000.0
[Mab] nM

FIG. 12

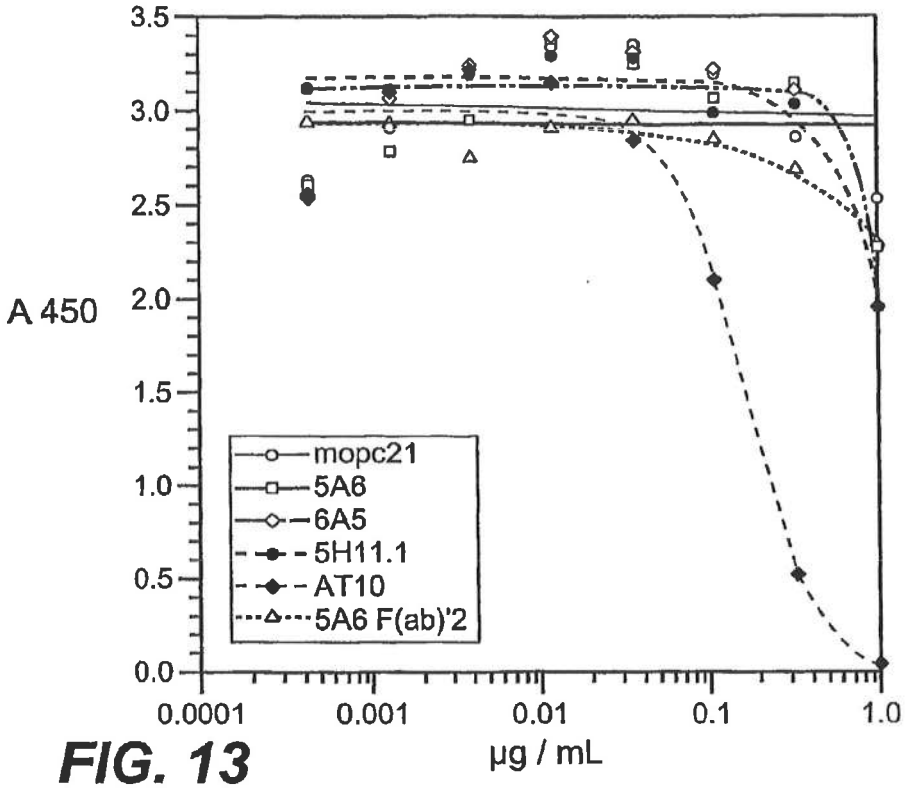

A 450
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
1.0
µg / mL
mopc21
5A6
6A5
5H11.1
AT10
5A6 F(ab)'2

FIG. 13

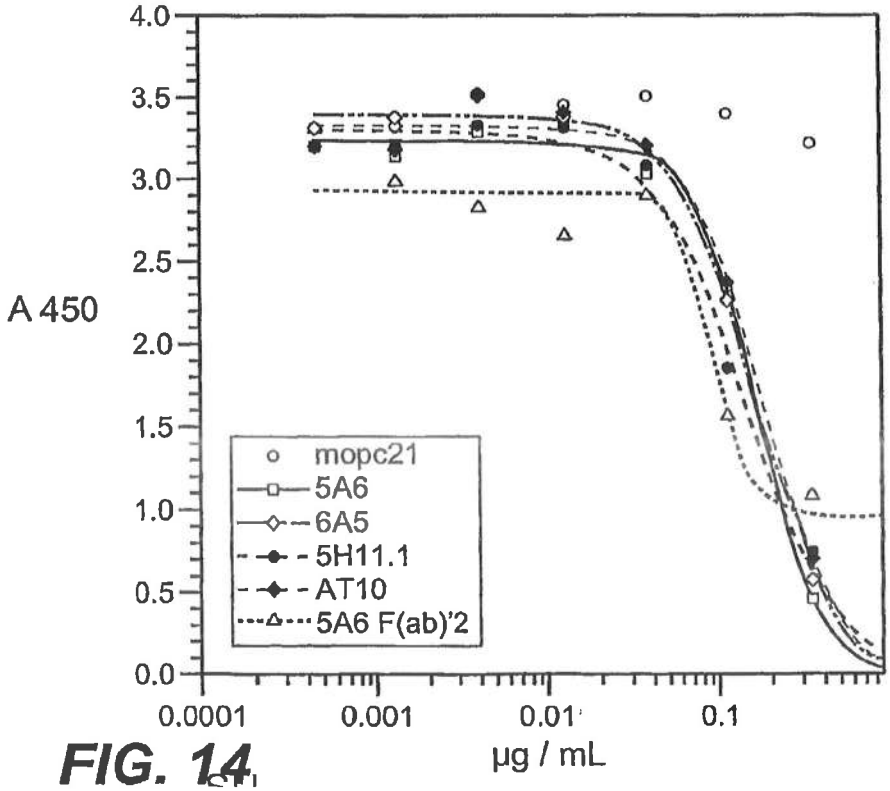

A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
µg / mL
mopc21
5A6
6A5
5H11.1
AT10
5A6 F(ab)'2

FIG. 14

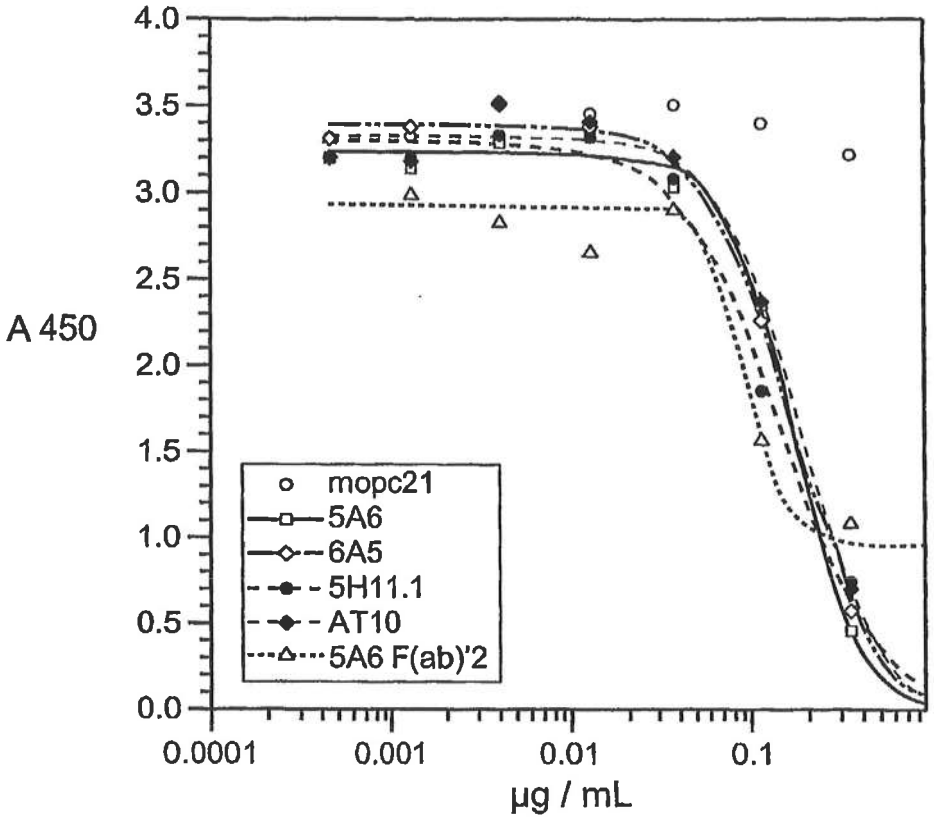

A 450
4.0
3.5
3.0
2.5
2.0
1.5
1.0
0.5
0.0
0.0001
0.001
0.01
0.1
µg / mL
mopc21
5A6
6A5
5H11.1
AT10
5A6 F(ab)'2

FIG. 15

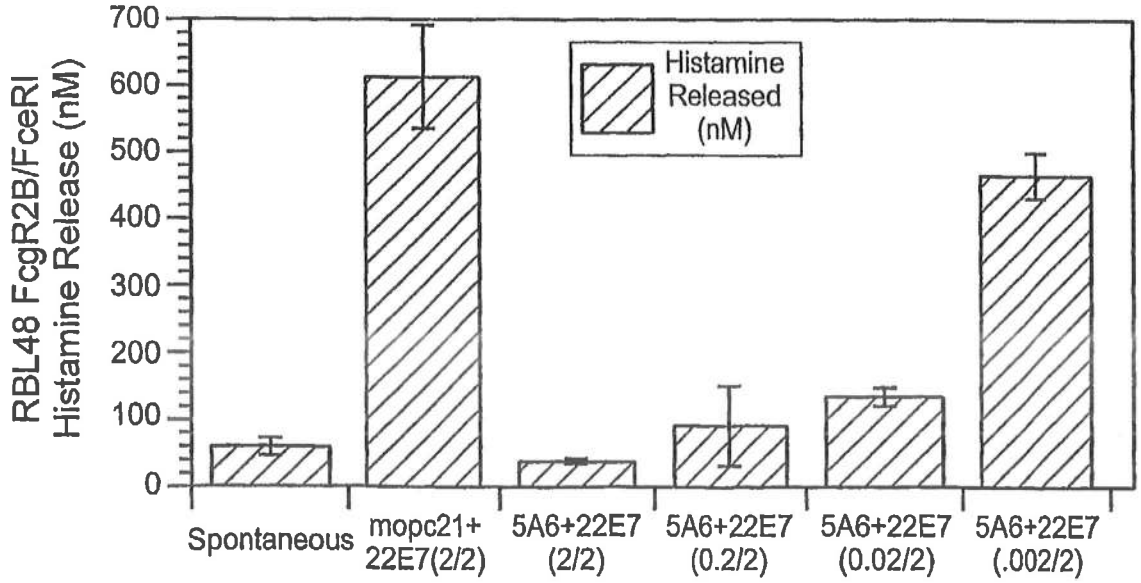

RBL48 FcgR2B/FceRI
Histamine Release (nM)
700
600
500
400
300
200
100
0
Histamine Released (nM)
Spontaneous
mopc21+ 22E7(2/2)
5A6+22E7 (2/2)
5A6+22E7 (0.2/2)
5A6+22E7 (0.02/2)
5A6+22E7 (.002/2)

FIG. 17

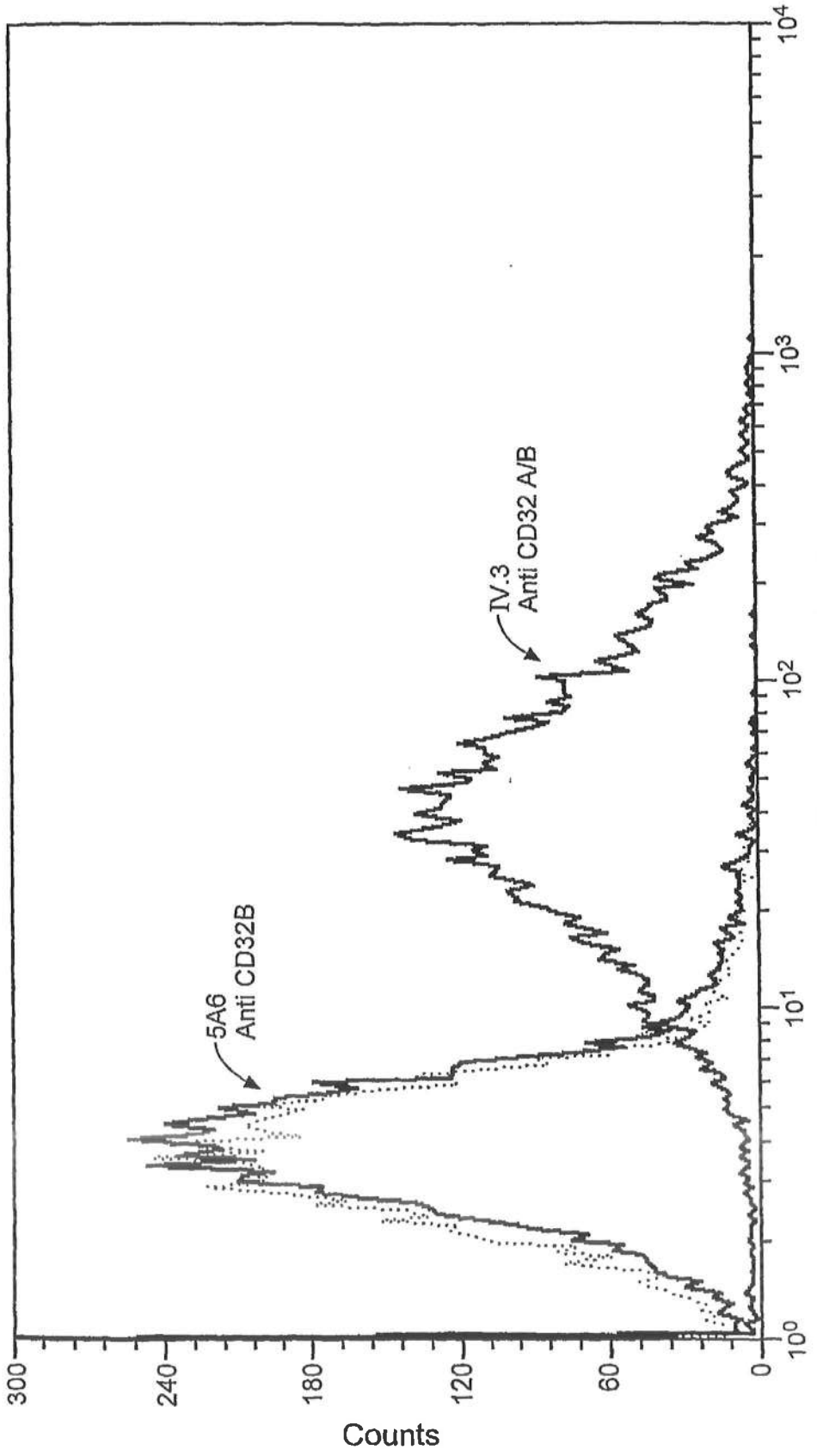

5A6
Anti CD32B
IV.3
Anti CD32 A/B
Counts
Fluorescence Intensity
300
240
180
120
60
0
10^0
10^1
10^2
10^3
10^4

FIG. 16

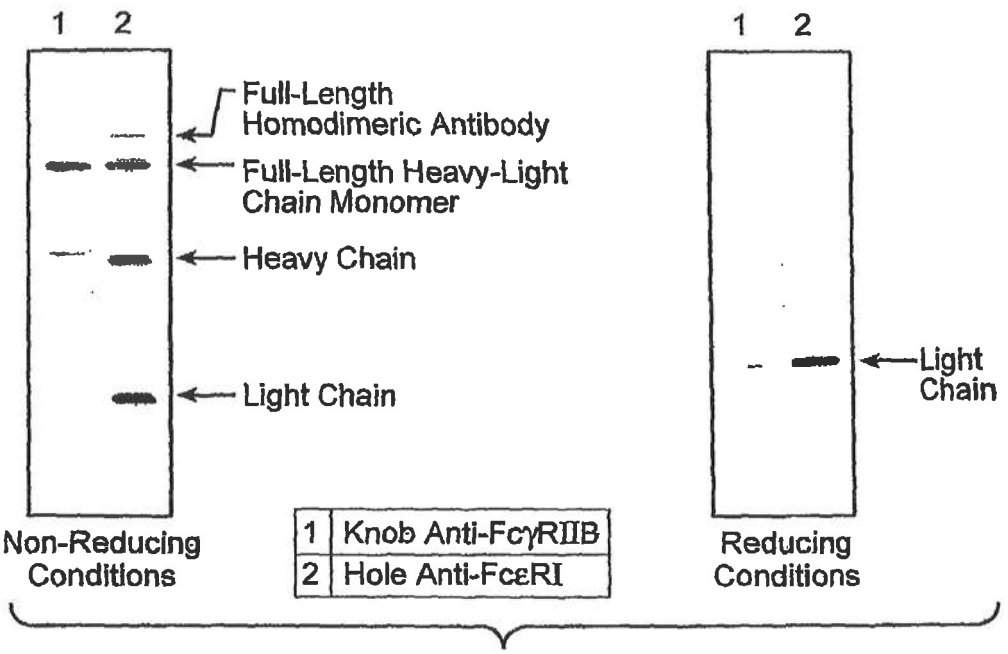

1 2
Full-Length Homodimeric Antibody
Full-Length Heavy-Light Chain Monomer
Heavy Chain
Light Chain
Non-Reducing Conditions
1 Knob Anti-FcγRIIB
2 Hole Anti-FcεRI
1 2
Light Chain
Reducing Conditions

