Figure 1.

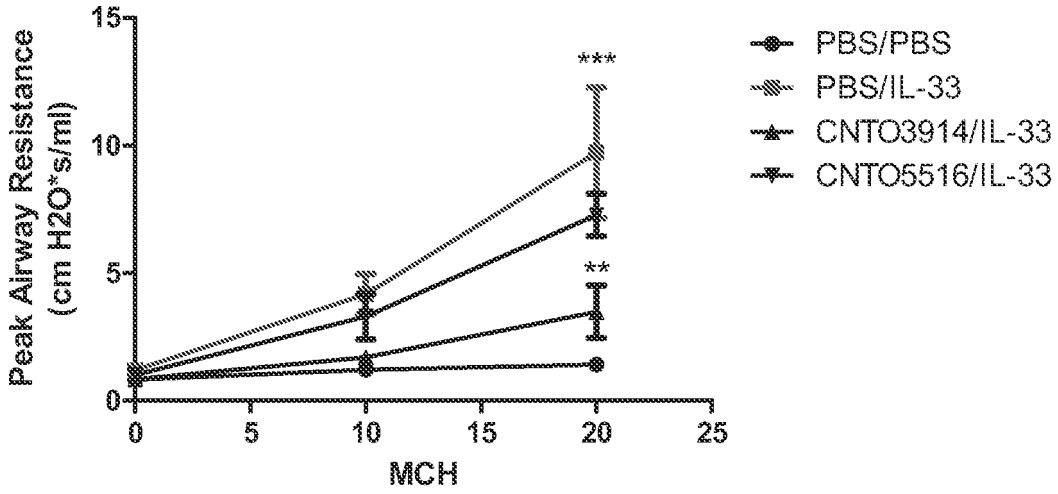

Peak Airway Resistance
(cm H2O*s/ml)
15
10
5
0
0
5
10
15
20
25
MCH
***
**
PBS/PBS
PBS/IL-33
CNTO3914/IL-33
CNTO5516/IL-33

Figure 2.

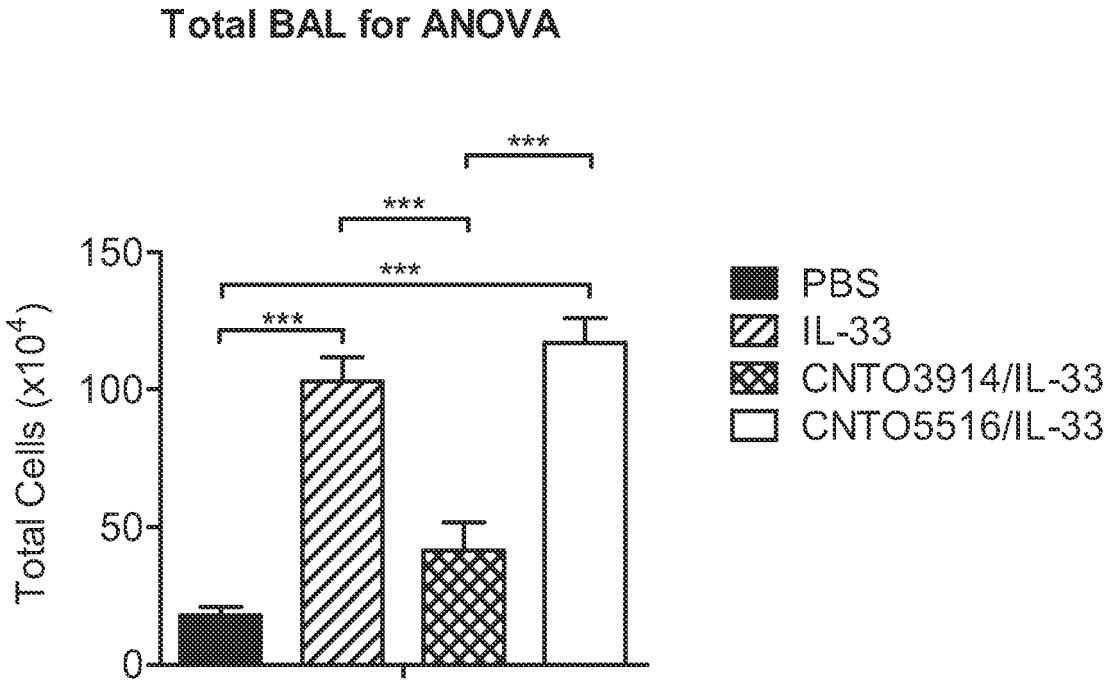

Total BAL for ANOVA
Total Cells (x10^4)
150
100
50
0
***
***
***
***
PBS
IL-33
CNTO3914/IL-33
CNTO5516/IL-33

Figure 3.

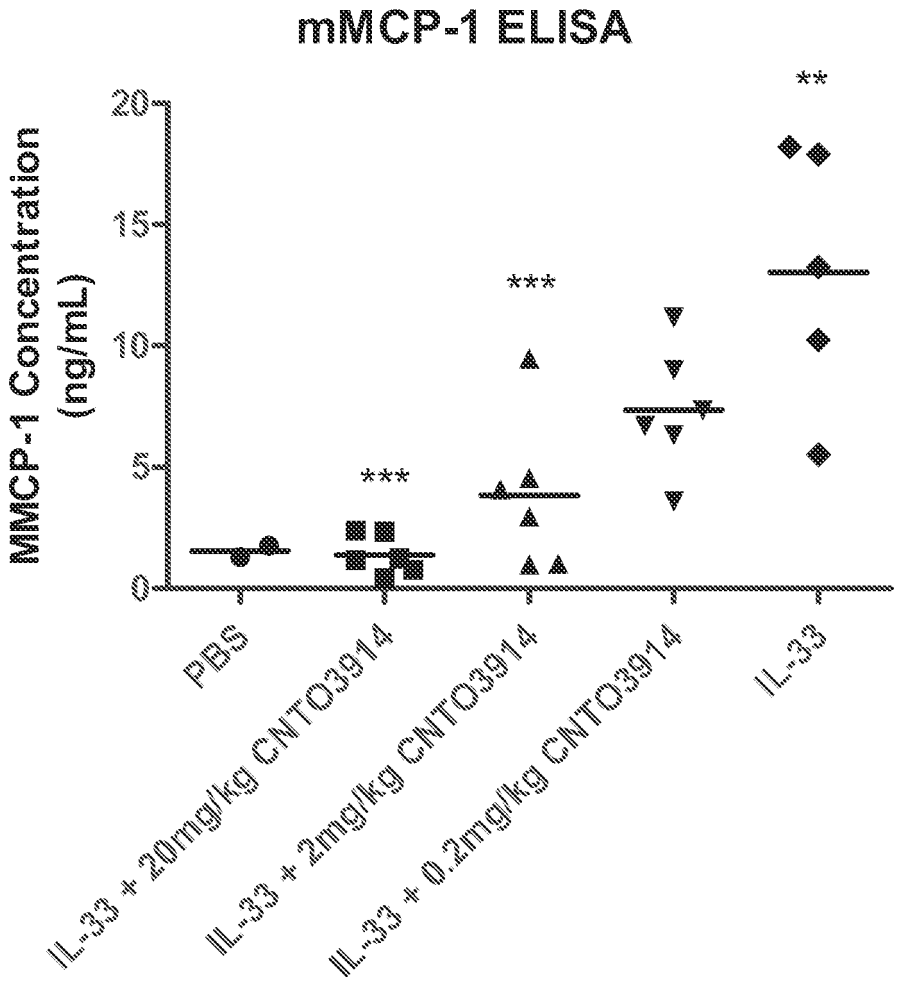

mMCP-1 ELISA
MMCP-1 Concentration (ng/mL)
0
5
10
15
20
***
***
**
PBS
IL-33 + 20mg/kg CNTO3914
IL-33 + 2mg/kg CNTO3914
IL-33 + 0.2mg/kg CNTO3914
IL-33

Figure 4A.

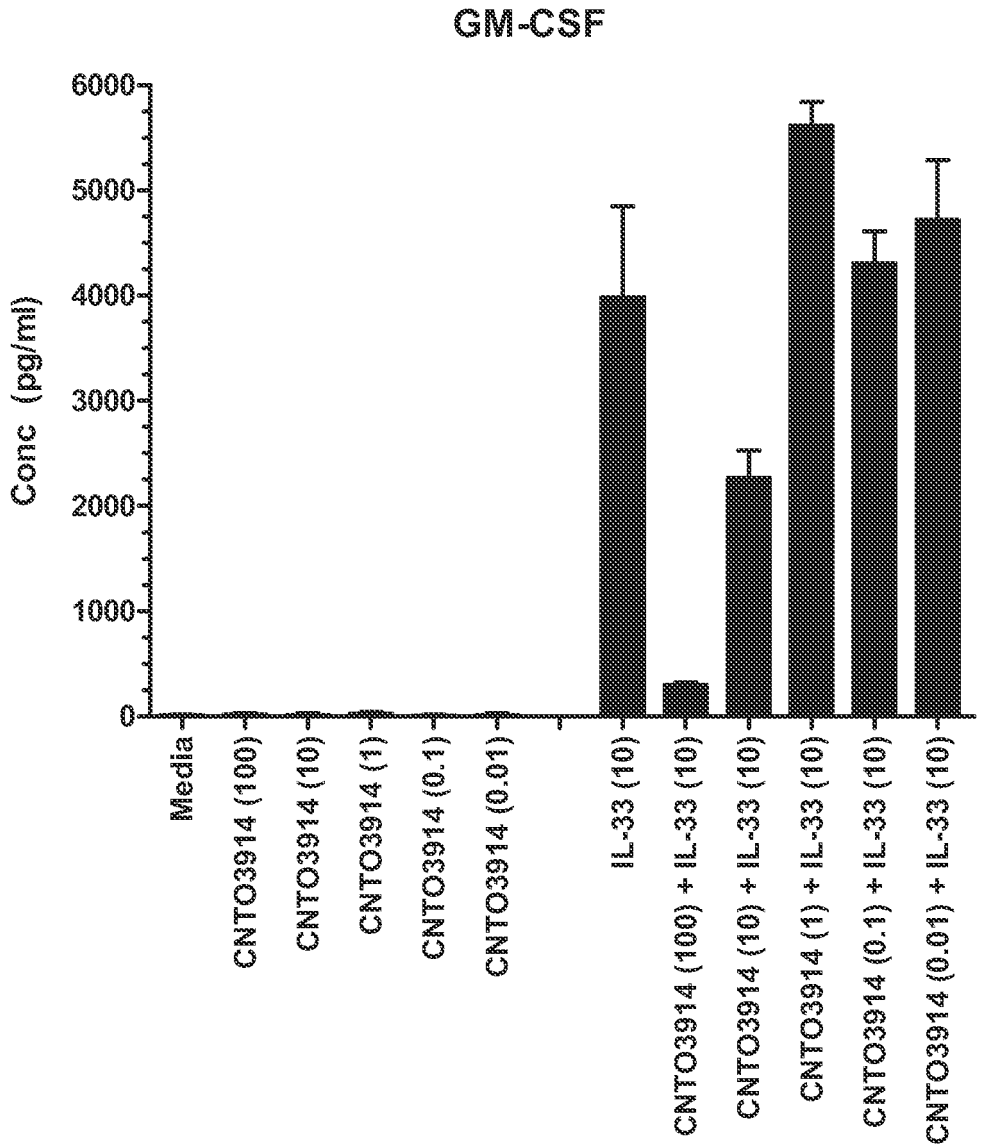

GM-CSF
Conc (pg/ml)
6000
5000
4000
3000
2000
1000
0
Media
CNTO3914 (100)
CNTO3914 (10)
CNTO3914 (1)
CNTO3914 (0.1)
CNTO3914 (0.01)
IL-33 (10)
CNTO3914 (100) + IL-33 (10)
CNTO3914 (10) + IL-33 (10)
CNTO3914 (1) + IL-33 (10)
CNTO3914 (0.1) + IL-33 (10)
CNTO3914 (0.01) + IL-33 (10)

Figure 4B.

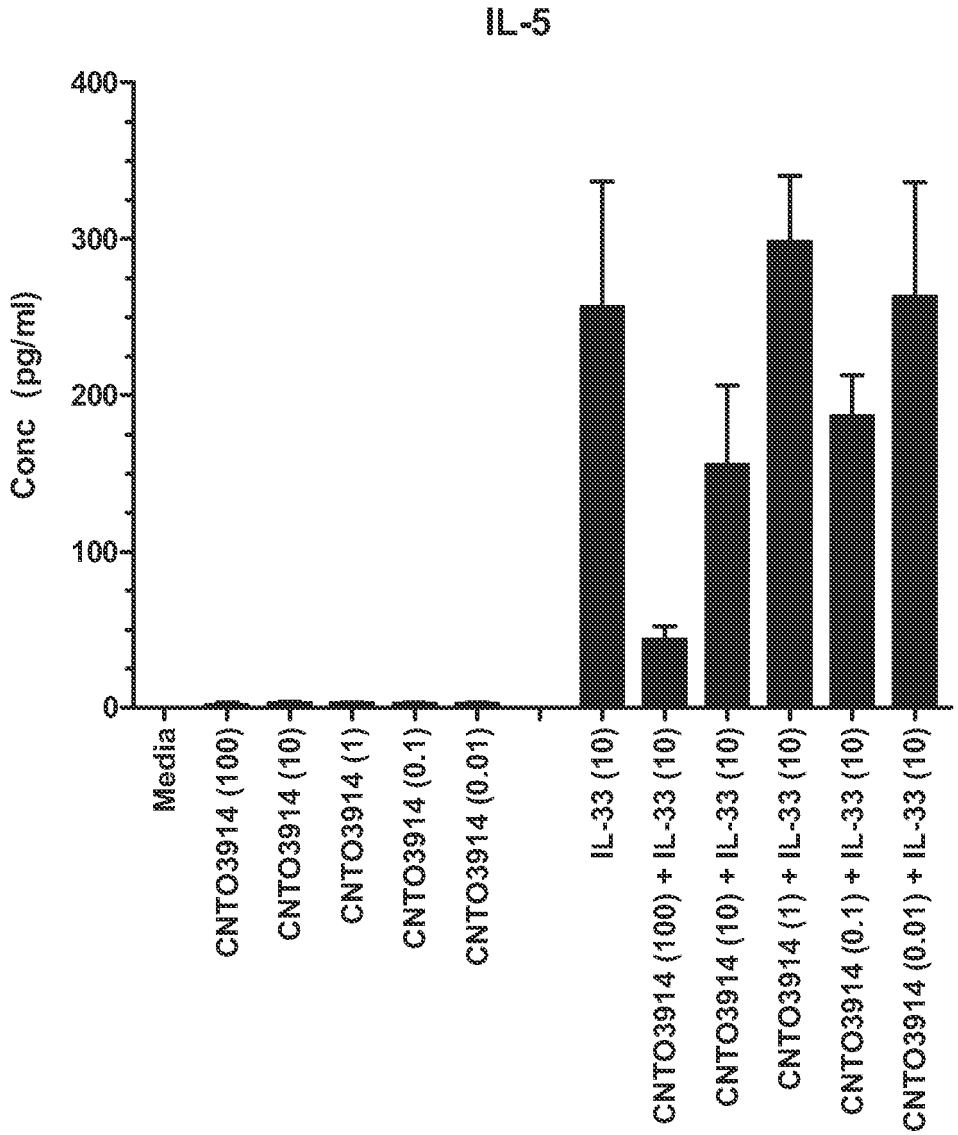

IL-5
Conc (pg/ml)
400
300
200
100
0
Media
CNTO3914 (100)
CNTO3914 (10)
CNTO3914 (1)
CNTO3914 (0.1)
CNTO3914 (0.01)
IL-33 (10)
CNTO3914 (100) + IL-33 (10)
CNTO3914 (10) + IL-33 (10)
CNTO3914 (1) + IL-33 (10)
CNTO3914 (0.1) + IL-33 (10)
CNTO3914 (0.01) + IL-33 (10)

Figure 4C.

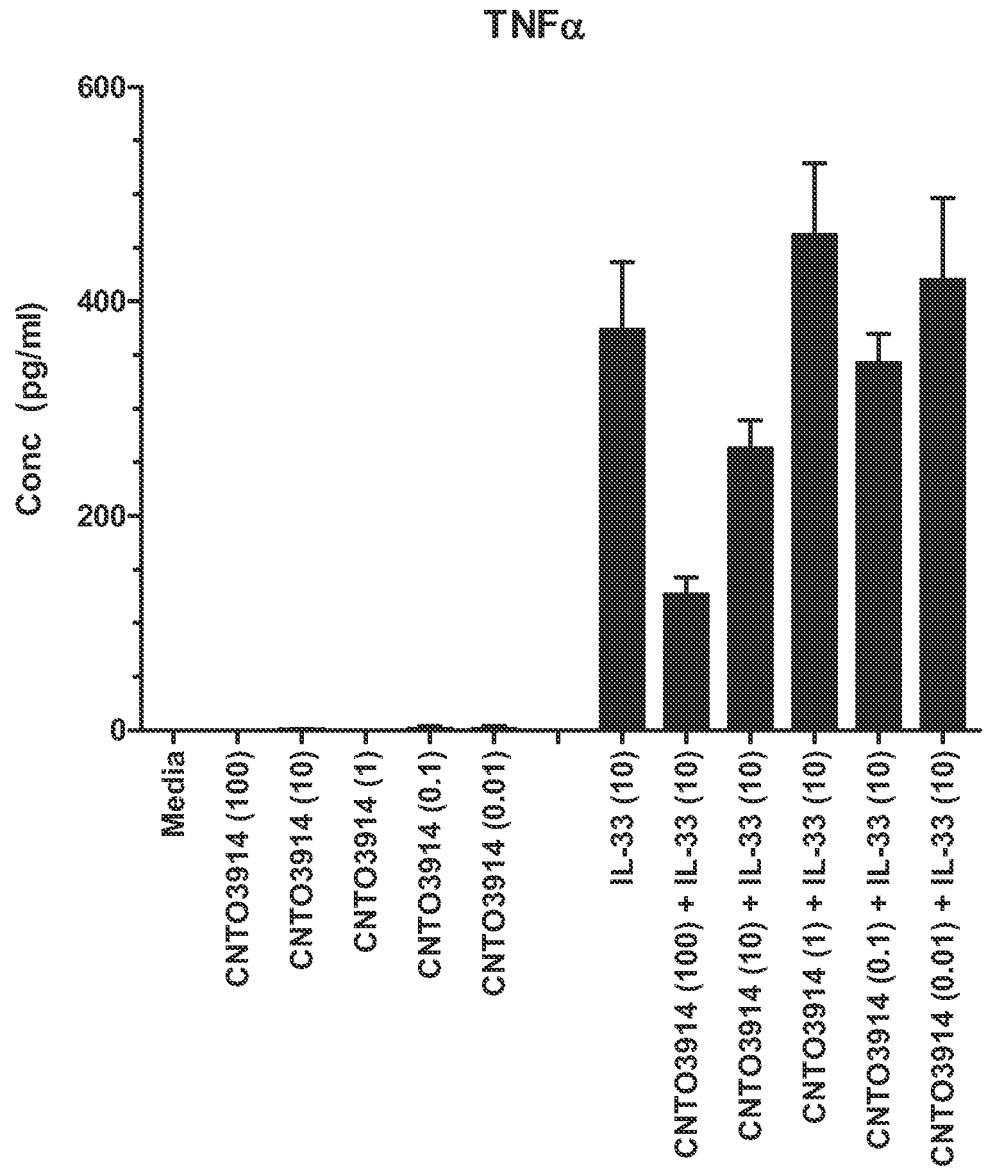
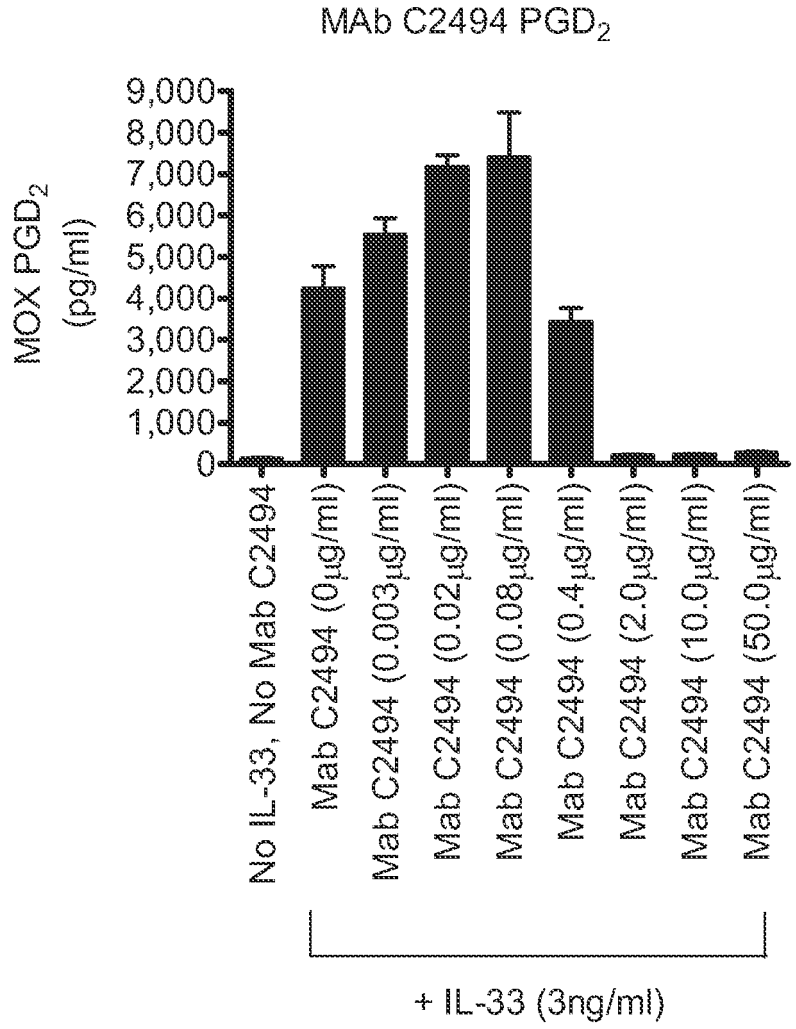