FIG. 18

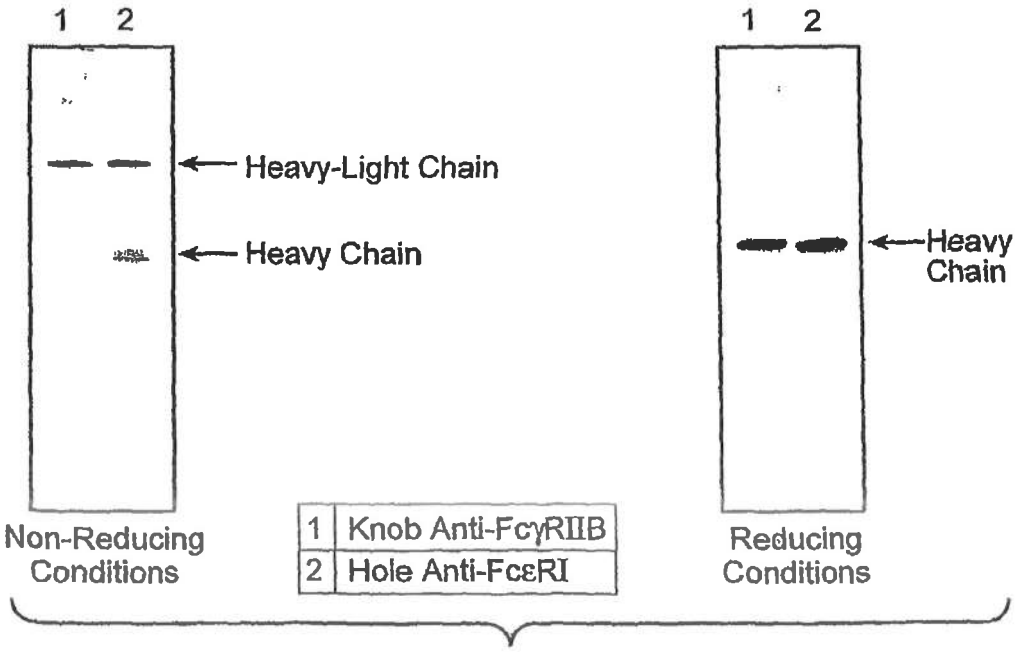
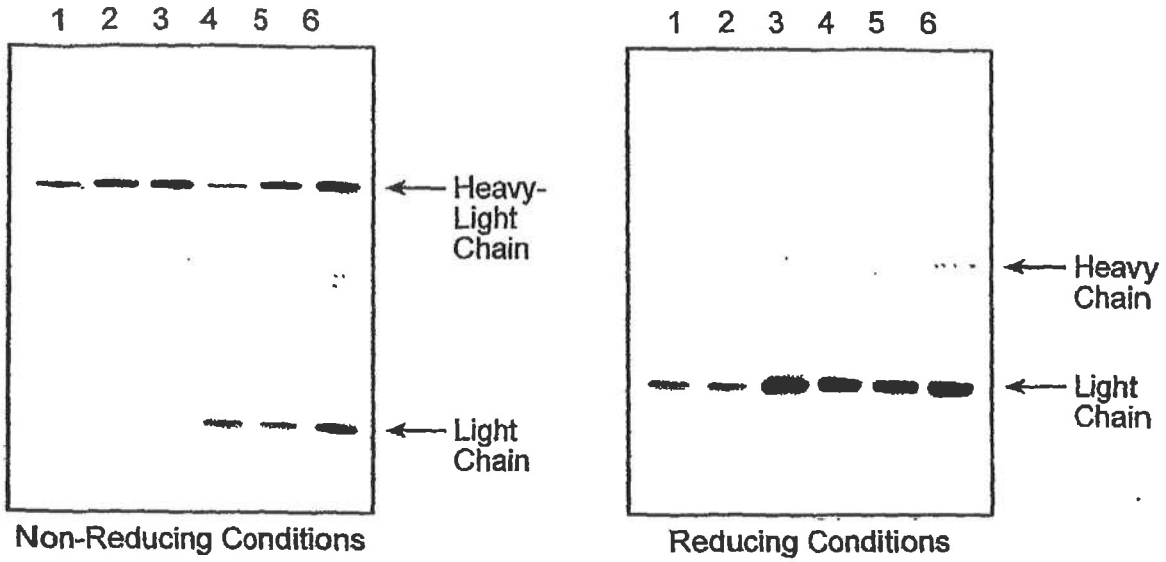
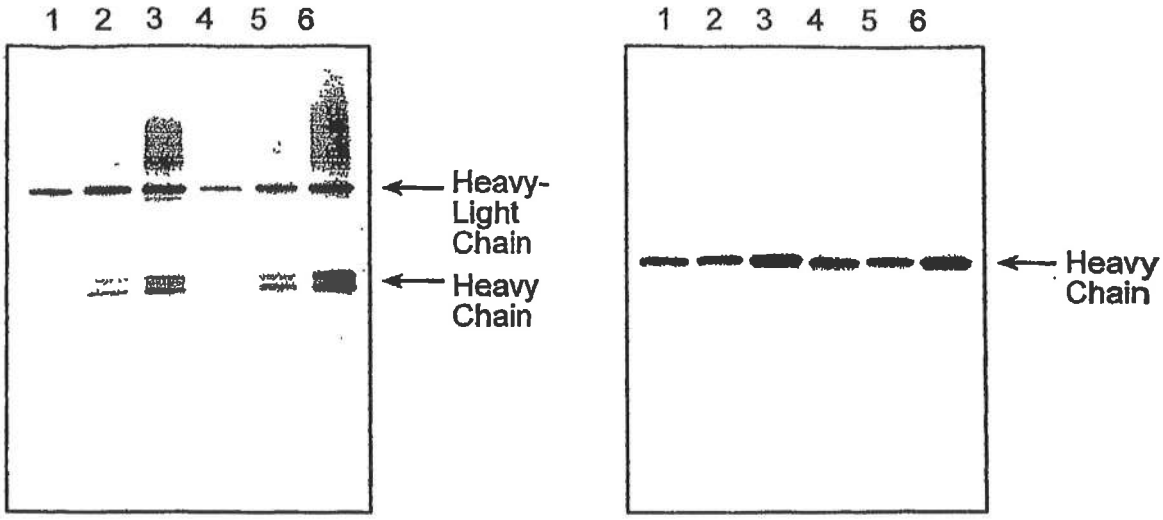

1 2
Heavy-Light Chain
Heavy Chain
Non-Reducing Conditions
1 Knob Anti-FcγRIIB
2 Hole Anti-FcεRI
1 2
Heavy Chain
Reducing Conditions

FIG. 19



1	Knob Anti-FcγRIIB (p5A6.11.Knob)
2	Knob Hingeless Anti-FcγRIIB (p5A6.11.Knob.Hg-)
3	Knob Hingeless Anti-FcγRIIB (p5A6.22.Knob.Hg-)
4	Hole Anti-FcεRI (p22E7.11.Hole)
5	Hole Anti-FcεRI (p22E7.11.Hole.Hg-)
6	Hole Anti-FcεRI (p22E7.22.Hole.Hg-)

FIG. 20



1	Knob Anti-FcγRIIB (p5A6.11.Knob)
2	Knob Hingeless Anti-FcγRIIB (p5A6.11.Knob.Hg-)
3	Knob Hingeless Anti-FcγRIIB (p5A6.22.Knob.Hg-)
4	Hole Anti-FcεRI (p22E7.11.Hole)
5	Hole Anti-FcεRI (p22E7.11.Hole.Hg-)
6	Hole Anti-FcεRI (p22E7.22.Hole.Hg-)

FIG. 21

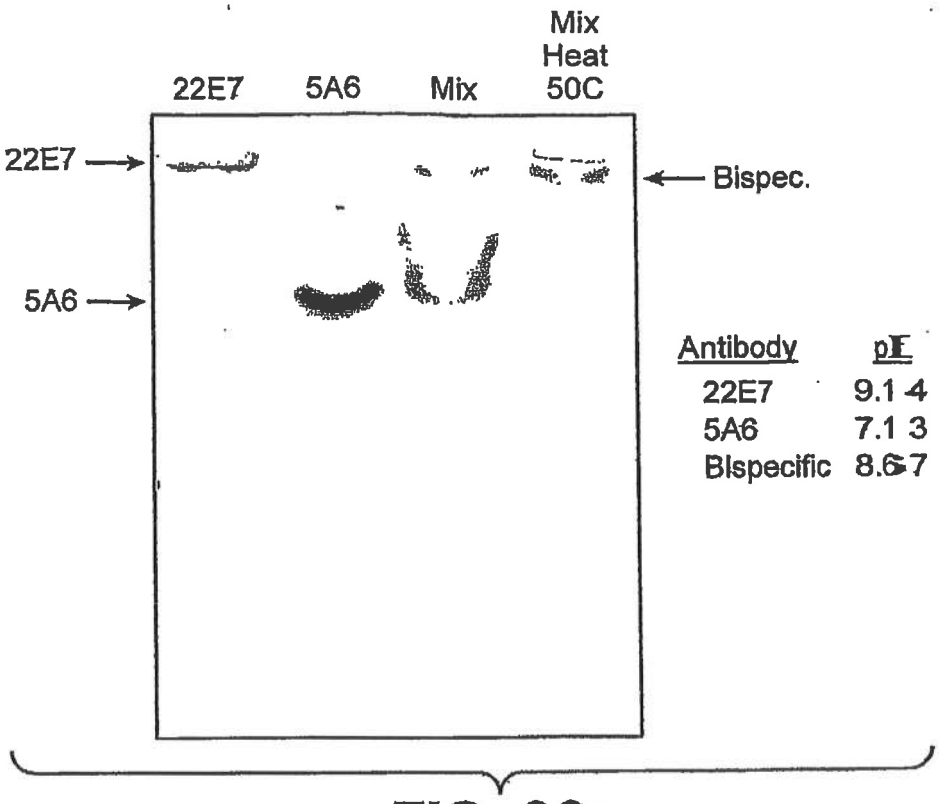

Mix
Heat
50C
22E7
5A6
Mix
22E7
Bispec.
5A6
Antibody
pI
22E7
9.1 4
5A6
7.1 3
Bispecific
8.6 7

FIG. 22

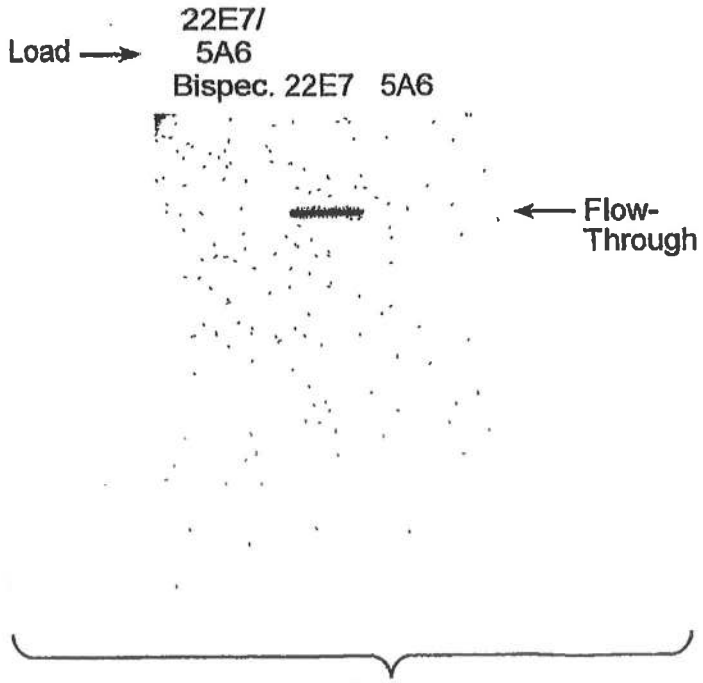

22E7/
5A6
Load
Bispec. 22E7 5A6
Flow-
Through

FIG. 23

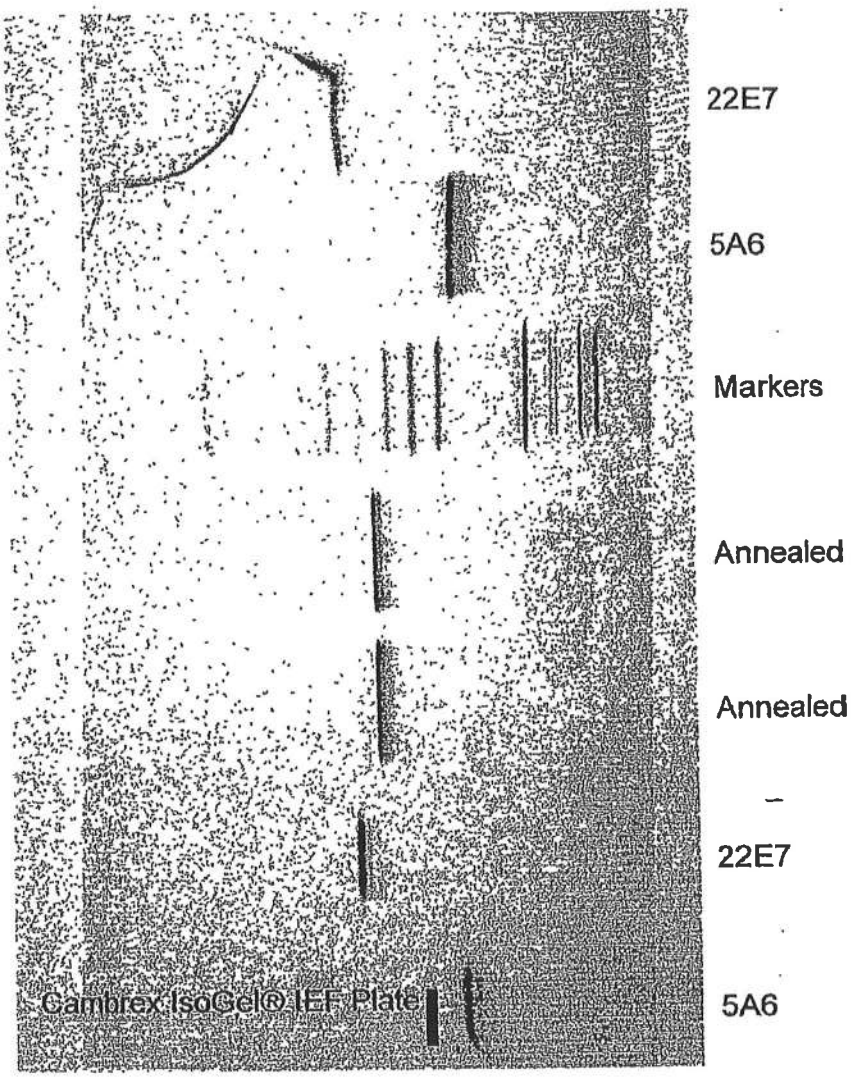

22E7
5A6
Markers
Annealed
Annealed
22E7
5A6
Cambrex IsoGel® IEF Plate

FIG. 24

GAATTCAACTTCTCCATACTTTGGATAAGGAAATACAGACATGAAAAATCTCATTGCTGA
GTTGTTATTTAAGCTTGCCCAAAAAGAAGAAGAGTCGAATGAACTGTGTGCGCAGGTAGA
AGCTTTGGAGATTATCGTCACTGCAATGCTTCGCAATATGGCGCAAAATGACCAACAGCG
GTTGATTGATCAGGTAGAGGGGGCGCTGTACGAGGTAAAGCCCGATGCCAGCATTCCTGA
CGACGATACGGAGCTGCTGCGCGATTACGTAAAGAAGTTATTGAAGCATCCTCGTCAGTA
AAAAGTTAATCTTTTCAACAGCTGTCATAAAGTTGTCACGGCCGAGACTTATAGTCGCTT
TGTTTTTATTTTTTAATGTATTTGTAACTAGTACGCAAGTTCACGTAAAAAGGGTATCTA
GAATTATGAAGAAGAATATCGCATTTCTTCTTGCATCTATGTTCGTTTTTTCTATTGCTA
CAAATGCATACGCTGACATCCAGATGACCCAGTCTCCATCTTCCTTATCTGCCTCTCTGG
GAGAAAGAGTCAGTCTCACTTGTCGGGCAAGTCAGGAAATTAGTGGTTACTTAAGCTGGT
TTCAGCAGAAACCAGATGGAACTATTAAACGCCTGATCTATGCCGCATCCGCTTTAGATT
CTGGTGTCCCAAAAAGGTTCAGTGGCAGTTGGTCTGGGTCAGATTATTCTCTCACCATCA
GCAGCCTTGAGTCTGAAGATTTTGCAGACTATTACTGTCTACAATATGTTAGTTATCCGC
TCACGTTCGGTGCTGGGACCAAACTGGAGCTGAAACGGACCGTGGCTGCACCATCTGTCT
TCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCCTCTGTTGTGTGCCTGC
TGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGATAACGCCCTCCAAT
CGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGACAGCACCTACAGCCTCA
GCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACACAAAGTCTACGCCTGCGAAG
TCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAACAGGGGAGAGTGTTAAT
T SEQ ID NO: 35

FIG. 25

GAATTCAACTTCTCCATACTTTGGATAAGGAAATACAGACATGAAAAATCTCATTGCTGA
GTTGTTATTTAAGCTTGCCCAAAAAGAAGAAGAGTCGAATGAACTGTGTGCGCAGGTAGA
AGCTTTGGAGATTATCGTCACTGCAATGCTTCGCAATATGGCGCAAAATGACCAACAGCG
GTTGATTGATCAGGTAGAGGGGGCGCTGTACGAGGTAAAGCCCGATGCCAGCATTCCTGA
CGACGATACGGAGCTGCTGCGCGATTACGTAAAGAAGTTATTGAAGCATCCTCGTCAGTA
AAAAGTTAATCTTTTCAACAGCTGTCATAAAGTTGTCACGGCCGAGACTTATAGTCGCTT
TGTTTTTATTTTTTAATGTATTTGTAACTAGTACGCAAGTTCACGTAAAAAGGGTATCTA
GAATTATGAAGAAGAATATCGCATTTCTTCTTGCATCTATGTTCGTTTTTTCTATTGCTA
CAAATGCATACGCTGATATCATGATGACTCAGTCTCCTTCTTCCATGTATGCATCTCTAG
GAGAGAGAGTCACTATCACTTGTAAGGCGAGTCAGGACATTAATAGCTATTTAAGCTGGT
TCCAGCAGAAACCAGGGAAATCTCCTAAGACCCTGATCTCTCGTGCAAACAGATTGGTAG
ATGGTGTCCCATCAAGATTCAGTGGCAGTGGATCTGGGCAAGATTATTCTCTCACCATCA
GCAGCCTGGAGTATGAAGATATGGGAATTTATTATTGTCTACAGTATGATGACTTTCCGT
TCACGTTCGGAGGGGGGACCAAGCTGGAAATAAAACGGACCGTGGCTGCACCATCTGTCT
TCATCTTCCCGCCATCTGATGAGCAGTTGAAATCTGGAACTGCCTCTGTTGTGTGCCTGC
TGAATAACTTCTATCCCAGAGAGGCCAAAGTACAGTGGAAGGTGGATAACGCCCTCCAAT
CGGGTAACTCCCAGGAGAGTGTCACAGAGCAGGACAGCAAGGACAGCACCTACAGCCTCA
GCAGCACCCTGACGCTGAGCAAAGCAGACTACGAGAAACACAAAGTCTACGCCTGCGAAG
TCACCCATCAGGGCCTGAGCTCGCCCGTCACAAAGAGCTTCAACAGGGGAGAGTGTTAAT
T SEQ ID NO: 36

FIG. 26

ACGCGTACGCTGAAGTGAAGCTGGAGGAGTCTGGAGGAGGCTTGGTGCAACCTGGAGGAT
CCATGAAACTCTCTTGTGTTGCCTCTGGATTCACTTTTAGTGACGCCTGGATGGACTGGG
TCCGCCAGTCTCCAGAGAGGGGGCTTGAGTGGGTTGCTGAAATTAGAAGCAAACCTAATA
ATCATGCAACATACTATGCTGAGTCTGTGAAAGGGAGGTTCACCATCTCAAGAGATGATT
CCAAAAGTAGTGTCTACCTGCAAATGACCAGCTTAAGACCTGAAGACACTGGCATTTATT
ACTGTACCCACTTTGACTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCAGCCAAAA
CGACGGGCCC SEQ ID NO: 37

FIG. 27

ACGCGTACGCTGAAGTGAAGCTGGTGGAGTCTGGGGGAGGCTTAGTGAAGCCTGGAGGGT
CCCTGAAACTCTCCTGTGCAGCCTCTGGATTCACTTTCAGTAGCTATGGCATGTCTTGGG
TTCGCCAGACTCCGGAGAAGAGGCTGGAGTGGGTCGCAACCATTAGTGGTGGTAATAATT
ACACCTTCTATCCAGACAATTTGAAGGGGCGCTTCACCATCTCCAGAGACAATGCCAAGA
ACATCCTGTACCTGCAAATCAGCAGTCTGAGGTCTGTCGACACGGCCTTGTATTACTGTG
CAAGCCTGTGGTACCGCGCCTCGTTTGCTTACTGGGGCCAAGGGACTCTGGTCACCGTCT
CCTCAGCAAAAACGACGGGCCC SEQ ID NO: 38