TNFα
Conc (pg/ml)
600
400
200
0
Media
CNTO3914 (100)
CNTO3914 (10)
CNTO3914 (1)
CNTO3914 (0.1)
CNTO3914 (0.01)
IL-33 (10)
CNTO3914 (100) + IL-33 (10)
CNTO3914 (10) + IL-33 (10)
CNTO3914 (1) + IL-33 (10)
CNTO3914 (0.1) + IL-33 (10)
CNTO3914 (0.01) + IL-33 (10)

Figure 5.


MAb C2494 PGD2
MOX PGD2 (pg/ml)
9,000
8,000
7,000
6,000
5,000
4,000
3,000
2,000
1,000
0
No IL-33, No Mab C2494
Mab C2494 (0μg/ml)
Mab C2494 (0.003μg/ml)
Mab C2494 (0.02μg/ml)
Mab C2494 (0.08μg/ml)
Mab C2494 (0.4μg/ml)
Mab C2494 (2.0μg/ml)
Mab C2494 (10.0μg/ml)
Mab C2494 (50.0μg/ml)
+ IL-33 (3ng/ml)

Figures 6A-6E.

Figure 6A

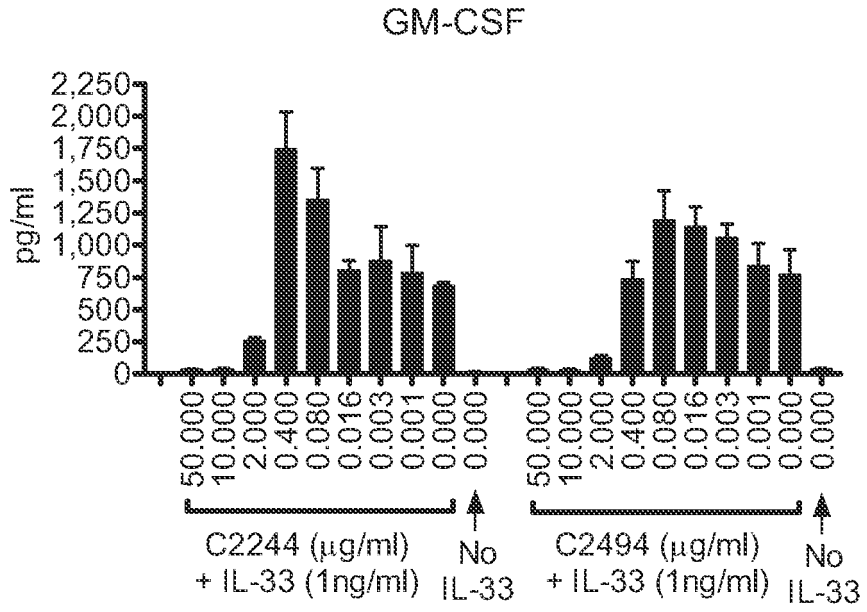


Figure 6B

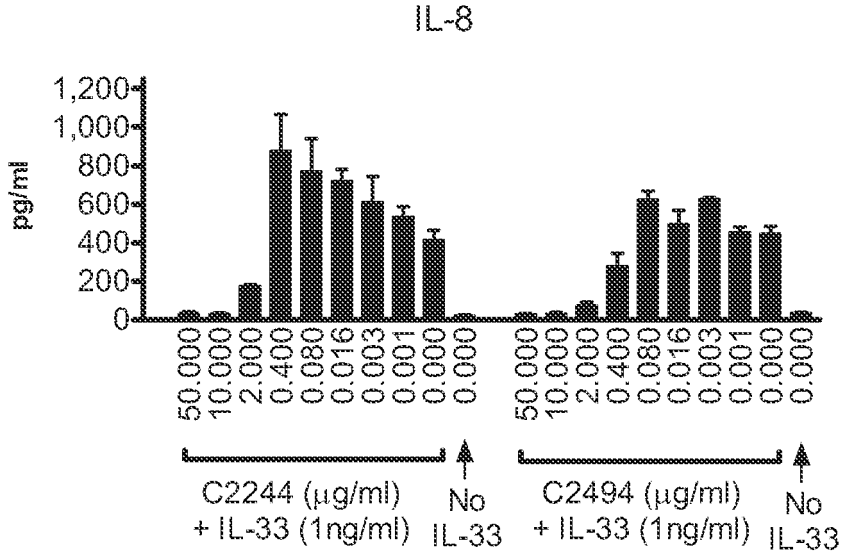


Figure 6C

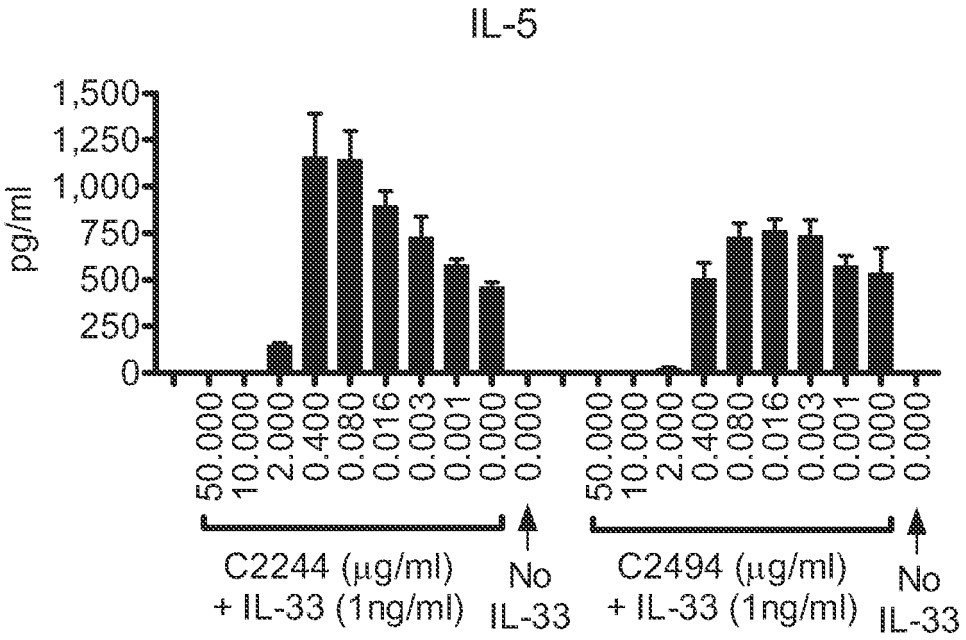


Figure 6D

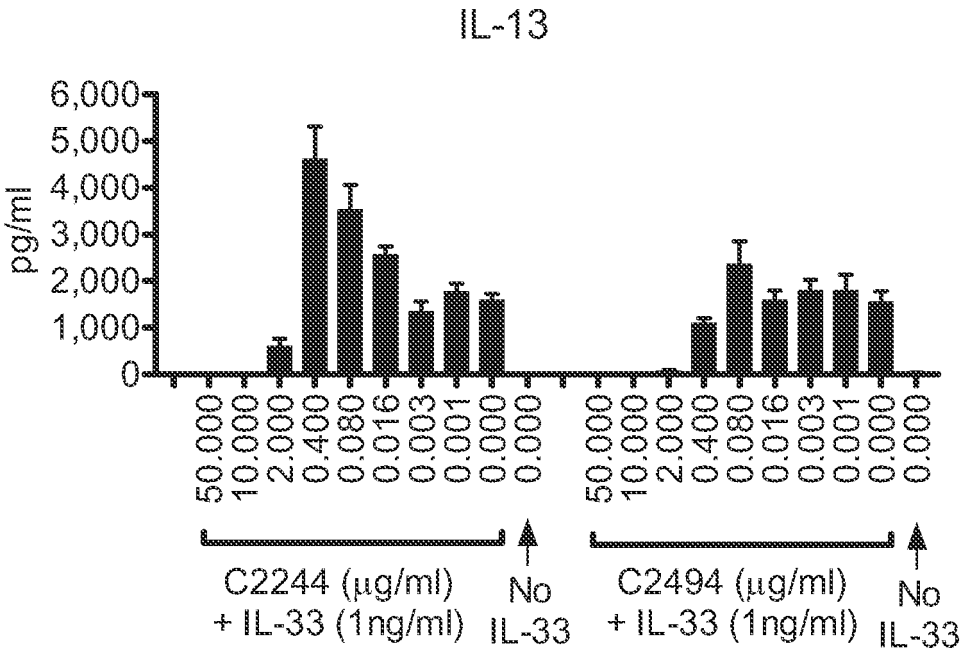
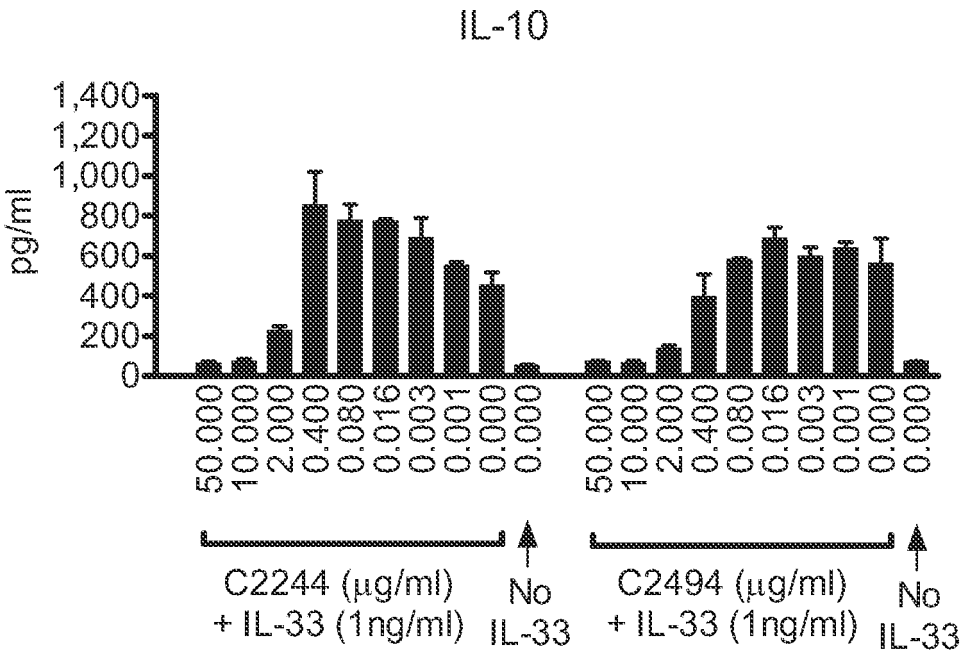


Figure 6E


IL-10
pg/ml
1,400
1,200
1,000
800
600
400
200
0
50.000
10.000
2.000
0.400
0.080
0.016
0.003
0.001
0.000
0.000
50.000
10.000
2.000
0.400
0.080
0.016
0.003
0.001
0.000
0.000
C2244 (µg/ml) + IL-33 (1ng/ml)
No IL-33
C2494 (µg/ml) + IL-33 (1ng/ml)
No IL-33

Figures 7A-7E.

Figure 7A

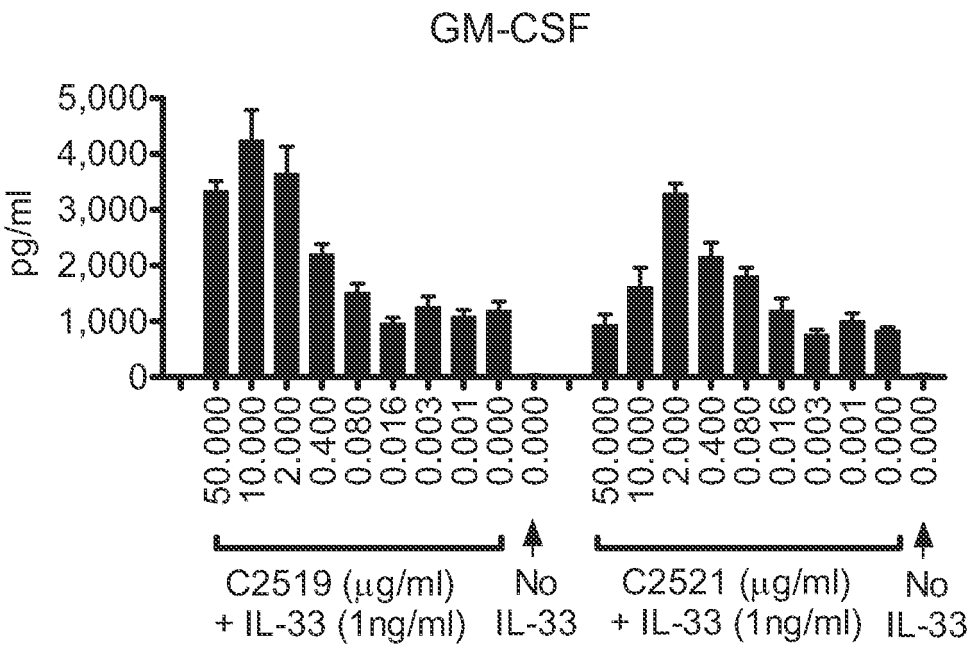


Figure 7B

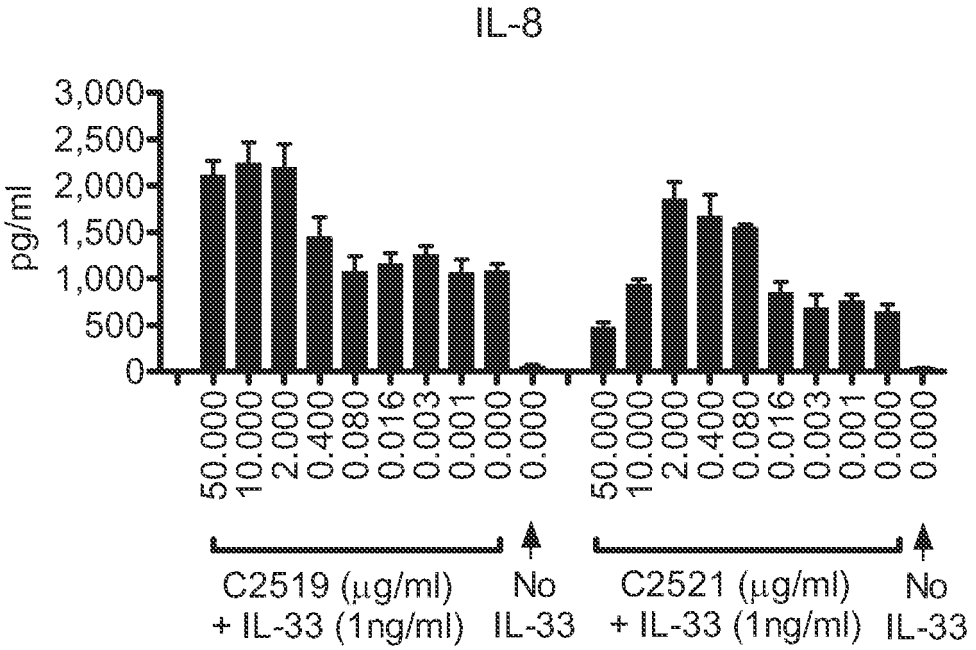


Figure 7C

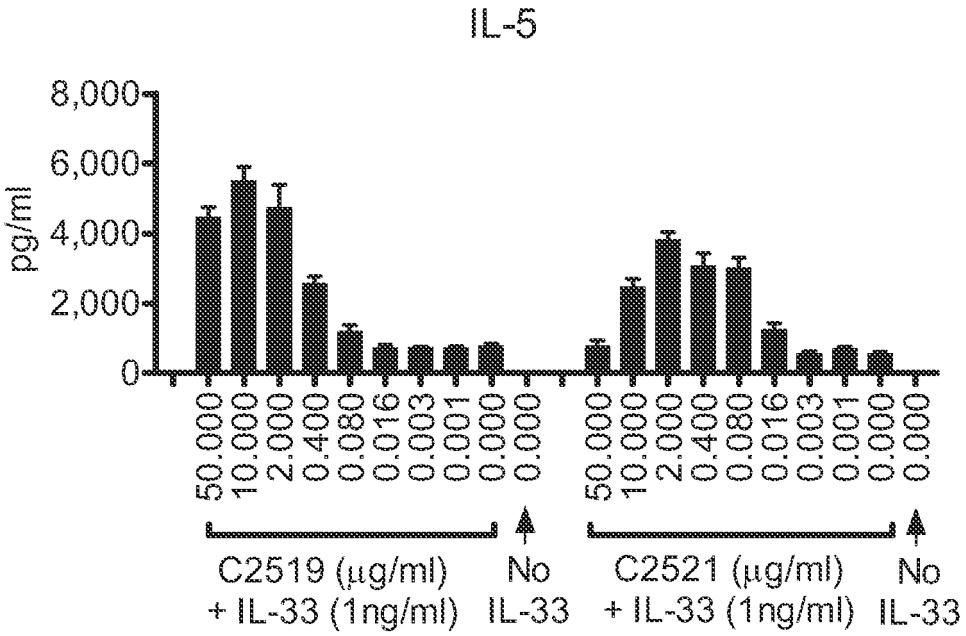


Figure 7D

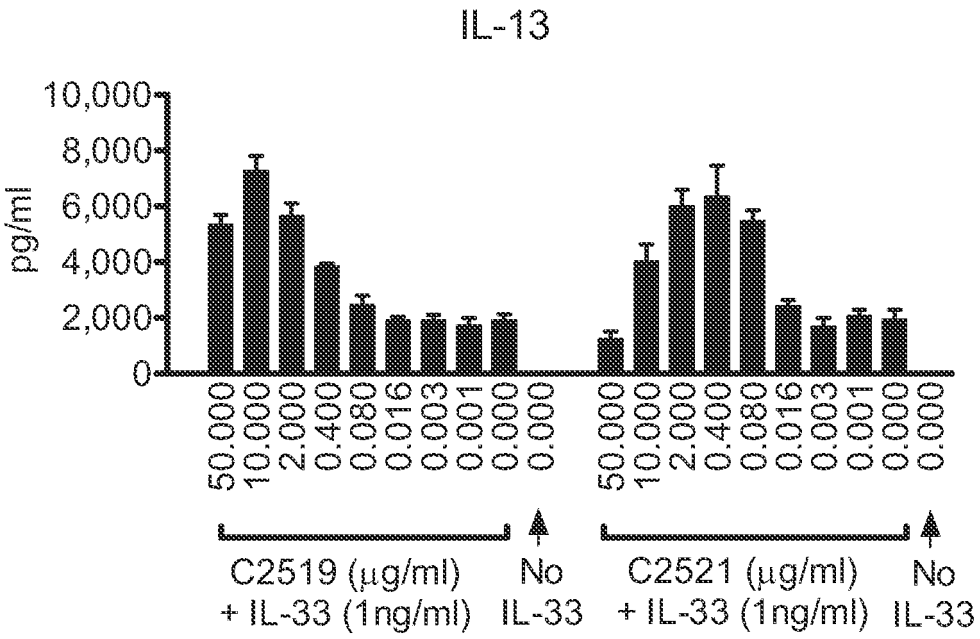
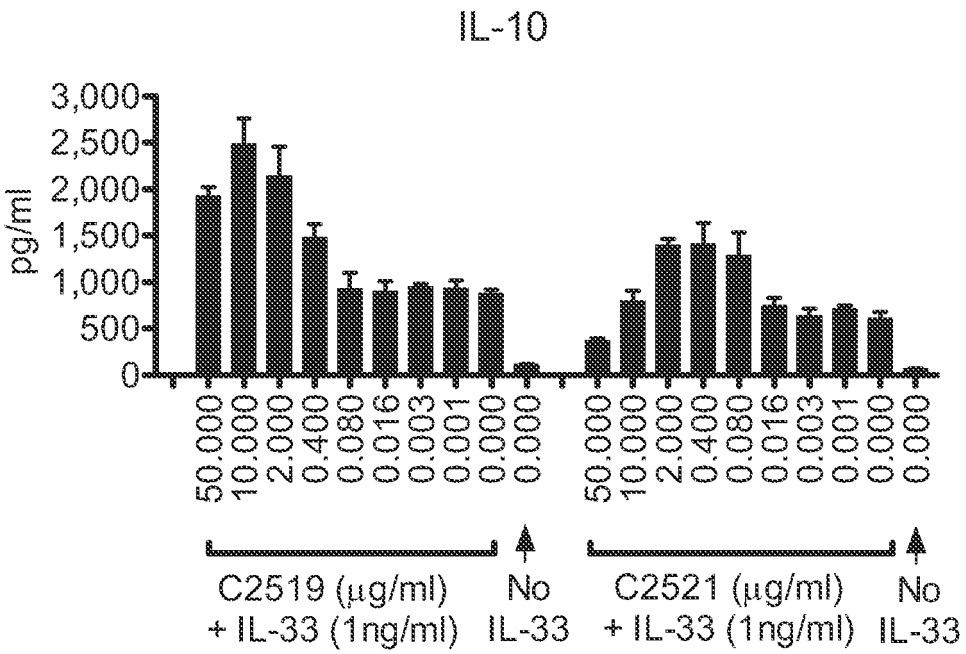


Figure 7E


IL-10
pg/ml
3,000
2,500
2,000
1,500
1,000
500
0
50.000
10.000
2.000
0.400
0.080
0.016
0.003
0.001
0.000
0.000
50.000
10.000
2.000
0.400
0.080
0.016
0.003
0.001
0.000
0.000