FIG. 28

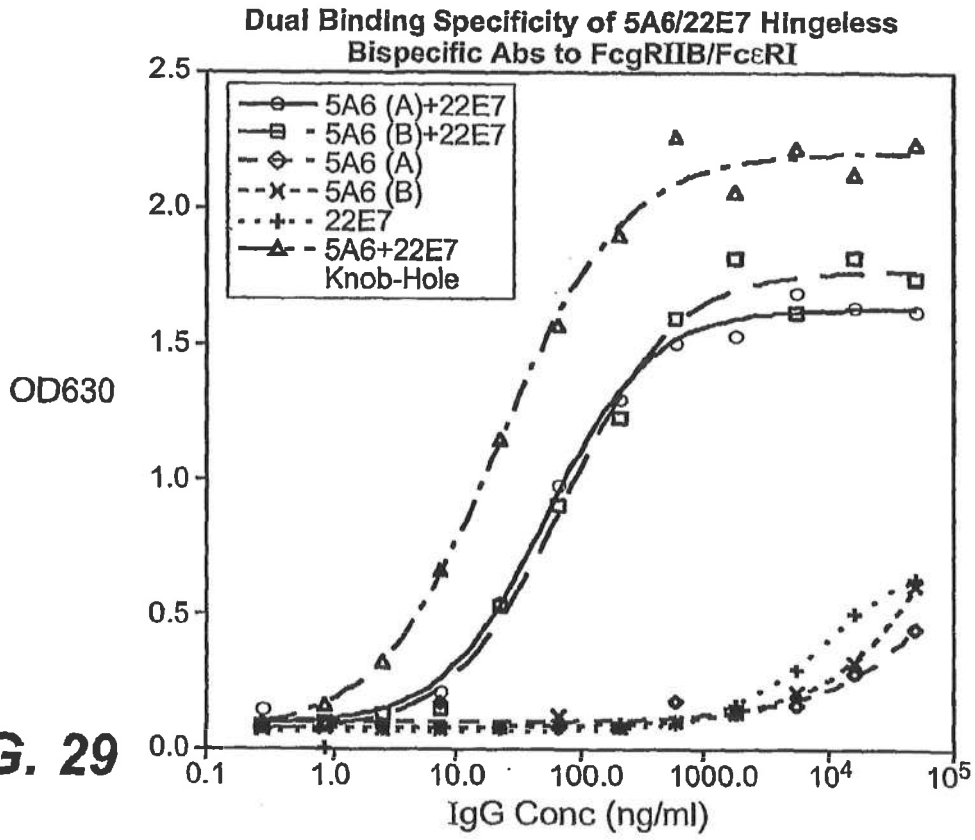

Dual Binding Specificity of 5A6/22E7 Hingeless Bispecific Abs to FcgRIIB/FcεRI
5A6 (A)+22E7
5A6 (B)+22E7
5A6 (A)
5A6 (B)
22E7
5A6+22E7 Knob-Hole
OD630
IgG Conc (ng/ml)

FIG. 29

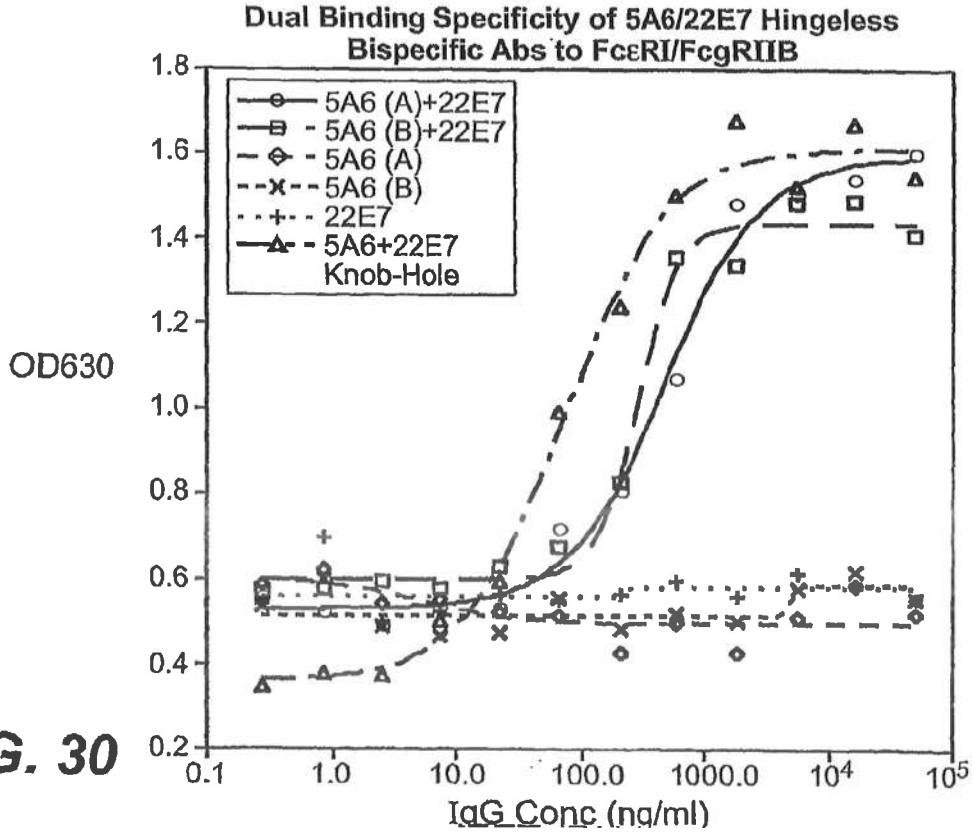

Dual Binding Specificity of 5A6/22E7 Hingeless Bispecific Abs to FcεRI/FcgRIIB
5A6 (A)+22E7
5A6 (B)+22E7
5A6 (A)
5A6 (B)
22E7
5A6+22E7 Knob-Hole
OD630
IgG Conc (ng/ml)