C2519 (µg/ml) + IL-33 (1ng/ml)
No IL-33
C2521 (µg/ml) + IL-33 (1ng/ml)
No IL-33

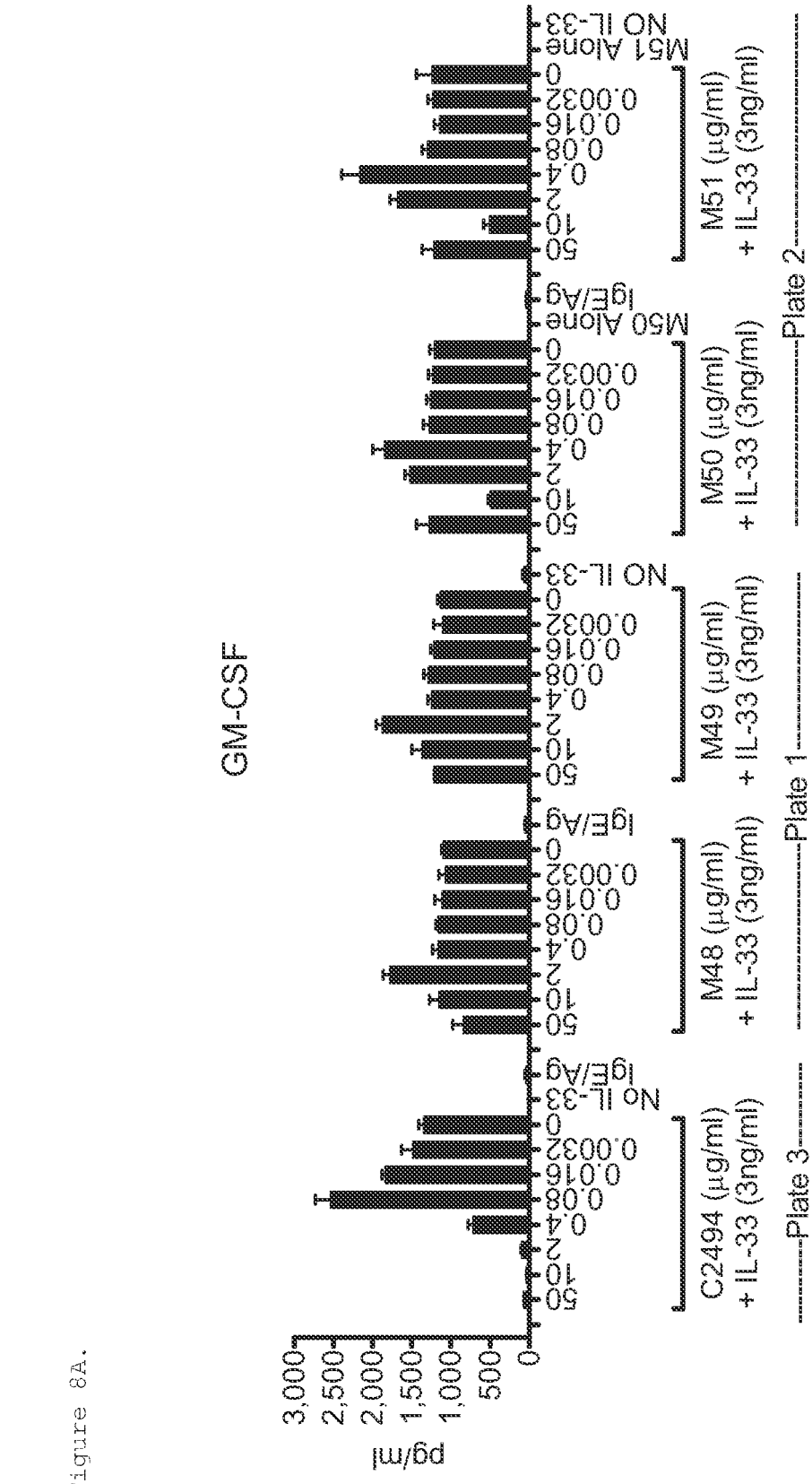

GM-CSF
pg/ml
3,000
2,500
2,000
1,500
1,000
500
0
50
10
2
0.4
0.08
0.016
0.0032
0
No IL-33
IgE/Ag
C2494 (µg/ml) + IL-33 (3ng/ml)
M48 (µg/ml) + IL-33 (3ng/ml)
M49 (µg/ml) + IL-33 (3ng/ml)
M50 (µg/ml) + IL-33 (3ng/ml)
M51 (µg/ml) + IL-33 (3ng/ml)
M50 Alone IgE/Ag
M51 Alone No IL-33
Plate 3
Plate 1
Plate 2

Figure 8A.