FIG. 30

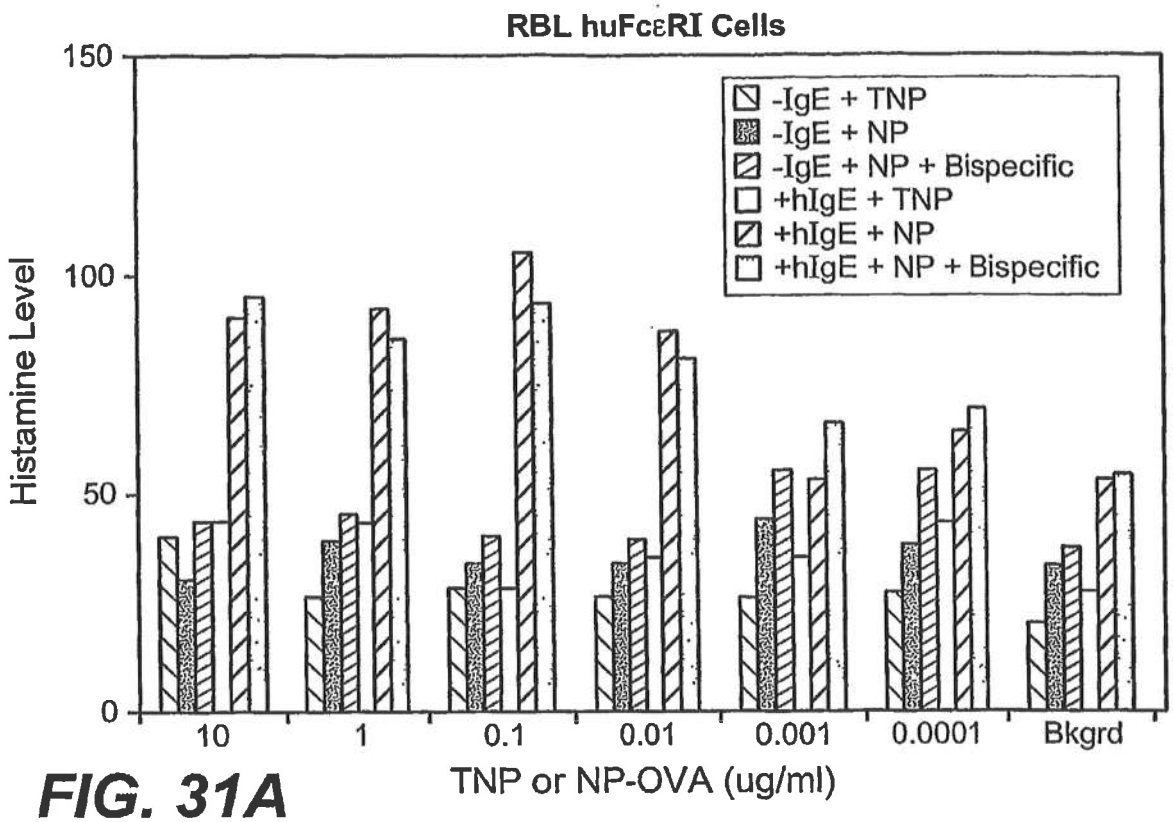


FIG. 31A

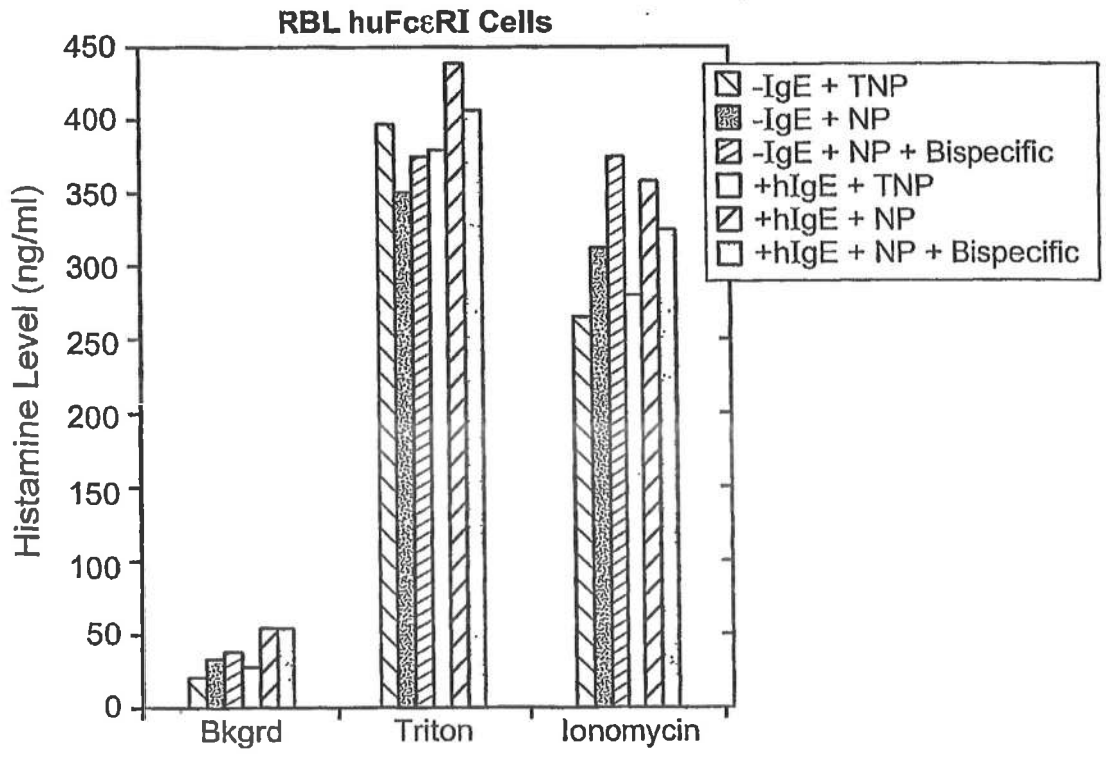


FIG. 31B

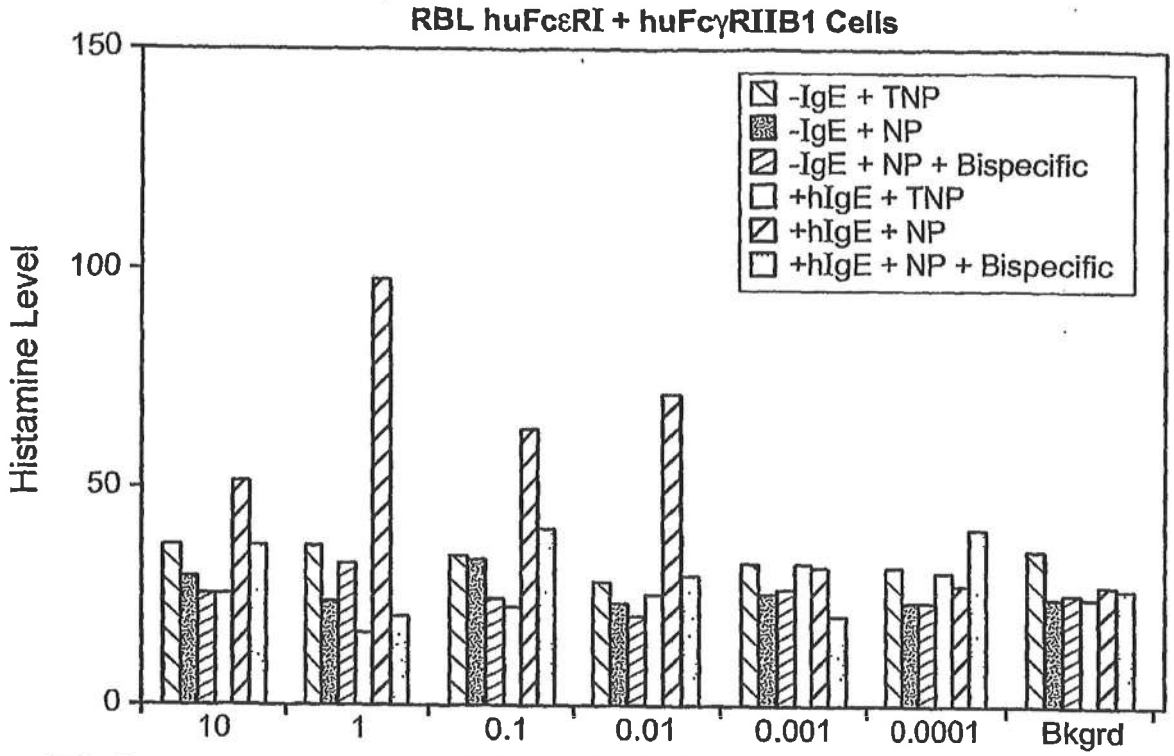


FIG. 32A

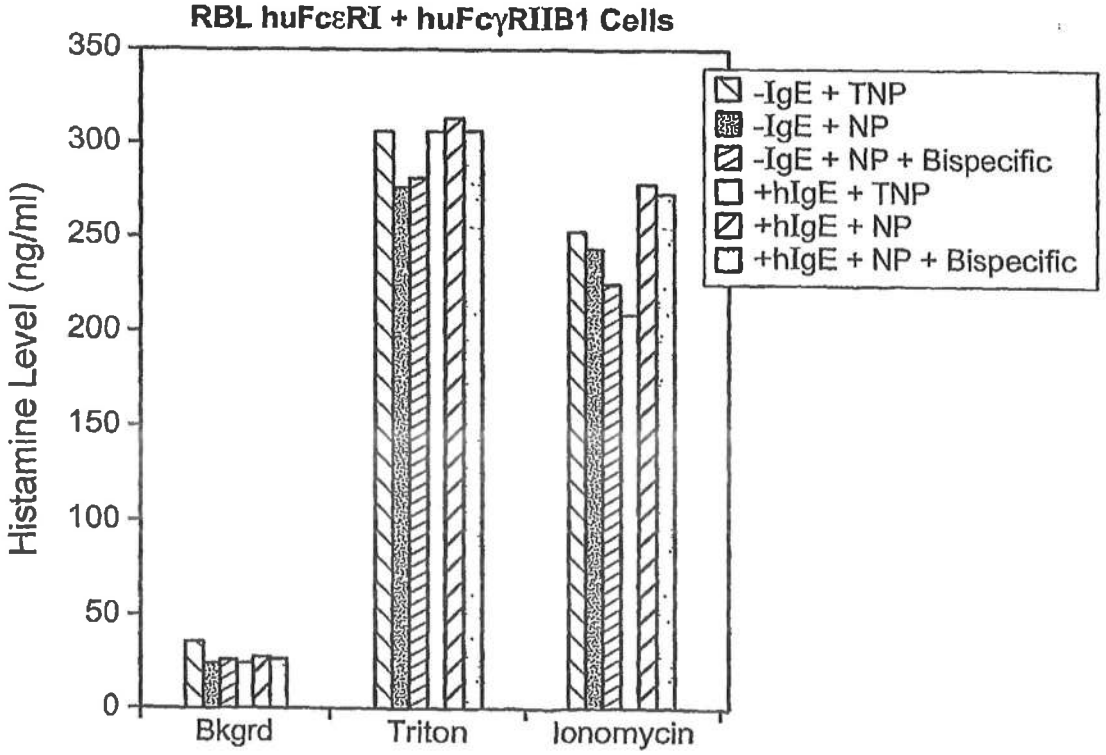


FIG. 32B

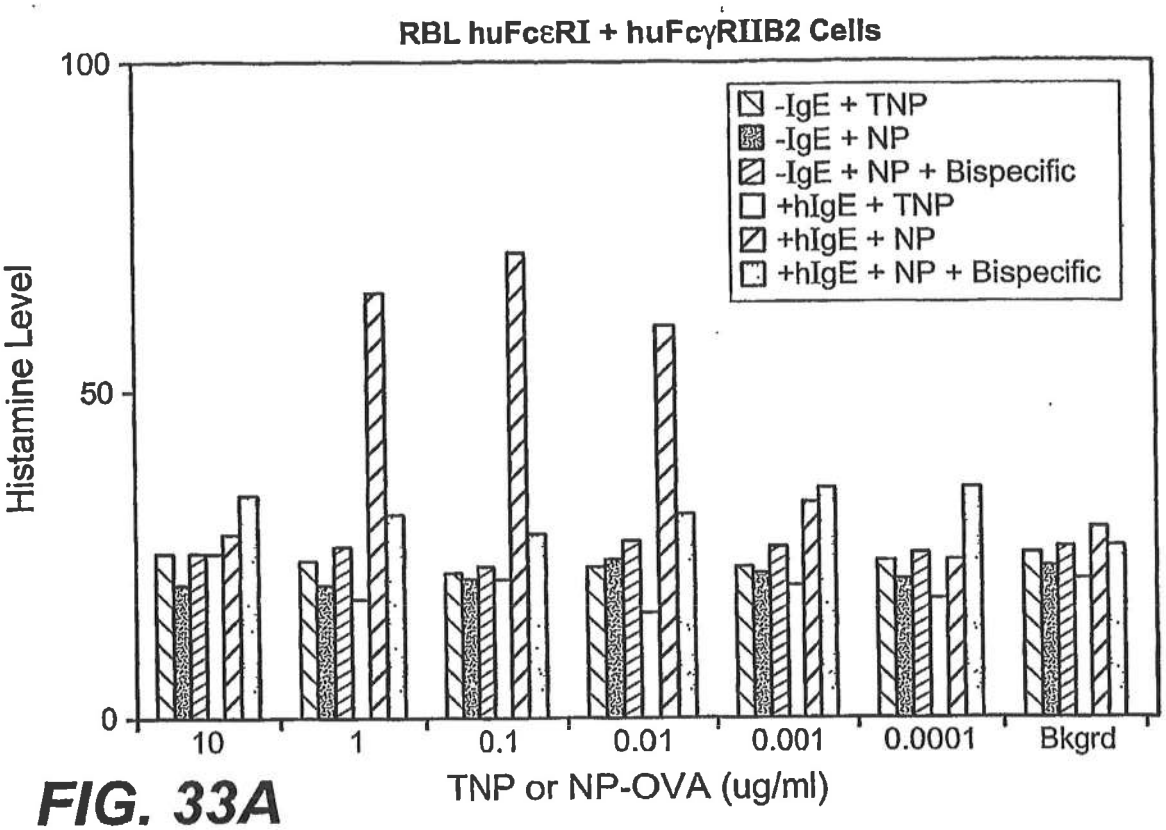


FIG. 33A

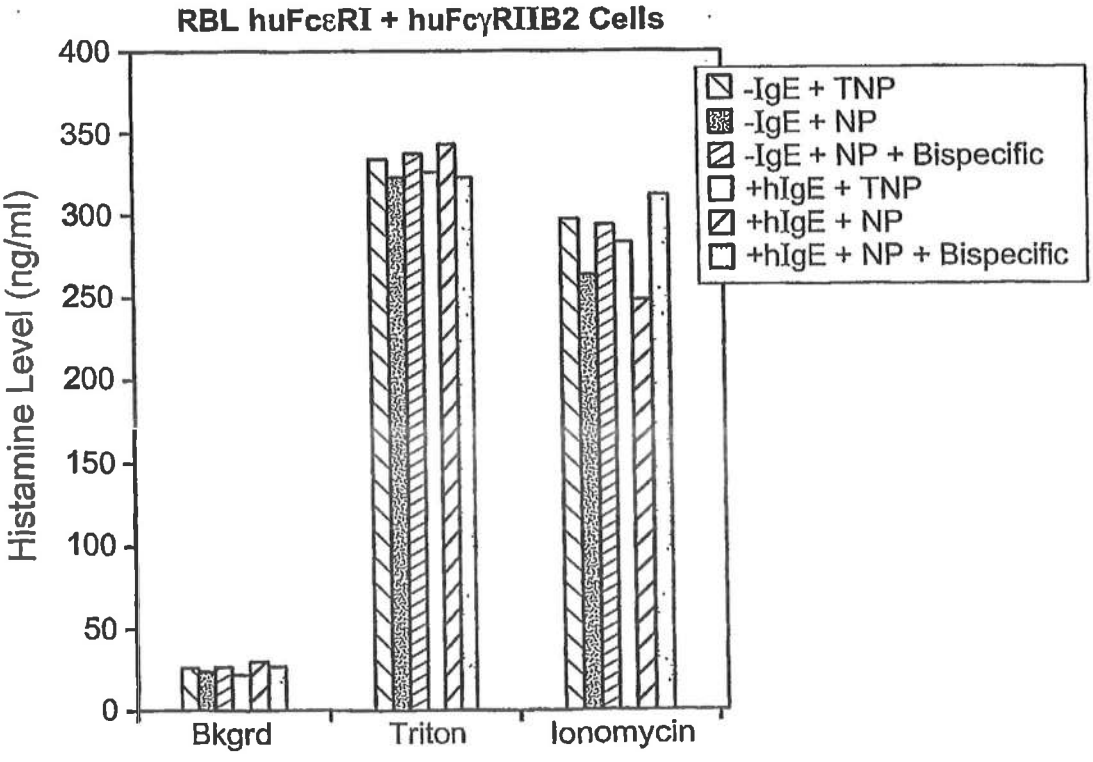


FIG. 33B

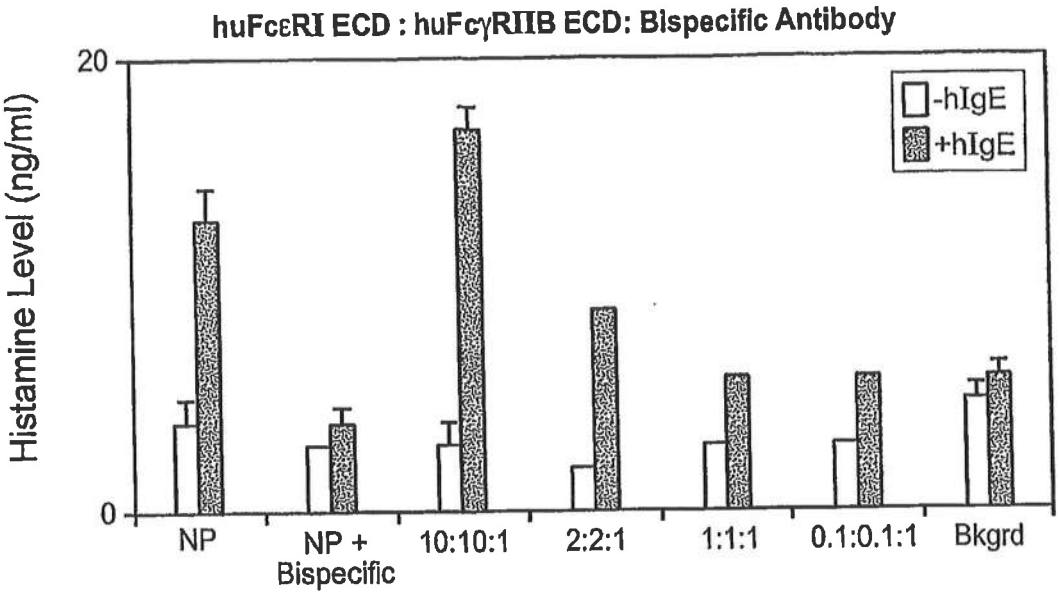

huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Histamine Level (ng/ml)
20
0
-hIgE
+hIgE
NP
NP + Bispecific
10:10:1
2:2:1
1:1:1
0.1:0.1:1
Bkgrd

FIG. 34

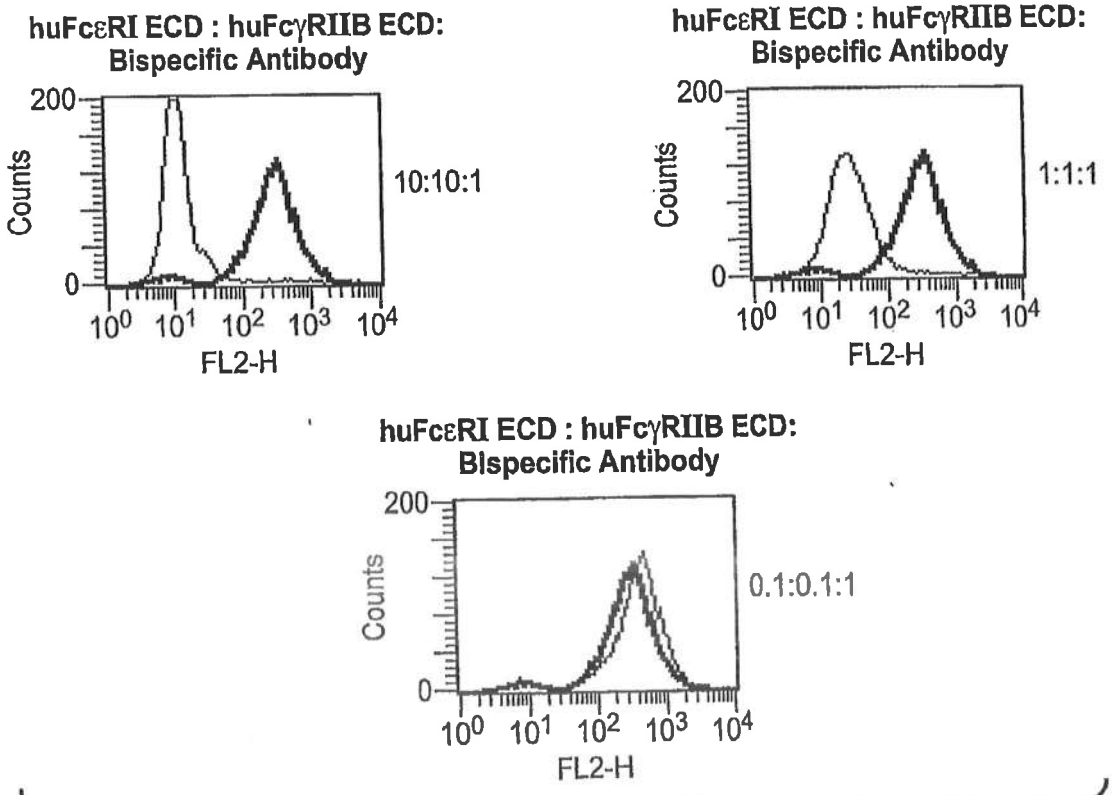

huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
10:10:1
10^0 10^1 10^2 10^3 10^4
FL2-H
huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
1:1:1
10^0 10^1 10^2 10^3 10^4
FL2-H
huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
0.1:0.1:1
10^0 10^1 10^2 10^3 10^4
FL2-H

FIG. 35

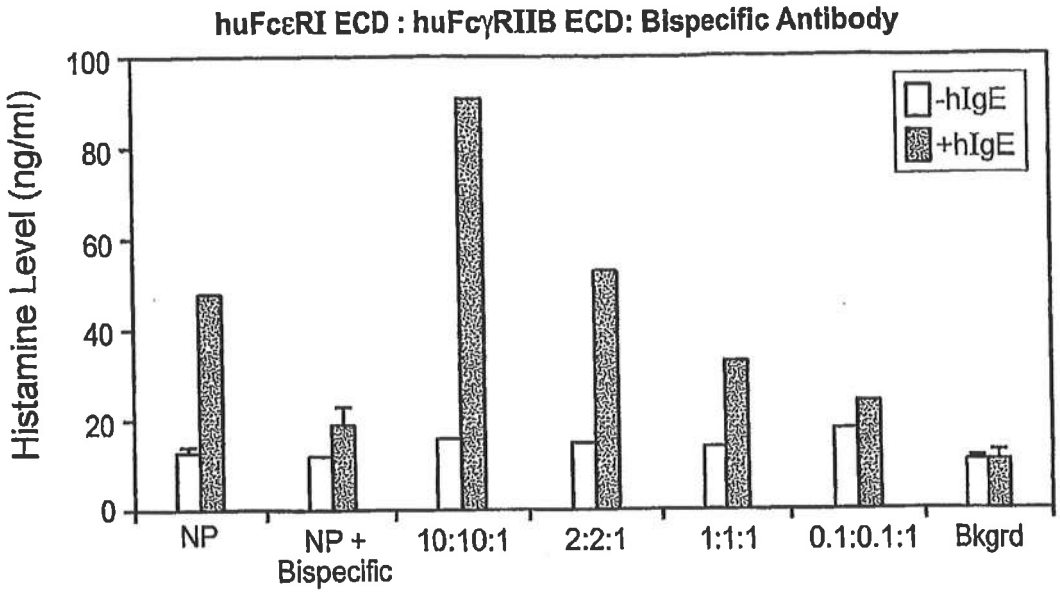

huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Histamine Level (ng/ml)
100
80
60
40
20
0
-hIgE
+hIgE
NP
NP + Bispecific
10:10:1
2:2:1
1:1:1
0.1:0.1:1
Bkgrd

FIG. 36

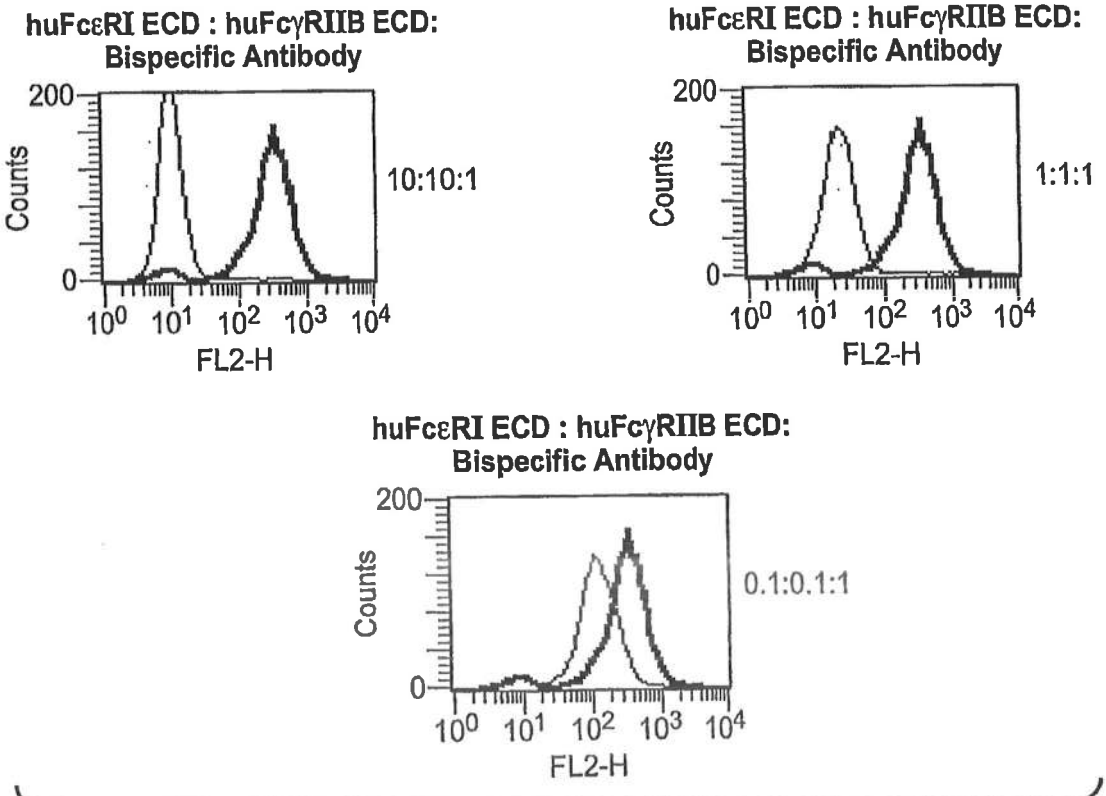

huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
10:10:1
10^0 10^1 10^2 10^3 10^4
FL2-H
huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
1:1:1
10^0 10^1 10^2 10^3 10^4
FL2-H
huFcεRI ECD : huFcγRIIB ECD: Bispecific Antibody
Counts
200
0
0.1:0.1:1
10^0 10^1 10^2 10^3 10^4
FL2-H

FIG. 37

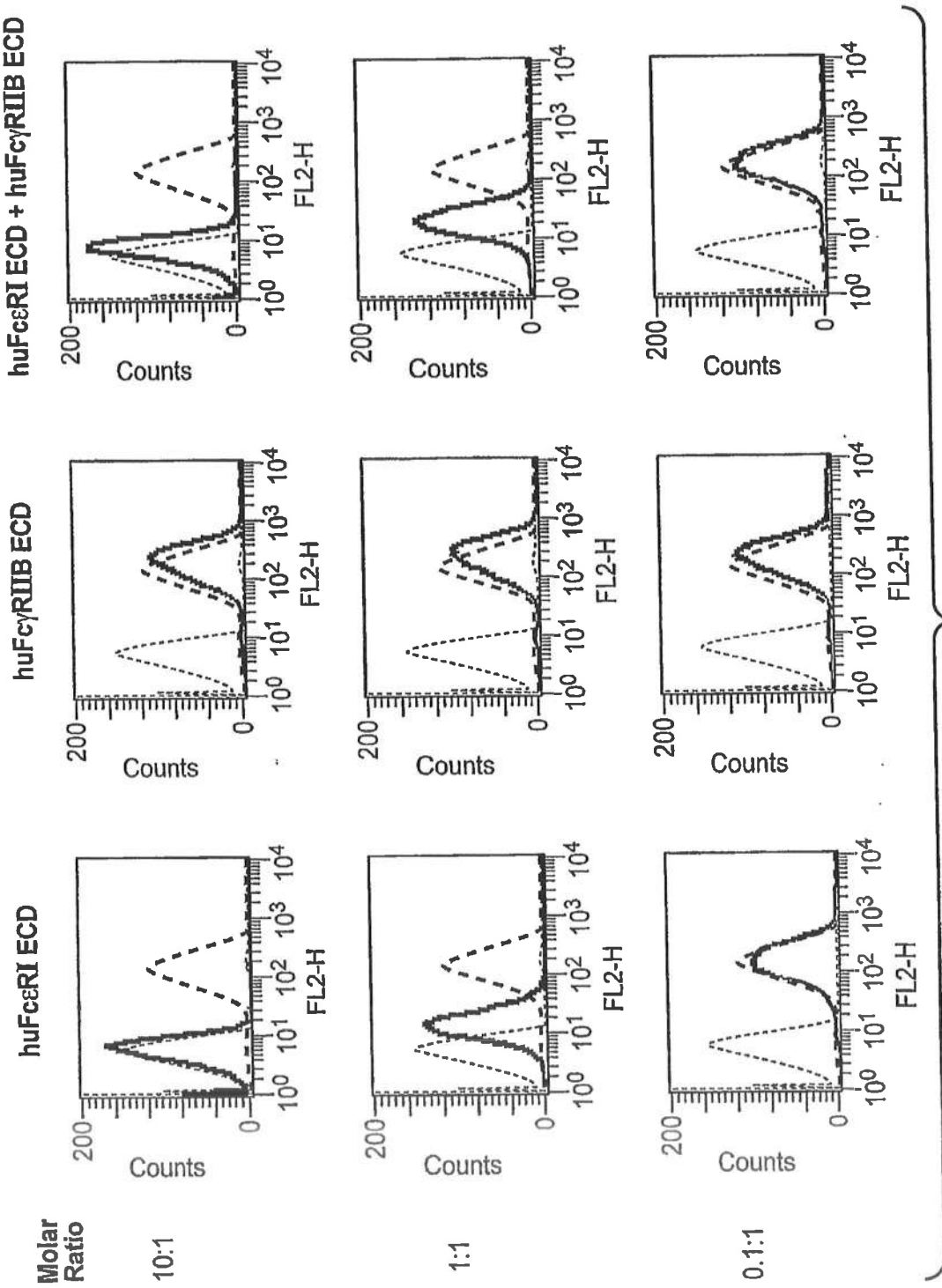

huFcεRI ECD
huFcγRIIB ECD
huFcεRI ECD + huFcγRIIB ECD
Molar Ratio
10:1
1:1
0.1:1
Counts
FL2-H
200
0
10^0 10^1 10^2 10^3 10^4