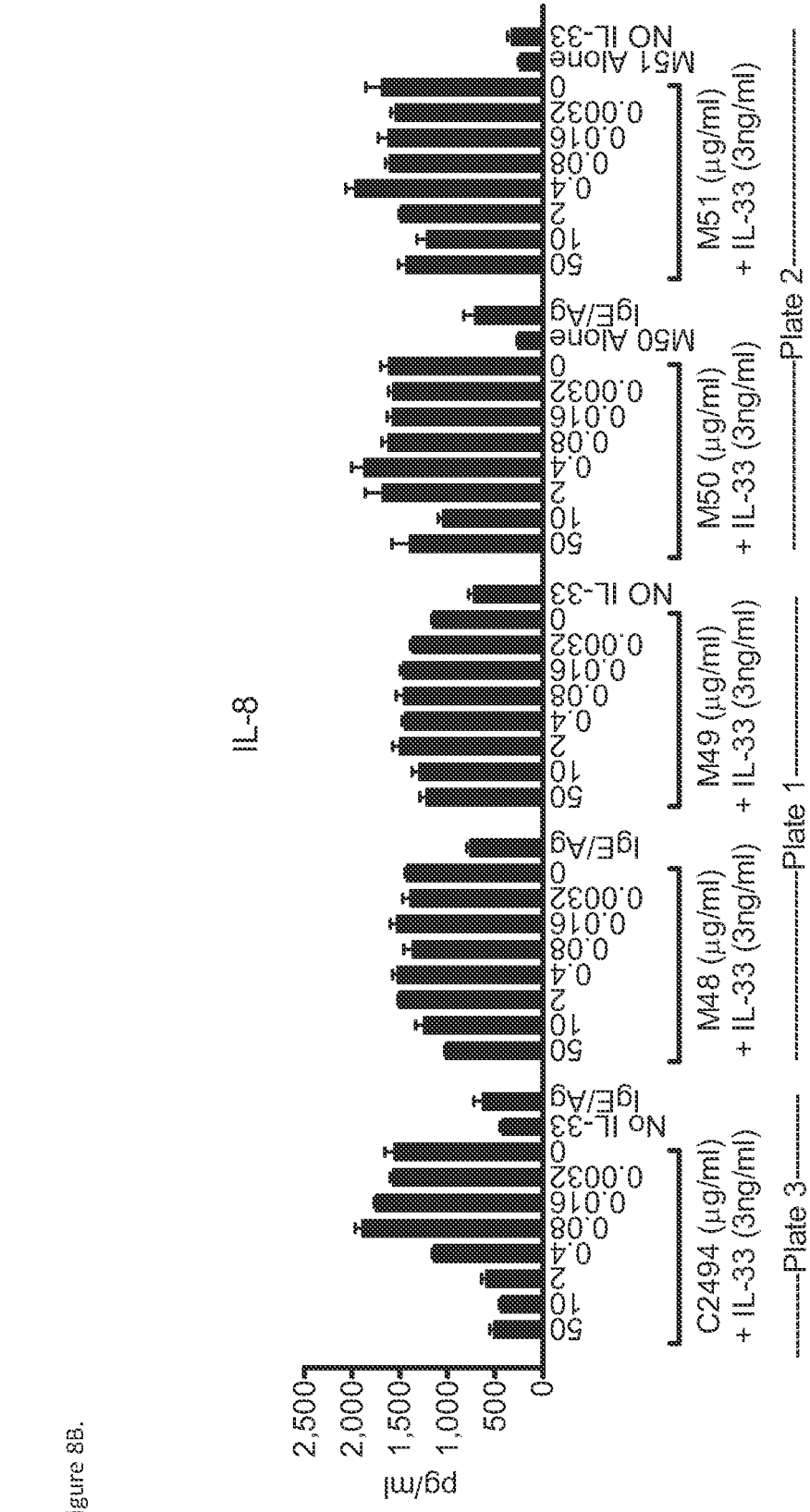

IL-8
pg/ml
2,500
2,000
1,500
1,000
500
0
50
10
2
0.4
0.08
0.016
0.0032
0
No IL-33
IgE/Ag
C2494 (µg/ml)
+ IL-33 (3ng/ml)
M48 (µg/ml)
+ IL-33 (3ng/ml)
M49 (µg/ml)
+ IL-33 (3ng/ml)
M50 (µg/ml)
+ IL-33 (3ng/ml)
M51 (µg/ml)
+ IL-33 (3ng/ml)
M50 Alone
M51 Alone
Plate 3
Plate 1
Plate 2

Figure 8B.

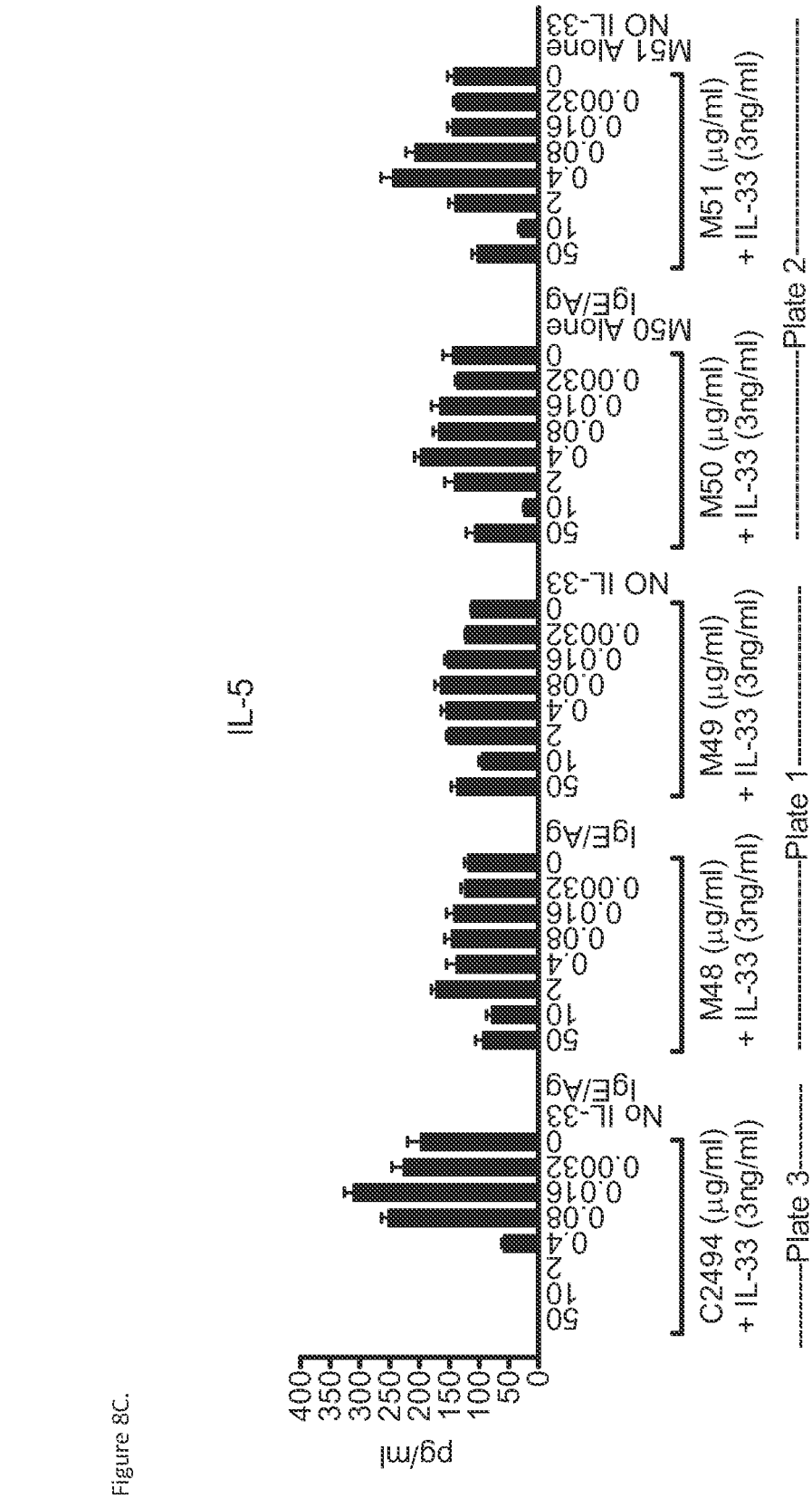

IL-5
pg/ml
400
350
300
250
200
150
100
50
0
50
10
2
0.4
0.08
0.016
0.0032
0
No IL-33
IgE/Ag
C2494 (µg/ml)
+ IL-33 (3ng/ml)
M48 (µg/ml)
+ IL-33 (3ng/ml)
M49 (µg/ml)
+ IL-33 (3ng/ml)
M50 (µg/ml)
+ IL-33 (3ng/ml)
M51 (µg/ml)
+ IL-33 (3ng/ml)
Plate 3
Plate 1
Plate 2

Figure 8C.

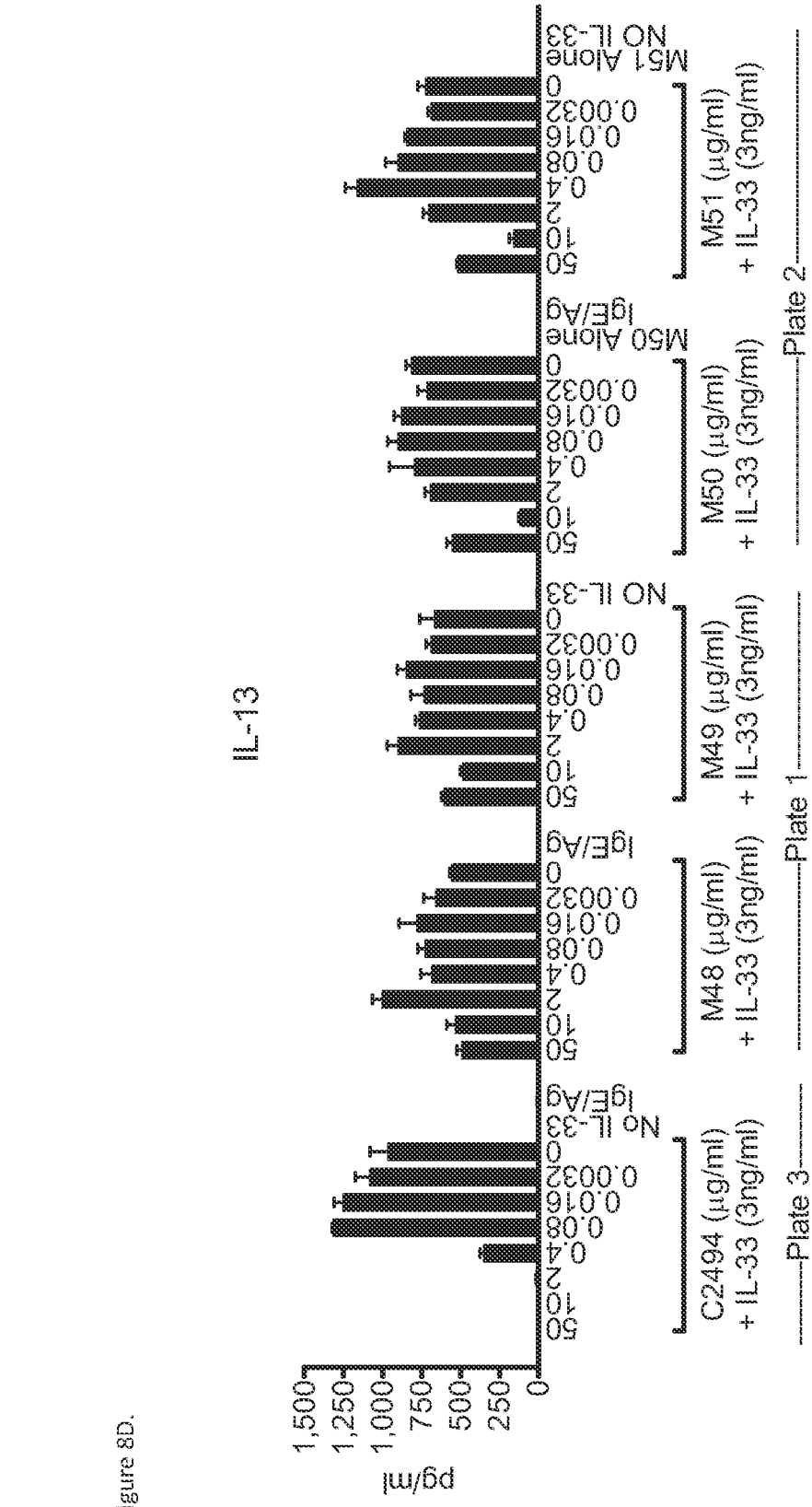

IL-13
pg/ml
1,500
1,250
1,000
750
500
250
0
50
10
2
0.4
0.08
0.016
0.0032
0
No IL-33
IgE/Ag
C2494 (µg/ml)
+ IL-33 (3ng/ml)
M48 (µg/ml)
+ IL-33 (3ng/ml)
M49 (µg/ml)
+ IL-33 (3ng/ml)
M50 (µg/ml)
+ IL-33 (3ng/ml)
M51 (µg/ml)
+ IL-33 (3ng/ml)
M50 Alone IgE/Ag
M51 Alone No IL-33
Plate 3
Plate 1
Plate 2

Figure 8D.

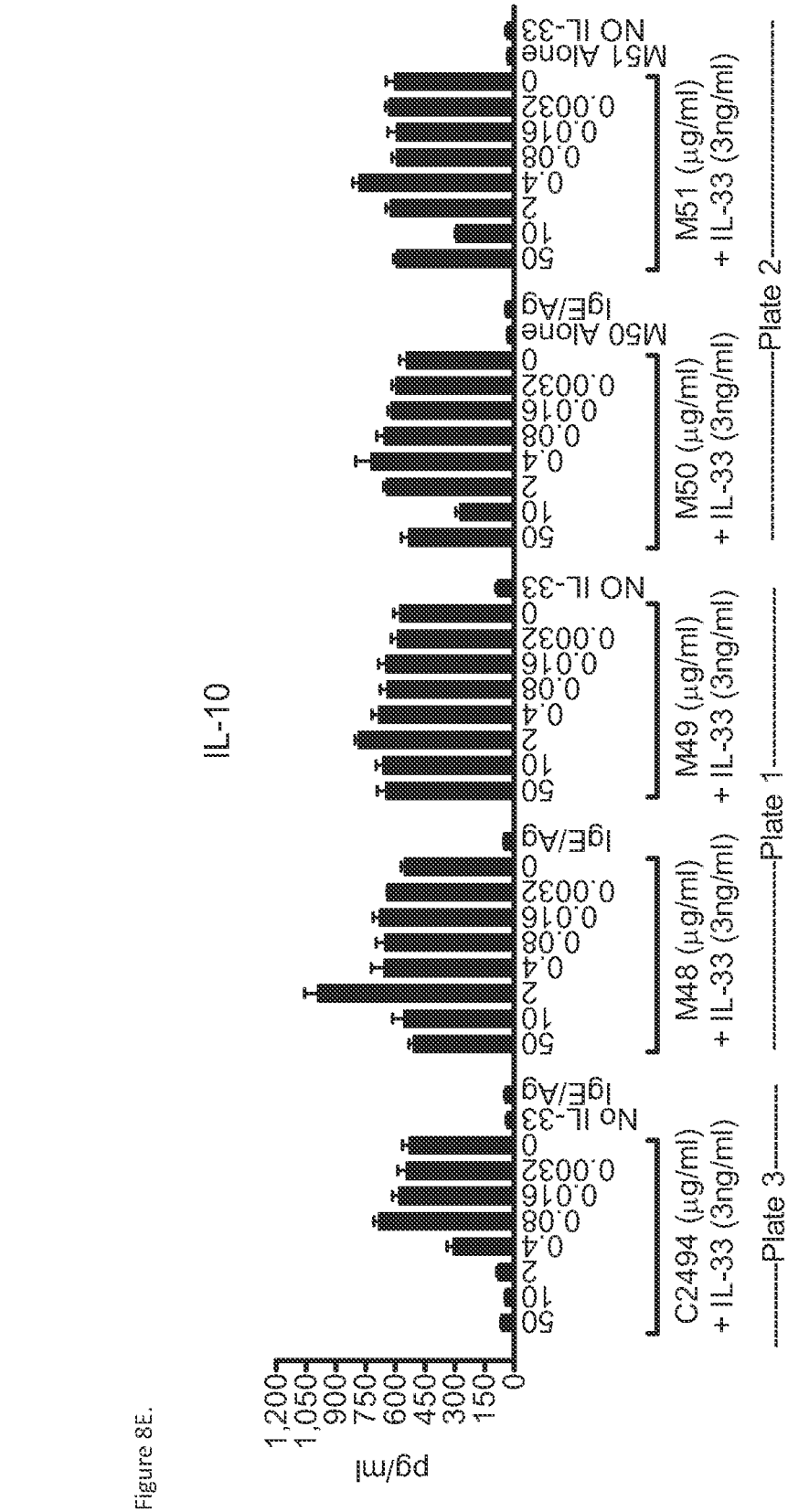

IL-10
pg/ml
1,200
1,050
900
750
600
450
300
150
0
50
10
2
0.4
0.08
0.016
0.0032
0
No IL-33
IgE/Ag
C2494 (µg/ml)
+ IL-33 (3ng/ml)
M48 (µg/ml)
+ IL-33 (3ng/ml)
M49 (µg/ml)
+ IL-33 (3ng/ml)
M50 (µg/ml)
+ IL-33 (3ng/ml)
M51 (µg/ml)
+ IL-33 (3ng/ml)
Plate 3
Plate 1
Plate 2

Figure 8E.

Figure 9.

Stimulation with 1ng/ml IL-33 in StemPro-34 medium + 100ng/ml SCF

ST2L Domain*	Mab	Average % Inhibition by 50µg/ml Mab					Averave % Inhibition by 2µg/ml Mab				
		GM-CSF	IL-5	IL-8	IL-10	IL-13	GM-CSF	IL-5	IL-8	IL-10	IL-13
D1	C2244	95.3	99.4	91.6	86.3	100.0	62.1	68.3	57.1	50.6	62.5
D1	C2494	95.3	99.4	93.5	87.3	100.0	84.1	96.2	83.0	76.1	95.8
D3	C2519	-179.9	-481.5	-95.5	-120.6	-180.0	-205.3	-516.3	-103.3	-144.5	-195.6
D3	C2521	-12.2	-39.4	25.5	38.8	36.0	-295.3	-594.4	-190.0	-130.6	-207.8

Stimulation with 3ng/ml IL-33 in RPMI/10% FCS + 100ng/ml SCF

ST2L Domain*	Mab	Average % Inhibition by 50µg/ml Mab					Averave % Inhibition by 2µg/ml Mab				
		GM-CSF	IL-5	IL-8	IL-10	IL-13	GM-CSF	IL-5	IL-8	IL-10	IL-13
D1	C2494	95.0	99.4	67.0	87.8	99.3	92.9	99.6	62.2	84.7	98.8
D3	ST2M48	23.2	20.7	28.7	8.3	11.0	-61.6	-46.1	-5.8	-79.1	-80.8
D3	ST2M49	-7.0	-20.9	-5.7	-12.4	9.3	-65.4	-33.1	-30.0	-36.8	-35.7
D3	ST2M50	-5.7	25.7	13.2	2.0	31.9	-26.0	1.6	-4.4	-18.7	14.9
D3	ST2M51	1.9	27.3	15.0	1.3	28.6	-35.3	1.2	11.8	-3.6	3.0

*ST2L domain antibody binds to

Figure 10.