FIG. 38

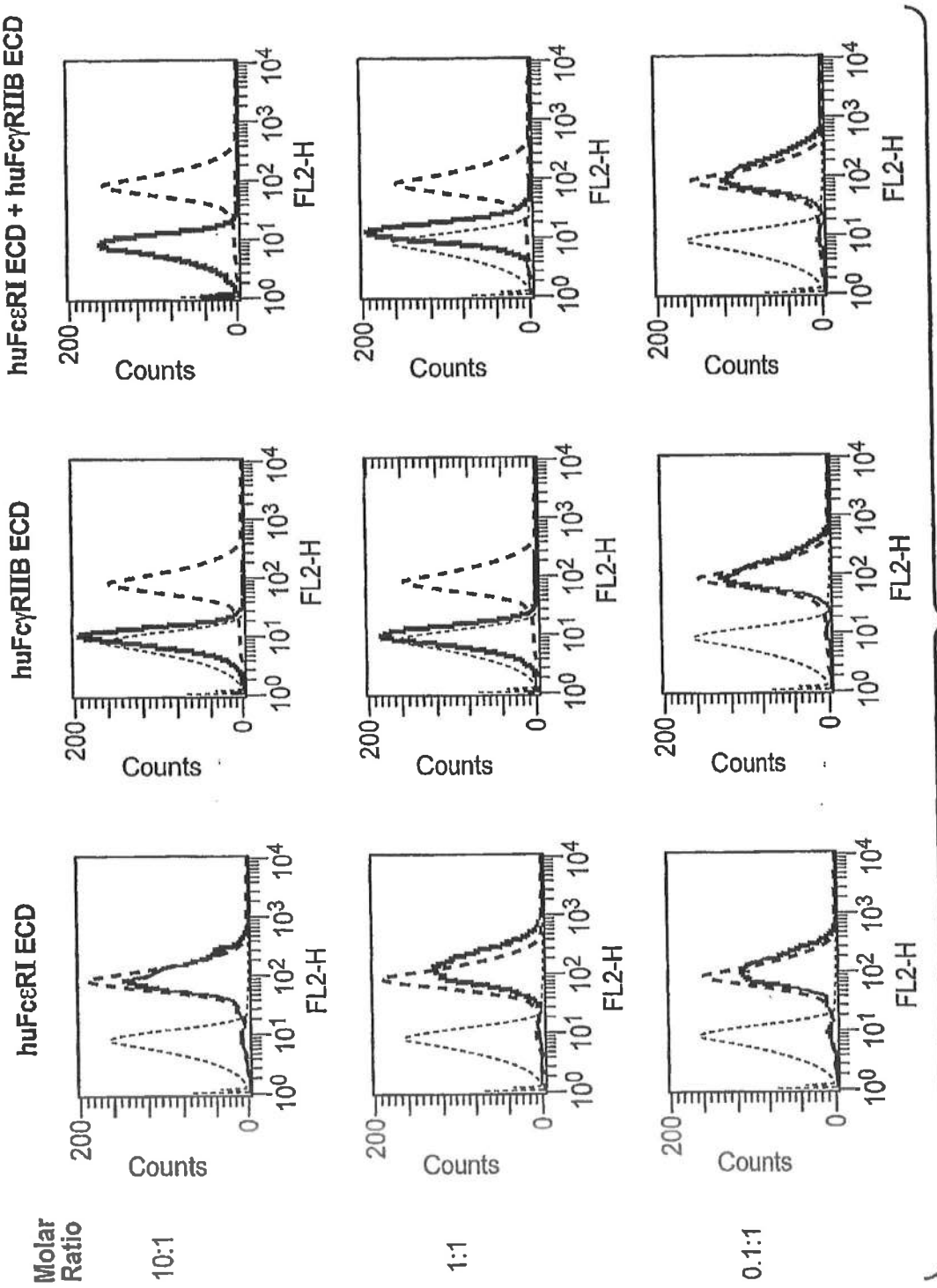

huFcεRI ECD
huFcγRIIB ECD
huFcεRI ECD + huFcγRIIB ECD
Molar Ratio
10:1
1:1
0.1:1
Counts
FL2-H
200
0
10^0 10^1 10^2 10^3 10^4

FIG. 39

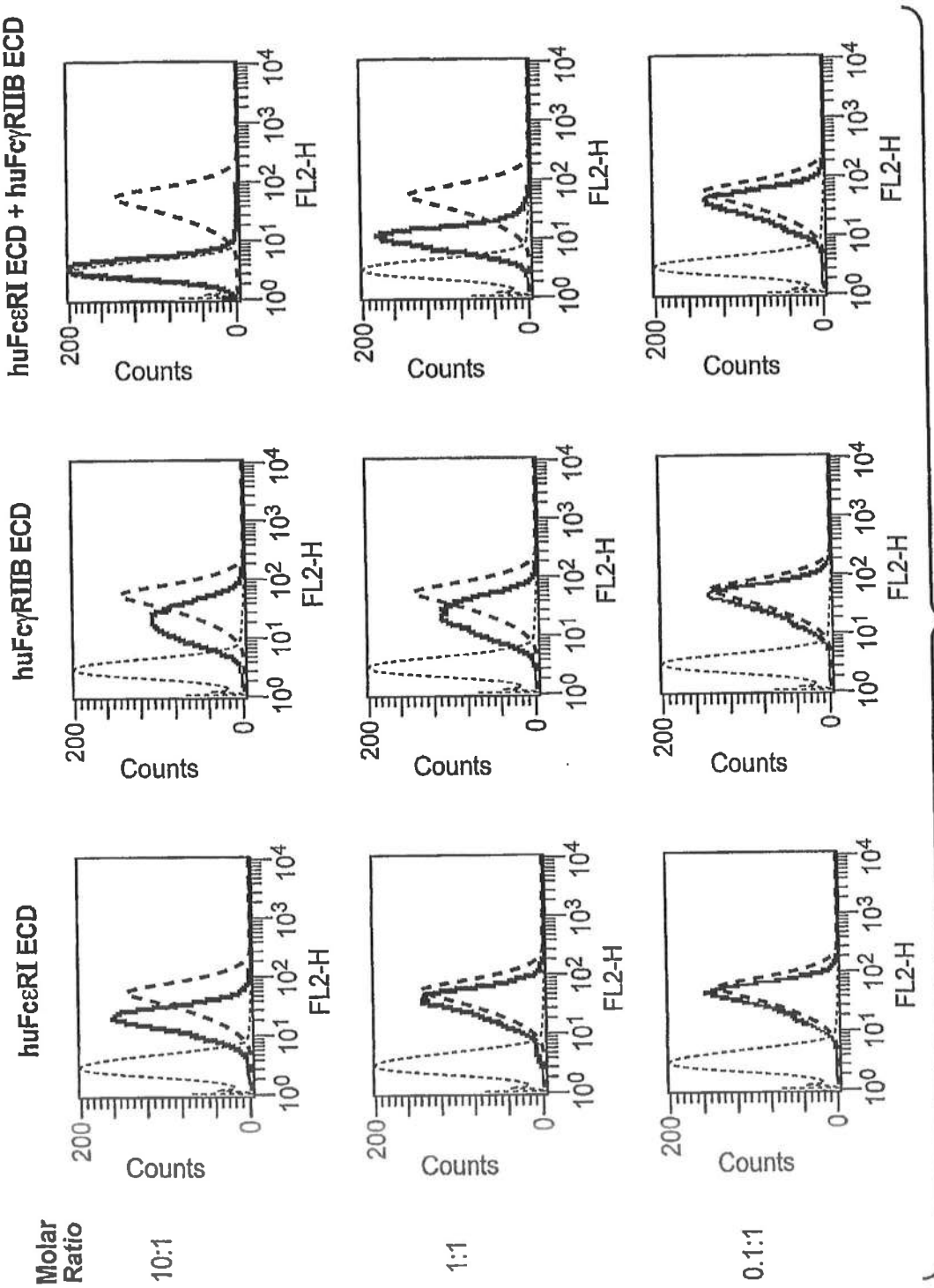

huFcεRI ECD + huFcγRIIB ECD
huFcγRIIB ECD
huFcεRI ECD
Molar Ratio
10:1
1:1
0.1:1
Counts
FL2-H
200
0
10^0 10^1 10^2 10^3 10^4

FIG. 40

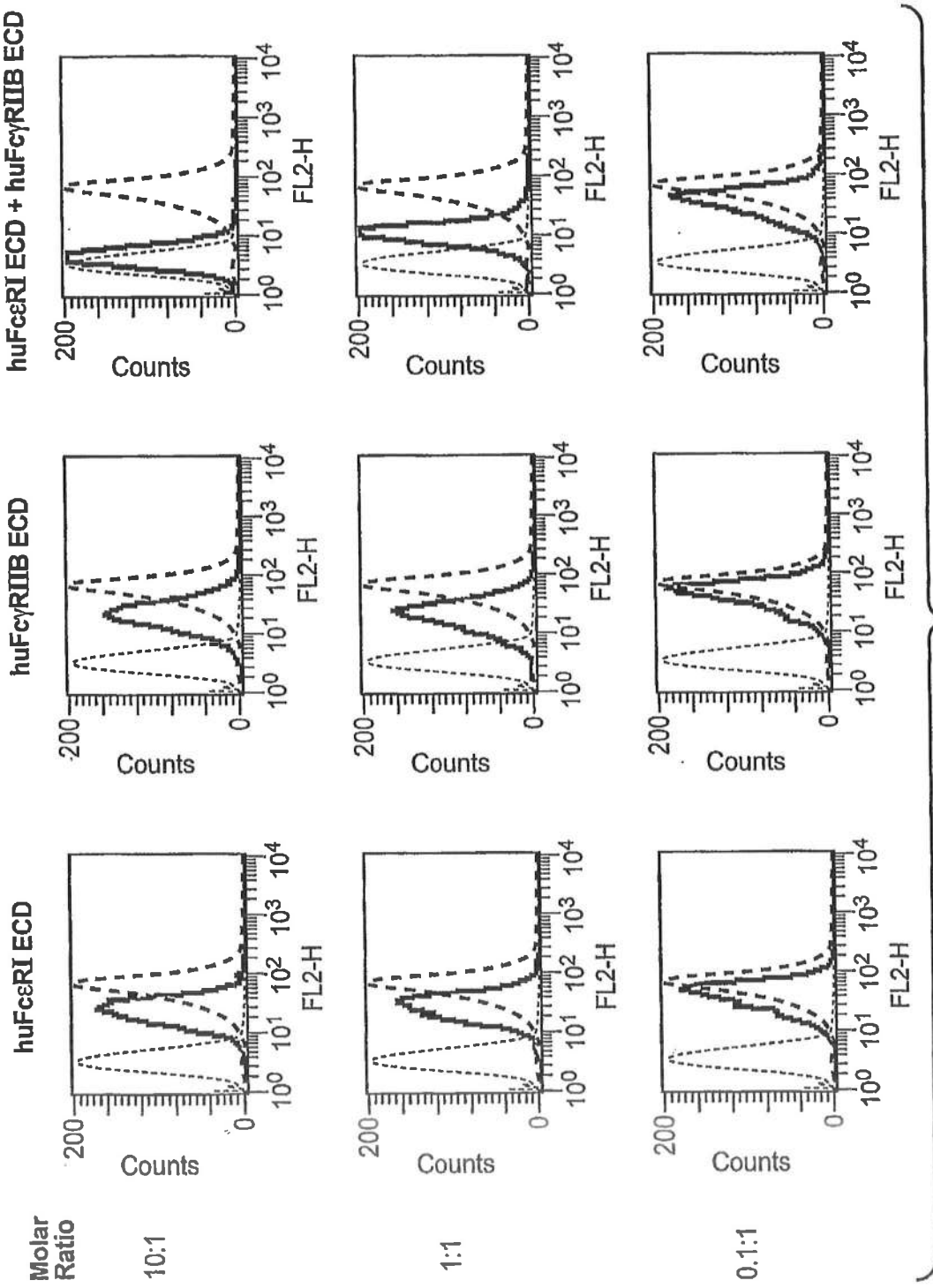

huFcεRI ECD
huFcγRIIB ECD
huFcεRI ECD + huFcγRIIB ECD
Molar Ratio
10:1
1:1
0.1:1
Counts
FL2-H
200
0
10^0
10^1
10^2
10^3
10^4

FIG. 41

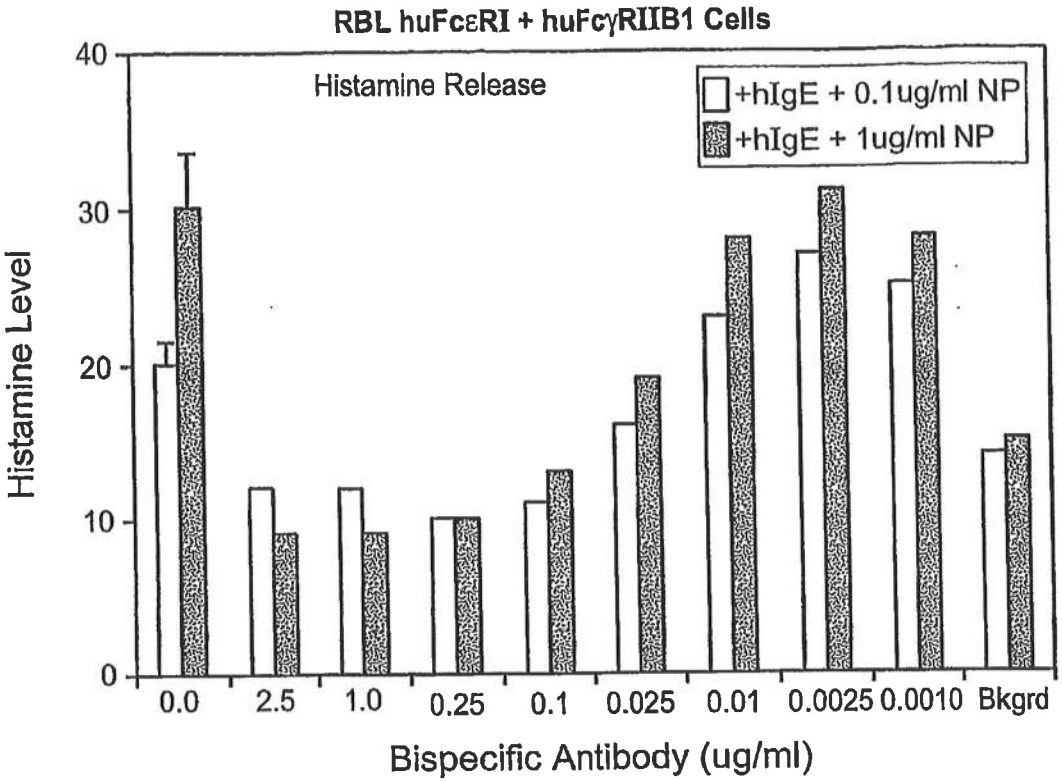

RBL huFcεRI + huFcγRIIB1 Cells
Histamine Release
+hIgE + 0.1ug/ml NP
+hIgE + 1ug/ml NP
Histamine Level
40
30
20
10
0
0.0
2.5
1.0
0.25
0.1
0.025
0.01
0.0025
0.0010
Bkgrd
Bispecific Antibody (ug/ml)

FIG. 42

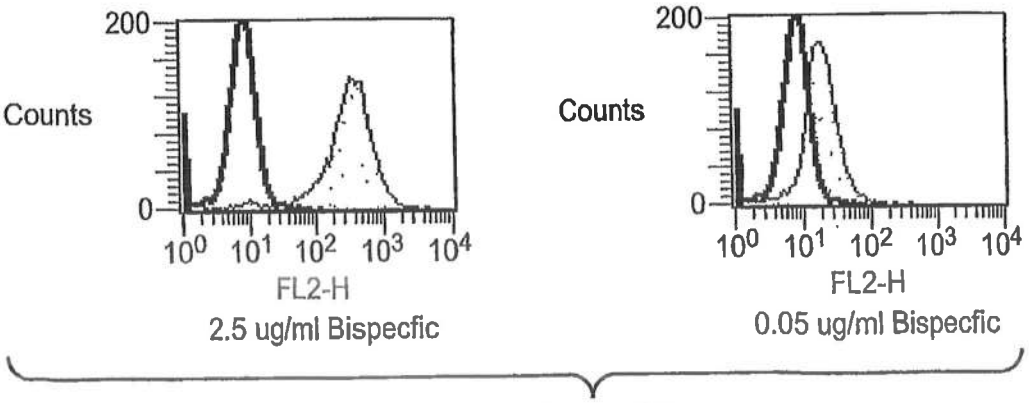

Counts
200
0
10^0 10^1 10^2 10^3 10^4
FL2-H
2.5 ug/ml Bispecfic
Counts
200
0
10^0 10^1 10^2 10^3 10^4
FL2-H
0.05 ug/ml Bispecfic

FIG. 43

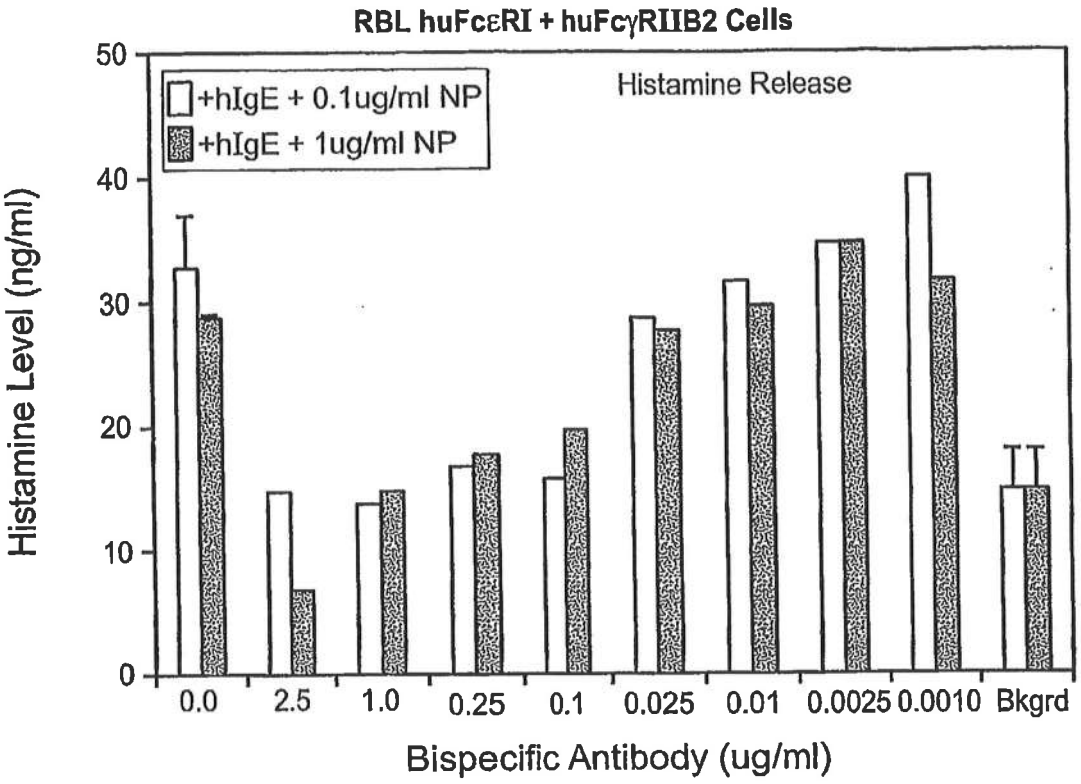

RBL huFcεRI + huFcγRIIB2 Cells
Histamine Release
+hIgE + 0.1ug/ml NP
+hIgE + 1ug/ml NP
Histamine Level (ng/ml)
50
40
30
20
10
0
0.0
2.5
1.0
0.25
0.1
0.025
0.01
0.0025
0.0010
Bkgrd
Bispecific Antibody (ug/ml)

FIG. 44

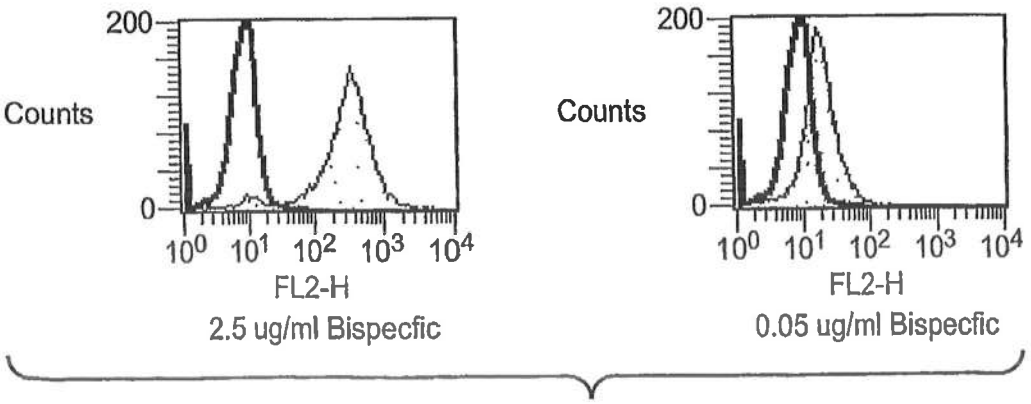

Counts
200
0
10^0 10^1 10^2 10^3 10^4
FL2-H
2.5 ug/ml Bispecfic
Counts
200
0
10^0 10^1 10^2 10^3 10^4
FL2-H
0.05 ug/ml Bispecfic

FIG. 45

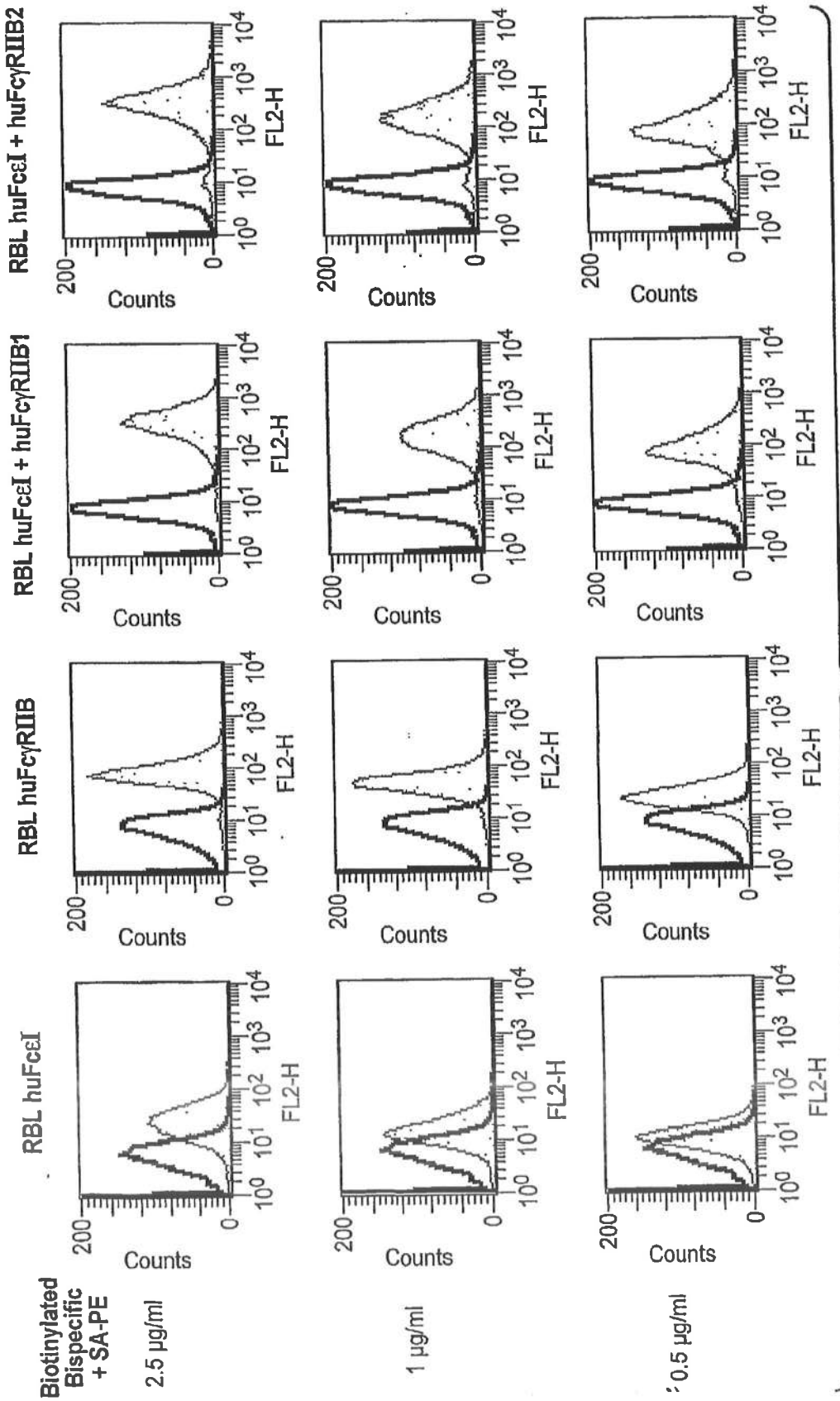

RBL huFcεI + huFcγRIIB2
RBL huFcεI + huFcγRIIB1
RBL huFcγRIIB
RBL huFcεI
Biotinylated Bispecific + SA-PE
2.5 µg/ml
1 µg/ml
0.5 µg/ml
Counts
FL2-H

FIG. 46A

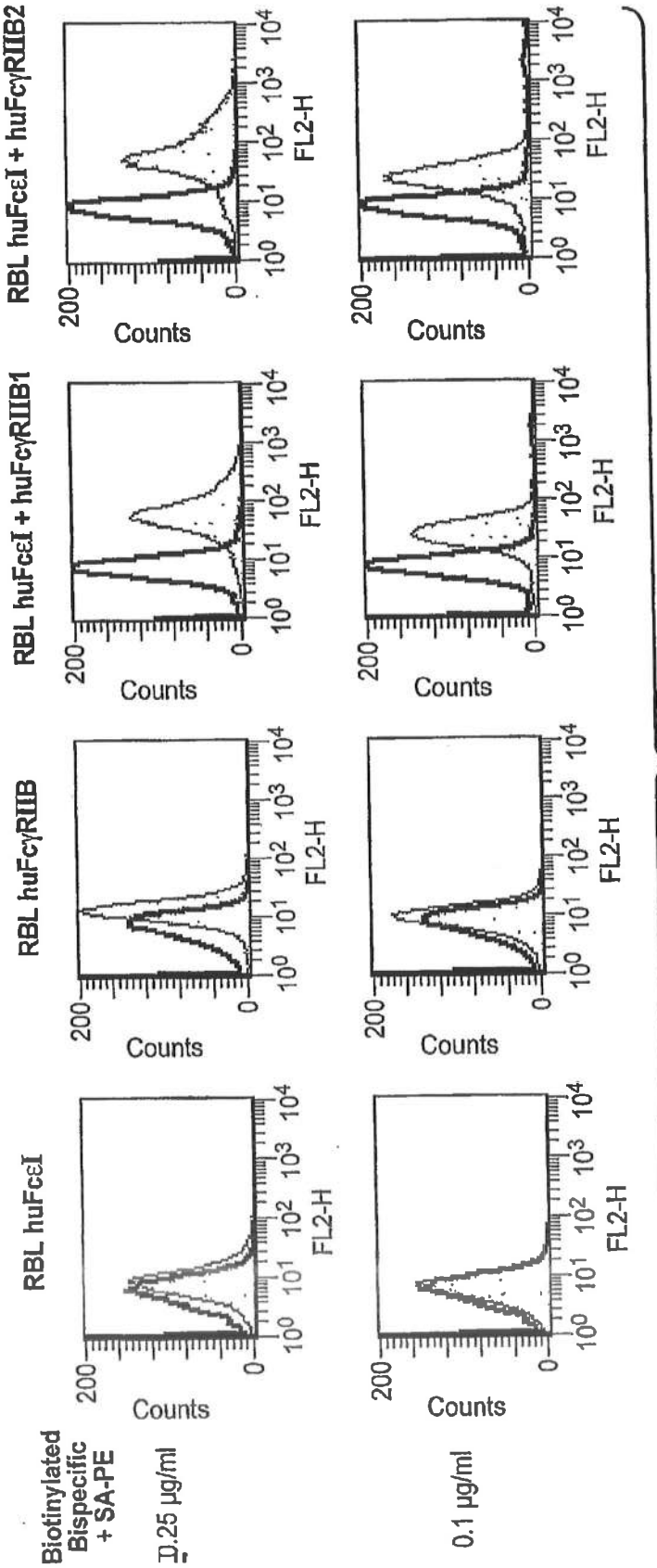

RBL huFcεI + huFcγRIIB2
RBL huFcεI + huFcγRIIB1
RBL huFcγRIIB
RBL huFcεI
Counts
FL2-H
Biotinylated Bispecific + SA-PE
0.25 µg/ml
0.1 µg/ml

FIG. 46B

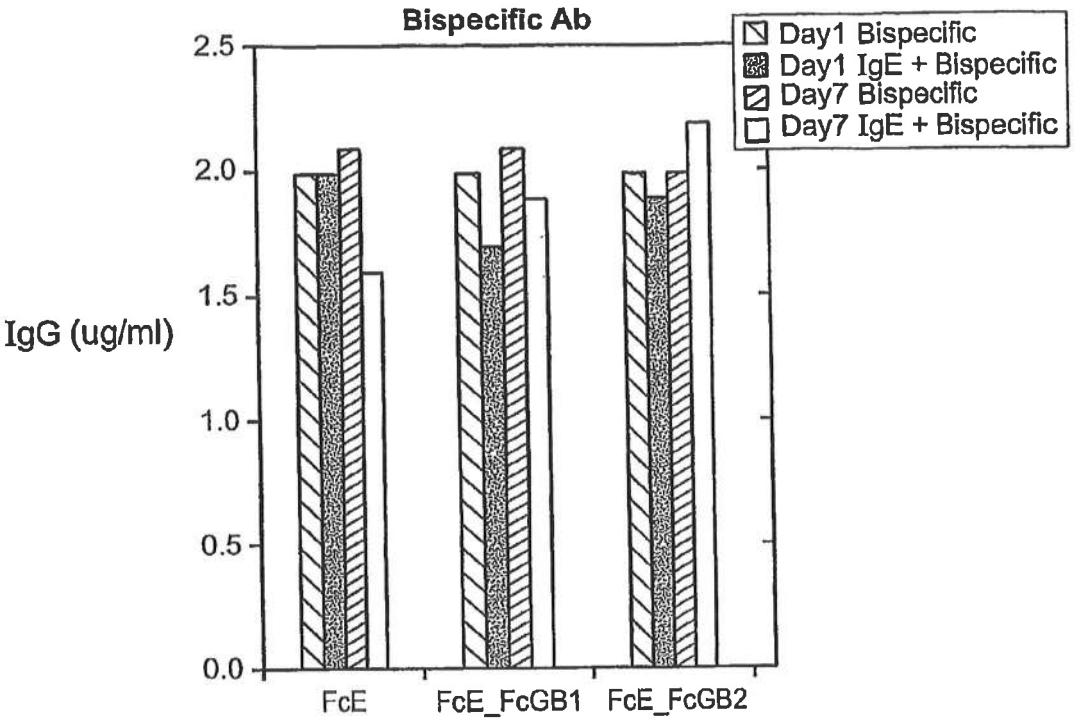

Bispecific Ab
Day1 Bispecific
Day1 IgE + Bispecific
Day7 Bispecific
Day7 IgE + Bispecific
IgG (ug/ml)
2.5
2.0
1.5
1.0
0.5
0.0
FcE
FcE_FcGB1
FcE_FcGB2

FIG. 47

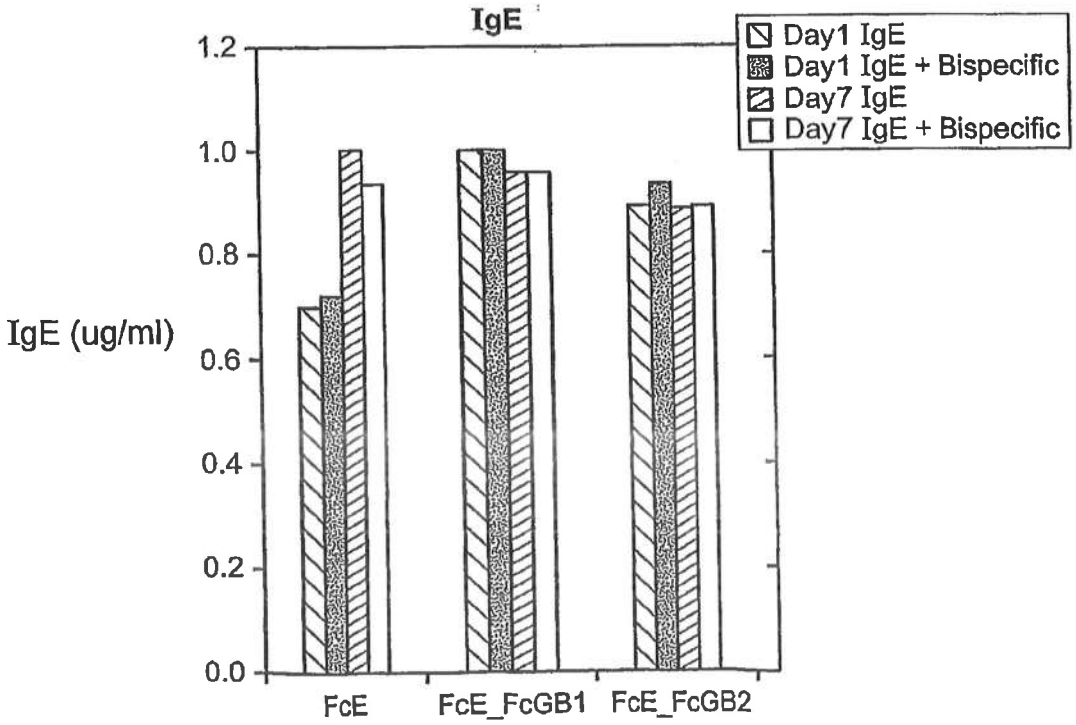

IgE
Day1 IgE
Day1 IgE + Bispecific
Day7 IgE
Day7 IgE + Bispecific
IgE (ug/ml)
1.2
1.0
0.8
0.6
0.4
0.2
0.0
FcE
FcE_FcGB1
FcE_FcGB2

FIG. 48

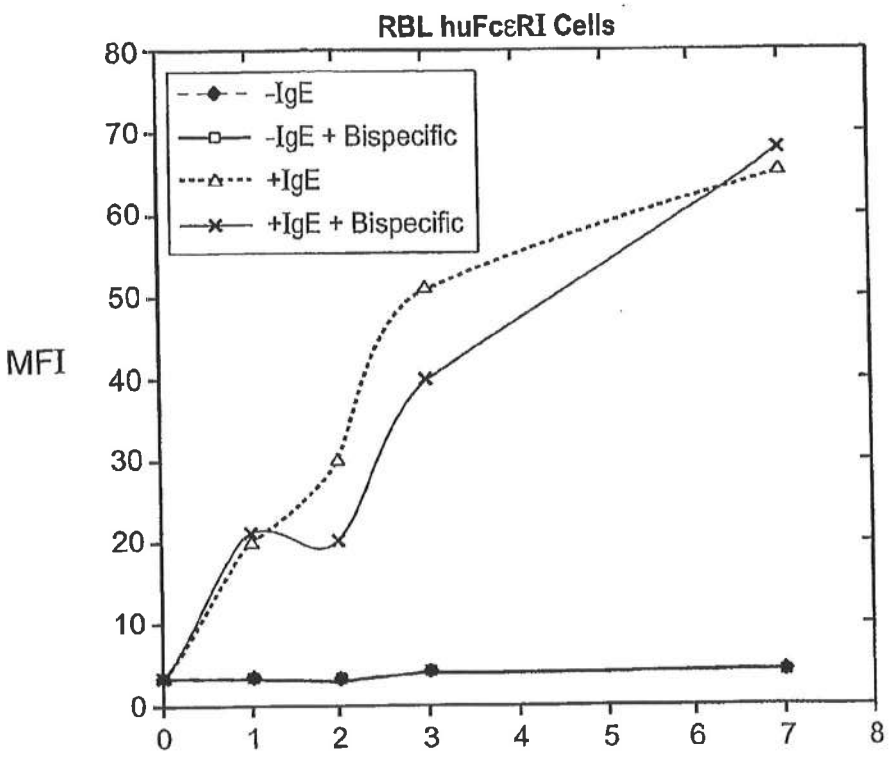

RBL huFcεRI Cells
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
MFI
Days of Treatment
0
10
20
30
40
50
60
70
80
0
1
2
3
4
5
6
7
8

FIG. 49

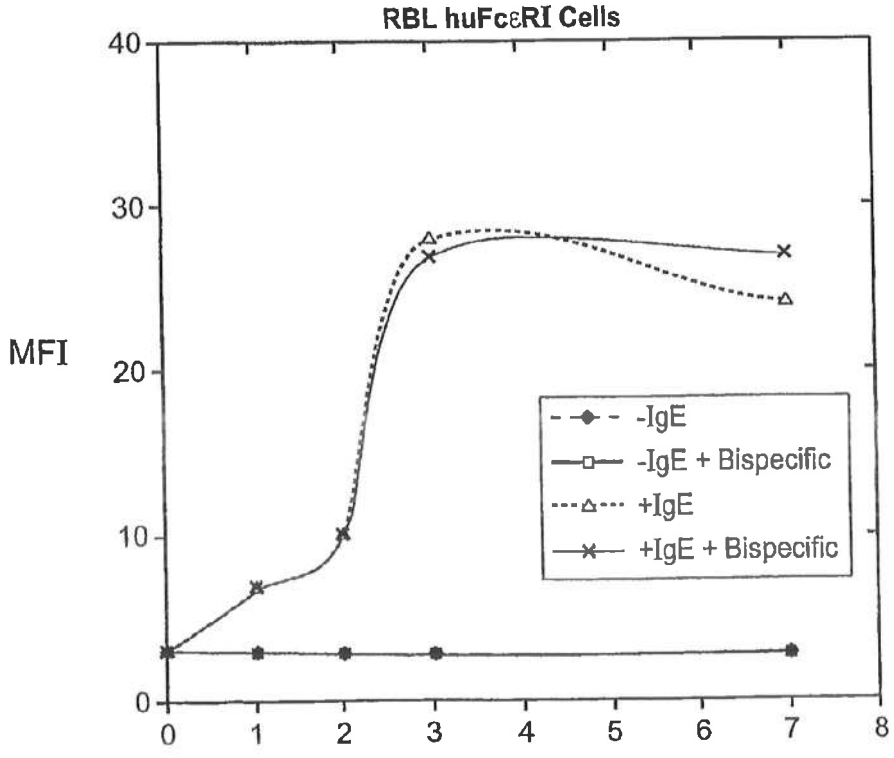

RBL huFcεRI Cells
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
MFI
Days of Treatment
0
10
20
30
40
0
1
2
3
4
5
6
7
8

FIG. 50

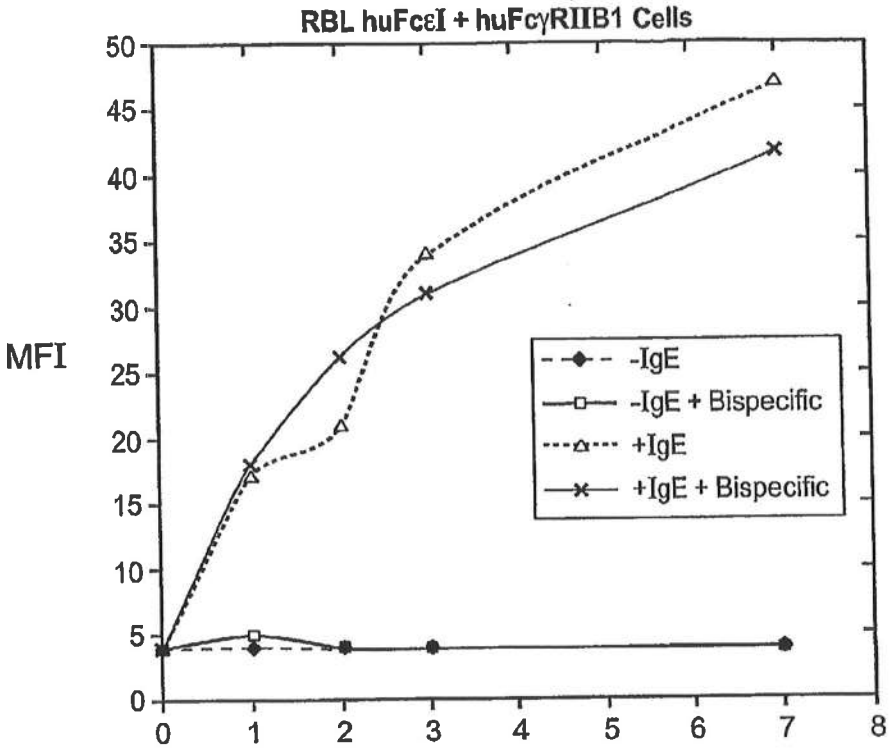

RBL huFcεI + huFcγRIIB1 Cells
MFI
Days of Treatment
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
0
5
10
15
20
25
30
35
40
45
50
0
1
2
3
4
5
6
7
8

FIG. 51

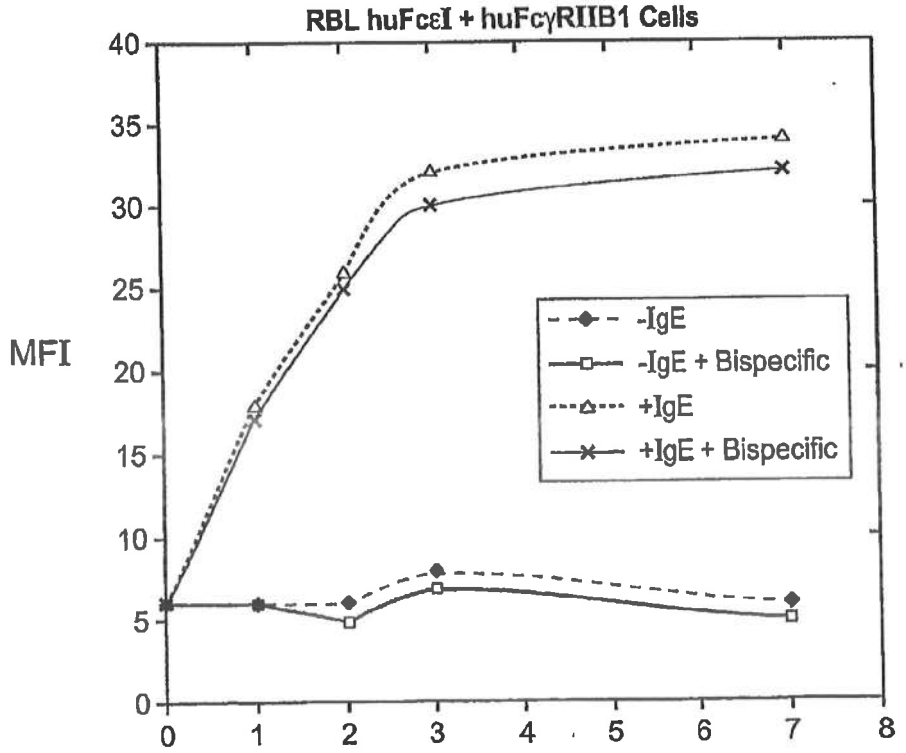

RBL huFcεI + huFcγRIIB1 Cells
MFI
Days of Treatment
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
0
5
10
15
20
25
30
35
40
0
1
2
3
4
5
6
7
8

FIG. 52.

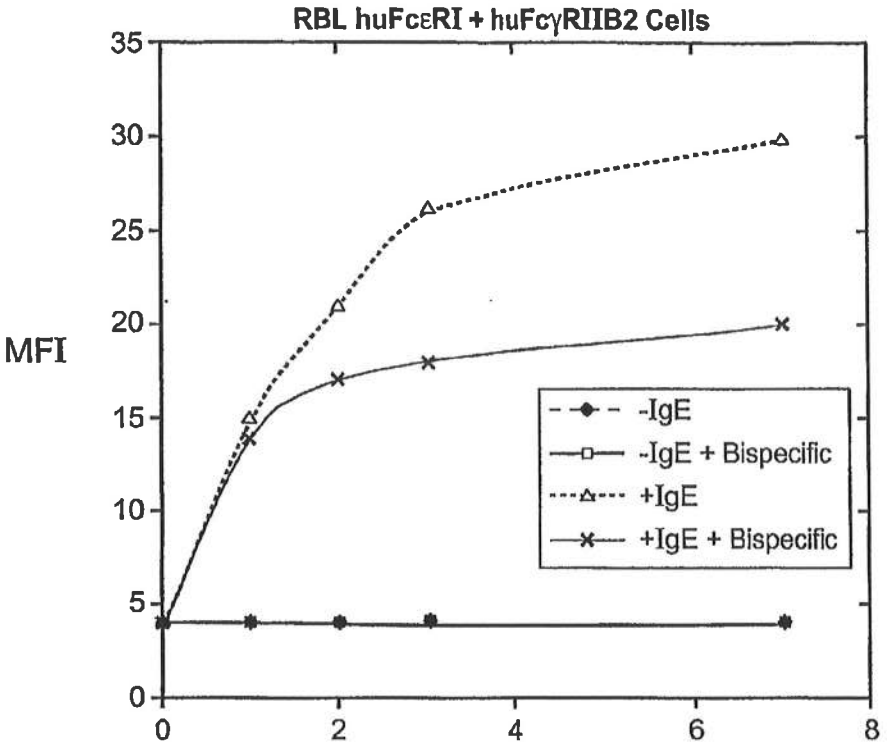

RBL huFcεRI + huFcγRIIB2 Cells
MFI
Days of Treatment
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
0
5
10
15
20
25
30
35
0
2
4
6
8

FIG. 53

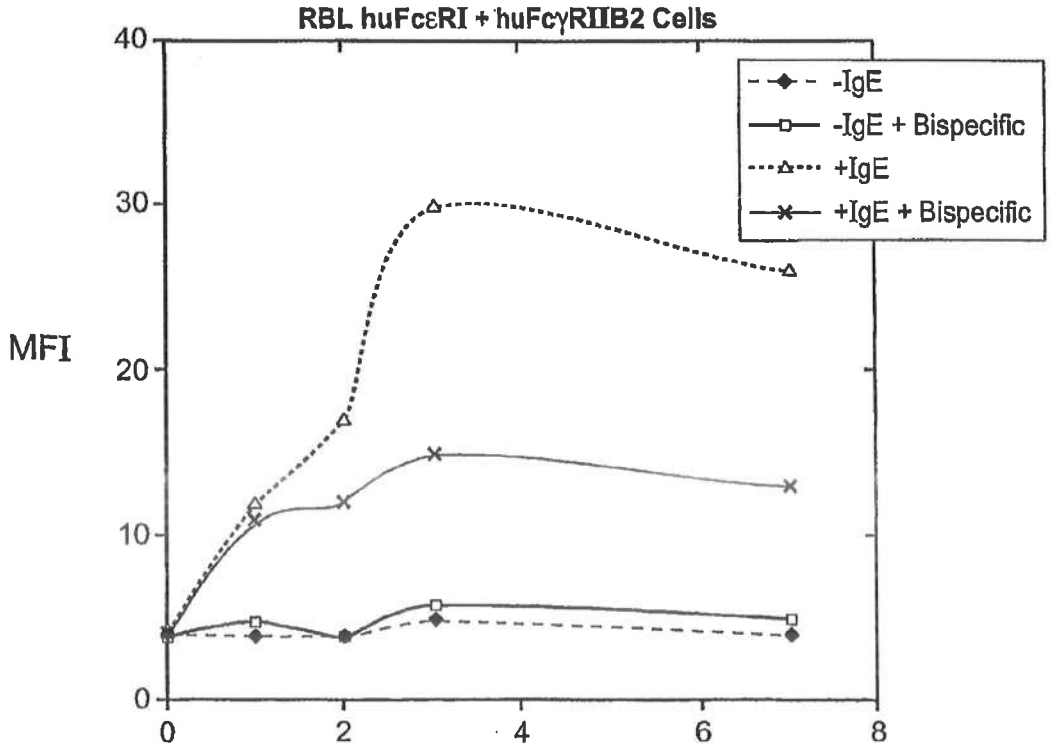

RBL huFcεRI + huFcγRIIB2 Cells
MFI
Days of Treatment
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
0
10
20
30
40
0
2
4
6
8

FIG. 54

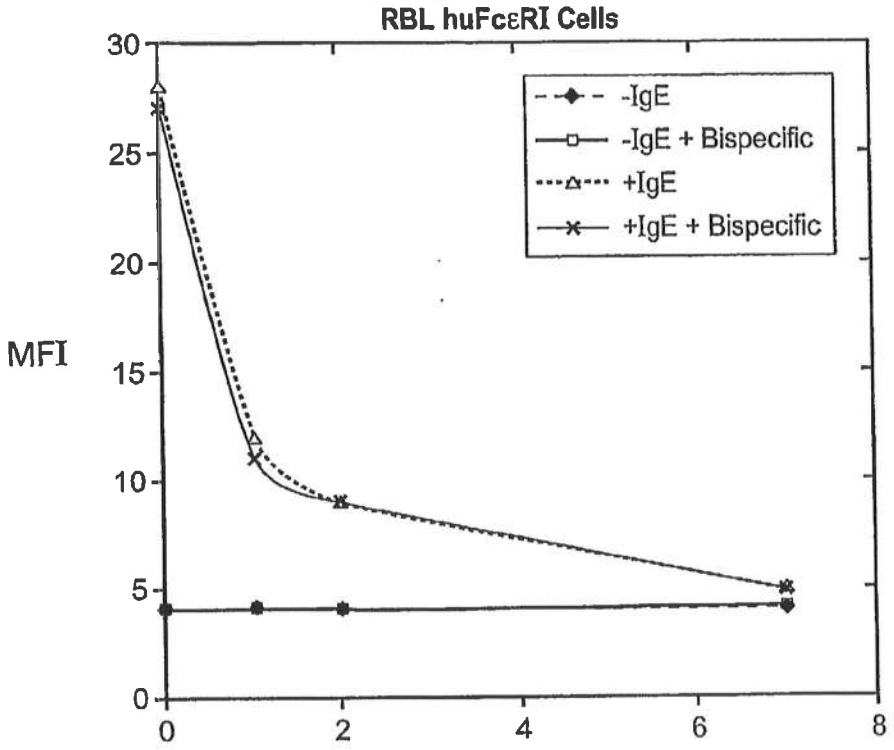

RBL huFcεRI Cells
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
MFI
Days
0
5
10
15
20
25
30
0
2
4
6
8

FIG. 55

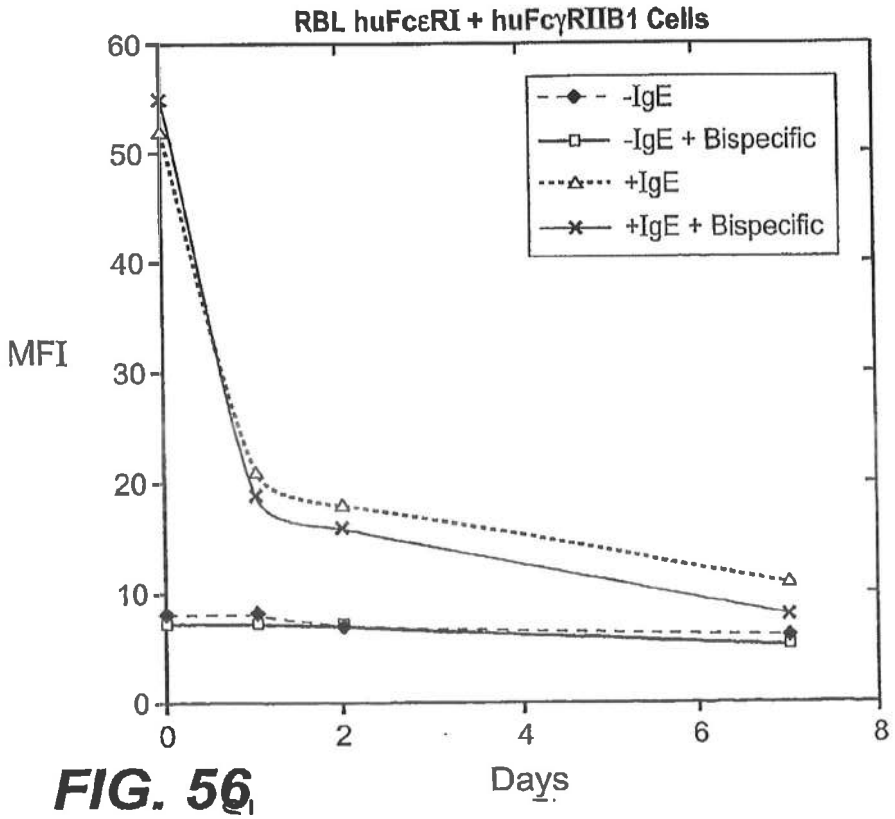

RBL huFcεRI + huFcγRIIB1 Cells
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
MFI
Days
0
10
20
30
40
50
60
0
2
4
6
8

FIG. 56

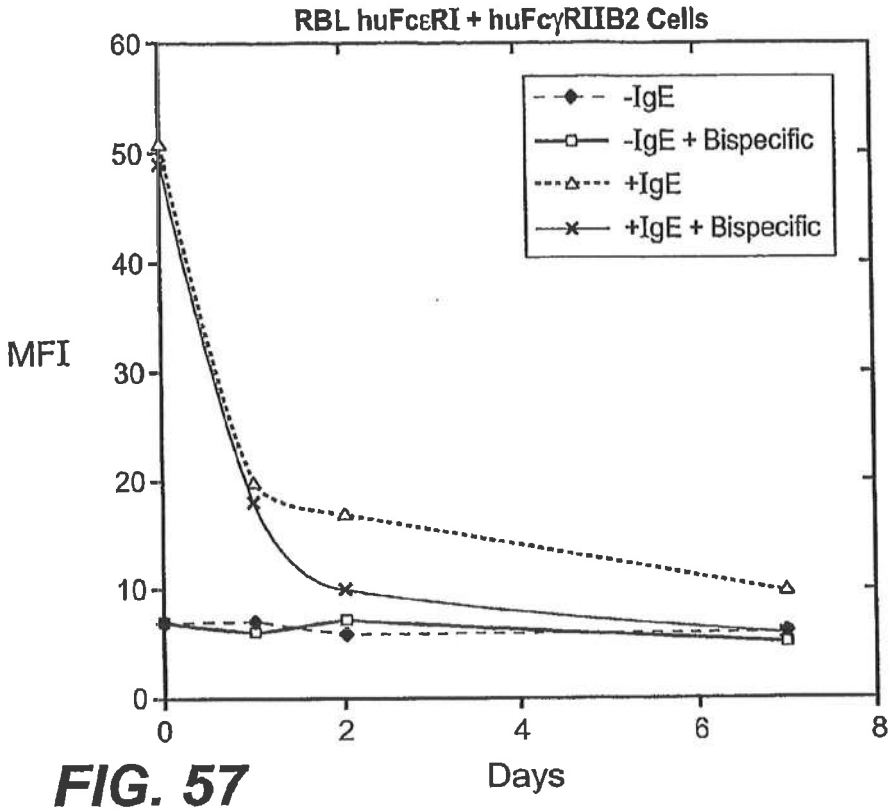

RBL huFcεRI + huFcγRIIB2 Cells
-IgE
-IgE + Bispecific
+IgE
+IgE + Bispecific
MFI
Days
0
10
20
30
40
50
60
0
2
4
6
8

FIG. 57

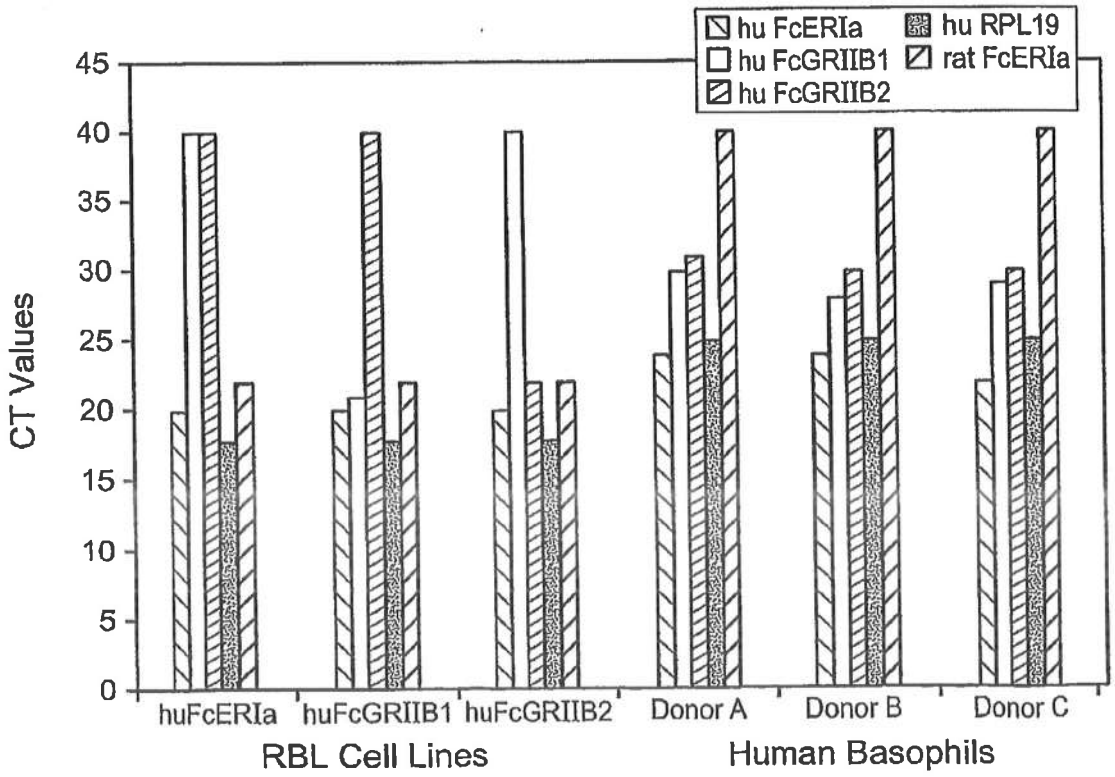

hu FcERIa
hu RPL19
hu FcGRIIB1
rat FcERIa
hu FcGRIIB2
CT Values
0
5
10
15
20
25
30
35
40
45
huFcERIa
huFcGRIIB1
huFcGRIIB2
Donor A
Donor B
Donor C
RBL Cell Lines
Human Basophils

FIG. 58

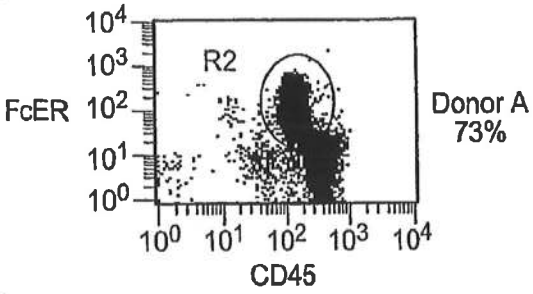


FIG. 59

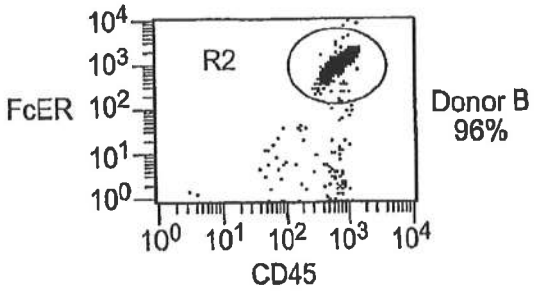


FIG. 60

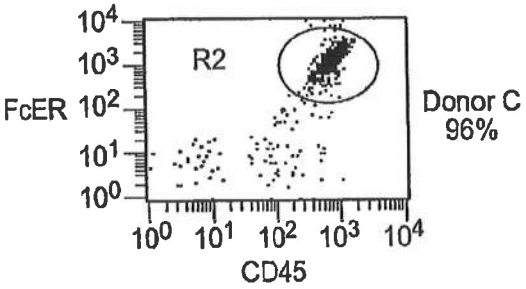


FIG. 61

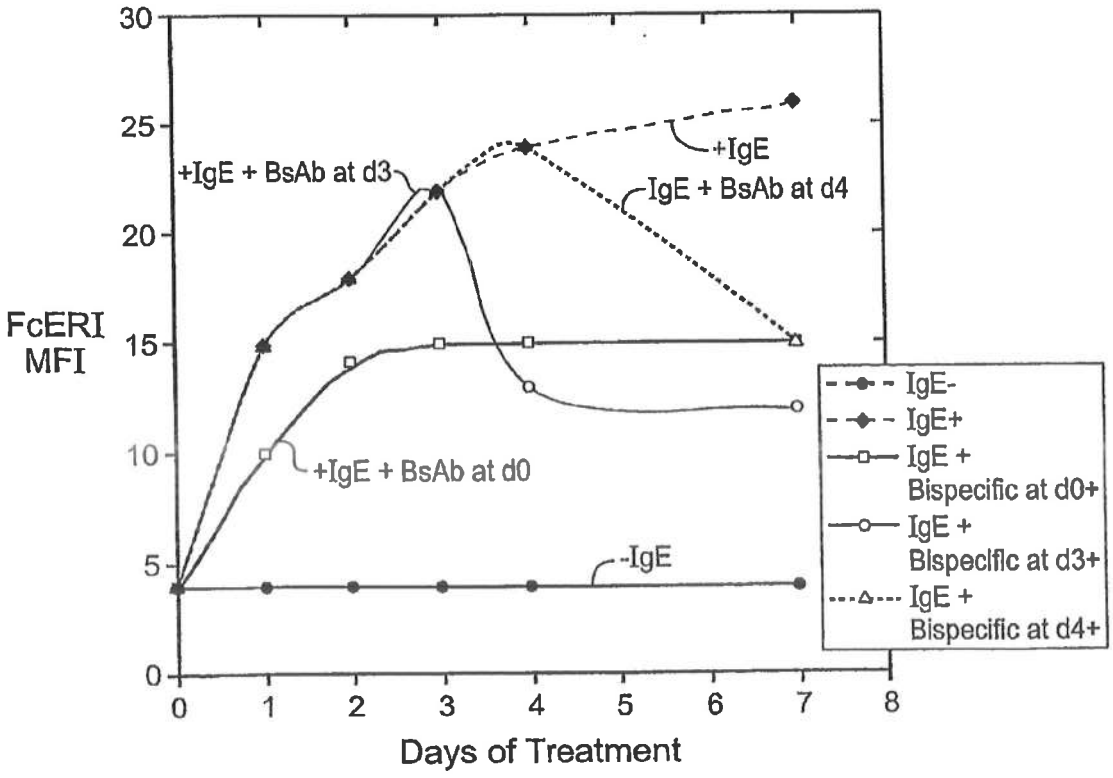
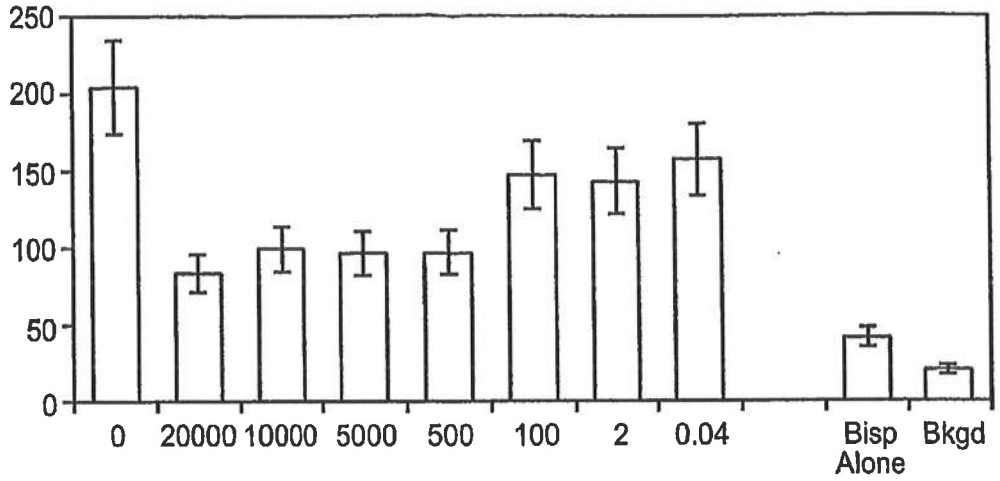


FIG. 63


250
200
150
100
50
0
0
20000
10000
5000
500
100
2
0.04
Bisp Alone
Bkgd
Bispecific Antibody (ng/ml) + Goat Anti-Human IgE (1:100)

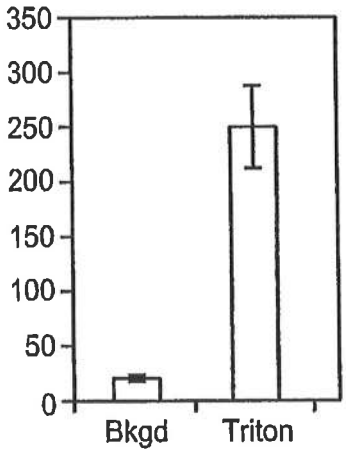

350
300
250
200
150
100
50
0
Bkgd
Triton
Bispecific Antibody (ng/ml) + Goat Anti-Human IgE (1:100)

FIG. 62

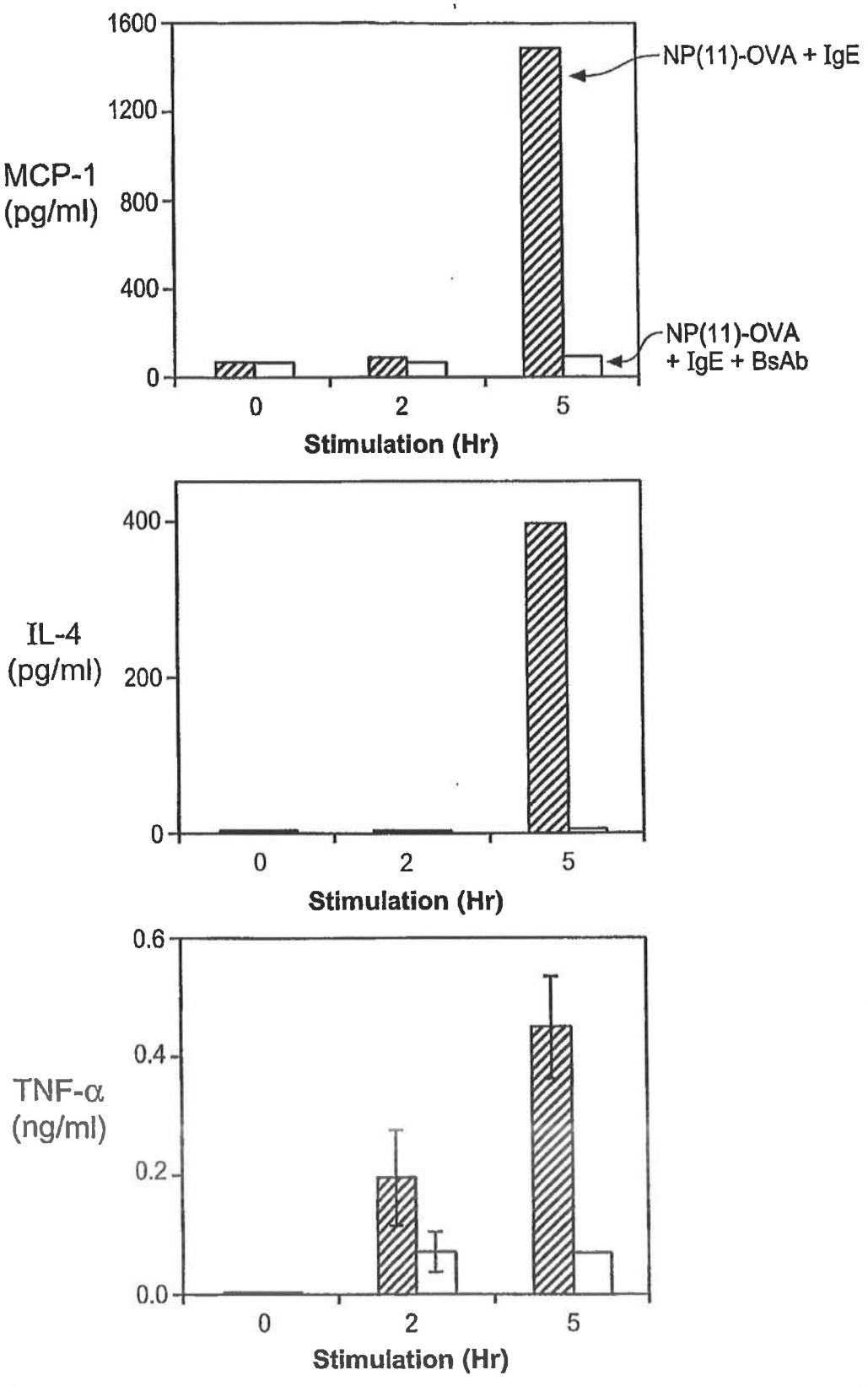

MCP-1
(pg/ml)
1600
1200
800
400
0
NP(11)-OVA + IgE
NP(11)-OVA
+ IgE + BsAb
0
2
5
Stimulation (Hr)
IL-4
(pg/ml)
400
200
0
0
2
5
Stimulation (Hr)
TNF-α
(ng/ml)
0.6
0.4
0.2
0.0
0
2
5
Stimulation (Hr)

FIG. 64

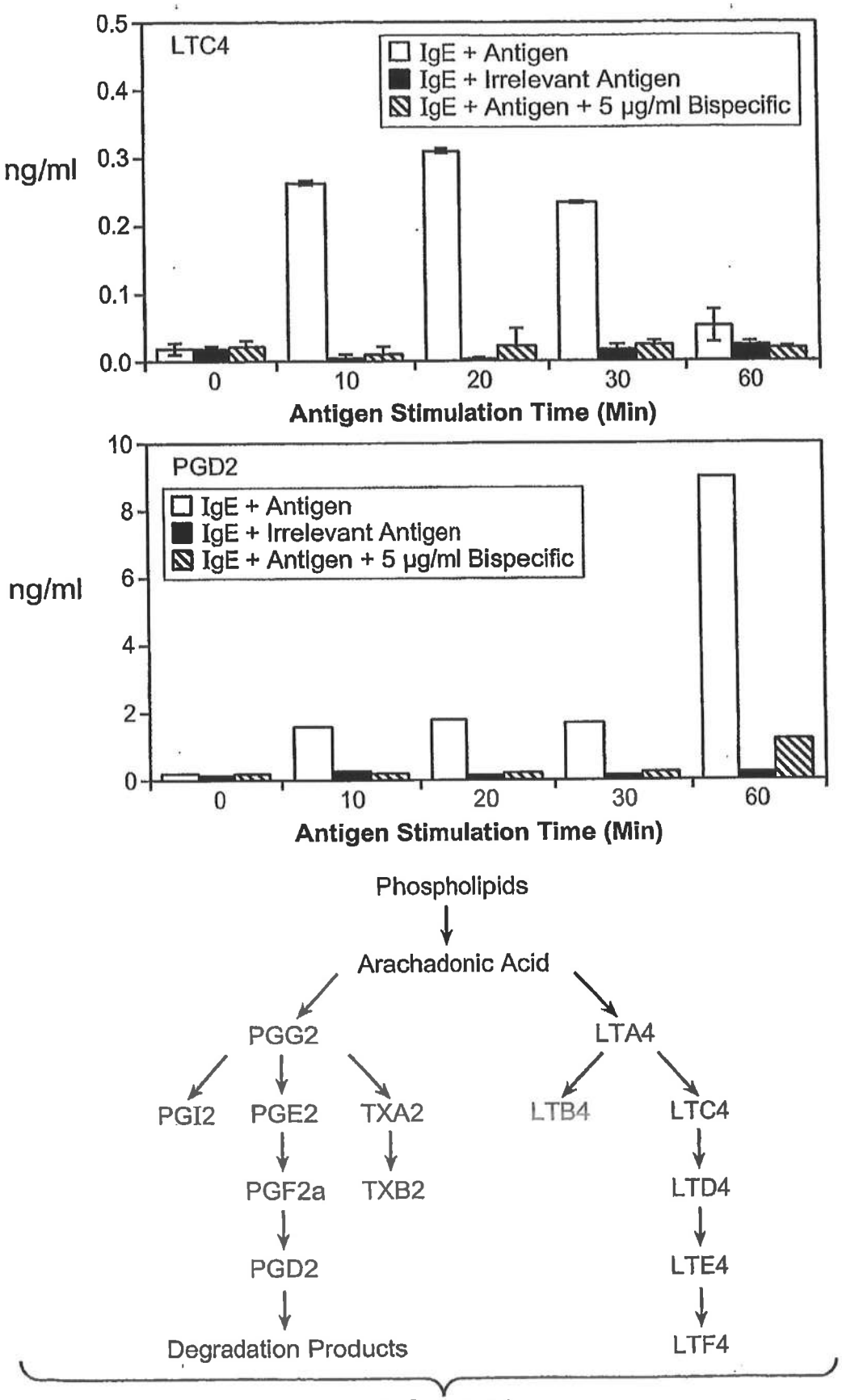

LTC4
IgE + Antigen
IgE + Irrelevant Antigen
IgE + Antigen + 5 µg/ml Bispecific
ng/ml
0.5
0.4
0.3
0.2
0.1
0.0
0
10
20
30
60
Antigen Stimulation Time (Min)
PGD2
IgE + Antigen
IgE + Irrelevant Antigen
IgE + Antigen + 5 µg/ml Bispecific
ng/ml
10
8
6
4
2
0
0
10
20
30
60
Antigen Stimulation Time (Min)
Phospholipids
Arachadonic Acid
PGG2
LTA4
PGI2
PGE2
TXA2
LTB4
LTC4
PGF2a
TXB2
LTD4
PGD2
LTE4
Degradation Products
LTF4

FIG. 65