mAb/Fab name	VH name	HCDR1		HCDR2		HCDR3	
		Sequence	SEQ ID NO:	Sequence	SEQ ID NO:	Sequence	SEQ ID NO:
ST2F6	ST2H41	SYAMS	78	AISGSGGSTYYADSVKG	81	DPWSTEGSFFVLDY	84
ST2F14	ST2H41	SYAMS	78	AISGSGGSTYYADSVKG	81	DPWSTEGSFFVLDY	84
ST2F17	ST2H41	SYAMS	78	AISGSGGSTYYADSVKG	81	DPWSTEGSFFVLDY	84
ST2F31	ST2H41	SYAMS	78	AISGSGGSTYYADSVKG	81	DPWSTEGSFFVLDY	84
ST2F41	ST2H41	SYAMS	78	AISGSGGSTYYADSVKG	81	DPWSTEGSFFVLDY	84
STLM103	ST2H112	FYDMF	95	SIRGEGGRTDYADSVKG	109	DPWSTEGSFFVLDY	84
STLM107	ST2H52	DYAMF	96	AIEGEGGETNYADSVKG	110	DPWSTEGSFFVLDY	84
STLM108	ST2H50	IYDMI	97	TIKGEGGGTYYADSVKG	111	DPWSTEGSFFVLDY	84
STLM123	ST2H52	DYAMF	96	AIEGEGGETNYADSVKG	110	DPWSTEGSFFVLDY	84
STLM124	ST2H50	IYDMI	97	TIKGEGGGTYYADSVKG	111	DPWSTEGSFFVLDY	84
STLM206	ST2H232	IYDMI	97	TIRGEGGSTYYADSVKG	112	DPWSTEGSFFVLDY	84
STLM207	ST2H228	SYDMI	98	TIRGEGGTTAYADSVKG	113	DPWSTEGSFFVLDY	84
STLM208	ST2H257	IYDMI	97	SIRGEGGGTYYADSVKG	114	DPWSTEGSFFVLDY	84
STLM209	ST2H231	IYDMI	97	TIRGEGGGTSYADSVKG	115	DPWSTEGSFFVLDY	84
STLM210	ST2H318	DDAMI	99	YIGGNGGTTYYADSVKG	116	DPWSTEGSFFVLDY	84
STLM211	ST2H316	GYAMI	100	YIEGEGGETYYADSVKG	117	DPWSTEGSFFVLDY	84
STLM212	ST2H314	VYDMI	101	TIRGEGGGTYYADSVKG	118	DPWSTEGSFFVLDY	84
STLM213	ST2H202	FYDMI	102	TIRGEGGDTNYADSVKG	120	DPWSTEGSFFVLDY	84
STLM214	ST2H179	SYDMF	103	DIKGEGGRTAYADSVKG	121	DPWSTEGSFFVLDY	84
STLM215	ST2H172	SYDMF	103	AIAGEGGRTYYADSVKG	122	DPWSTEGSFFVLDY	84
STLM216	ST2H173	SYDMF	103	DIKGEGGATNYADSVKG	123	DPWSTEGSFFVLDY	84
STLM217	ST2H163	VYDMF	104	DIKGEGGETSYADSVKG	124	DPWSTEGSFFVLDY	84
STLM218	ST2H162	VDSMF	105	SIEGNGGATYYADSVKG	125	DPWSTEGSFFVLDY	84
STLM219	ST2H139	GYDMF	106	DIGGEGGSTNYADSVKG	126	DPWSTEGSFFVLDY	84
STLM220	ST2H137	FYDMF	95	DIRGEGGGTAYADSVKG	127	DPWSTEGSFFVLDY	84
STLM221	ST2H136	IYDMF	107	YIRGEGGDTNYADSVKG	128	DPWSTEGSFFVLDY	84
STLM222	ST2H129	IYSMF	108	DIGGEGGGTSYADSVKG	129	DPWSTEGSFFVLDY	84

Figure 11.

mAb/Fab name	VL name	LCDR1		LCDR2		LCDR3	
		Sequence	SEQ ID NO:	Sequence	SEQ ID NO:	Sequence	SEQ ID NO:
ST2F6	ST2L24	RASQSVDDALA	87	DASNRAT	90	QQFYNWPLT	92
ST2F14	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
ST2F17	ST2L35	RASQSVDDDLA	130	DASNRAT	90	QQYIDAPLT	132
ST2F31	ST2L49	RASQSVDDDLA	130	DASNRAT	90	QQYNDAIT	133
ST2F41	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM103	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM107	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM108	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM123	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM124	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM206	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM207	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM208	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM209	ST2L59	RASQSVDDDLA	130	DASNRAT	90	QQYITAPLT	134
STLM210	ST2L49	RASQSVDDDLA	130	DASNRAT	90	QQYNDAIT	133
STLM211	ST2L49	RASQSVDDDLA	130	DASNRAT	90	QQYNDAIT	133
STLM212	ST2L49	RASQSVDDDLA	130	DASNRAT	90	QQYNDAIT	133
STLM213	ST2L35	RASQSVDDDLA	130	DASNRAT	90	QQYIDAPLT	132
STLM214	ST2L35	RASQSVDDDLA	130	DASNRAT	90	QQYIDAPLT	132
STLM215	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM216	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM217	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM218	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM219	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM220	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM221	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131
STLM222	ST2L32	RASQSVDDDLA	130	DASNRAT	90	QQYIGAPIT	131

Figure 12.

mAb name	VH name	VL name	H-CDR1		H-CDR2		H-CDR3	
			Sequence	SEQ ID NO:	Sequence	SEQ ID NO:	Sequence	SEQ ID NO:
STLM208	ST2H257	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DPWSTEGSFFVLDY	84
STLM352	STLH255	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	APWSTEGSFFVLDY	165
STLM351	STLH256	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	RPWSTEGSFFVLDY	166
STLM350	STLH257	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	NPWSTEGSFFVLDY	167
STLM349	STLH258	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	QPWSTEGSFFVLDY	168
STLM348	STLH259	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	EPWSTEGSFFVLDY	169
STLM347	STLH260	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	IPWSTEGSFFVLDY	170
STLM346	STLH261	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	HPWSTEGSFFVLDY	171
STLM345	STLH262	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	SPWSTEGSFFVLDY	172
STLM344	STLH263	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	TPWSTEGSFFVLDY	173
STLM343	STLH264	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	YPWSTEGSFFVLDY	174
STLM342	STLH265	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DAWSTEGSFFVLDY	175
STLM341	STLH266	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DHWSTEGSFFVLDY	176
STLM340	STLH267	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DYWSTEGSFFVLDY	177
STLM339	STLH268	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DEWSTEGSFFVLDY	178
STLM338	STLH269	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DQWSTEGSFFVLDY	179
STLM337	STLH270	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DLWSTEGSFFVLDY	180
STLM336	STLH271	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DSWSTEGSFFVLDY	181
STLM335	STLH272	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DNWSTEGSFFVLDY	182
STLM334	STLH273	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DTWSTEGSFFVLDY	183
STLM333	STLH274	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DVWSTEGSFFVLDY	184
STLM332	STLH275	ST2L59	IYDMI	97	SIRGEGGGTYYADSVKG	114	DIWSTEGSFFVLDY	185

Figure 13A.

mAb	VH ID	Sequence	SEQ ID NO:
STLM103	ST2H112	EVQLLESGGGLVQPGGSLRLSCAASGFTFSFYDMFWVRQAPGKGLEWVSSIRGEGGRTDYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	205
STLM107	ST2H52	EVQLLESGGGLVQPGGSLRLSCAASGFTFSDYAMFWVRQAPGKGLEWVSAIEGEGGETNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	186
STLM108	ST2H50	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMIWVRQAPGKGLEWVSTIKGEGGGTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	187
STLM123	ST2H52	EVQLLESGGGLVQPGGSLRLSCAASGFTFSDYAMFWVRQAPGKGLEWVSAIEGEGGETNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	186
STLM124	ST2H50	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMIWVRQAPGKGLEWVSTIKGEGGGTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	187
STLM206	ST2H232	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMIWVRQAPGKGLEWVSTIRGEGGSTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	192
STLM207	ST2H228	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMIWVRQAPGKGLEWVSTIRGEGGTTAYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	194
STLM208	ST2H257	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMIWVRQAPGKGLEWVSSIRGEGGGTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	191
STLM209	ST2H231	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMIWVRQAPGKGLEWVSTIRGEGGGTSYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	193
STLM210	ST2H318	EVQLLESGGGLVQPGGSLRLSCAASGFTFSDDAMIWVRQAPGKGLEWVSYIGGNGGTTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	188
STLM211	ST2H316	EVQLLESGGGLVQPGGSLRLSCAASGFTFSGYAMIWVRQAPGKGLEWVSYIEGEGGETYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	189
STLM212	ST2H314	EVQLLESGGGLVQPGGSLRLSCAASGFTFSVYDMIWVRQAPGKGLEWVSTIRGEGGGTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	190
STLM213	ST2H202	EVQLLESGGGLVQPGGSLRLSCAASGFTFSFYDMIWVRQAPGKGLEWVSTIRGEGGDTNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	195
STLM214	ST2H179	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMFWVRQAPGKGLEWVSDIKGEGGRTAYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	196
STLM215	ST2H172	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMFWVRQAPGKGLEWVSAIAGEGGRTYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	198
STLM216	ST2H173	EVQLLESGGGLVQPGGSLRLSCAASGFTFSSYDMFWVRQAPGKGLEWVSDIKGEGGATNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	197
STLM217	ST2H163	EVQLLESGGGLVQPGGSLRLSCAASGFTFSVYDMFWVRQAPGKGLEWVSDIKGEGGETSYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	199
STLM218	ST2H162	EVQLLESGGGLVQPGGSLRLSCAASGFTFSVDSMFWVRQAPGKGLEWVSSIEGNGGATYYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	200
STLM219	ST2H139	EVQLLESGGGLVQPGGSLRLSCAASGFTFSGYDMFWVRQAPGKGLEWVSDIGGEGGSTNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	201
STLM220	ST2H137	EVQLLESGGGLVQPGGSLRLSCAASGFTFSFYDMFWVRQAPGKGLEWVSDIRGEGGGTAYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	202
STLM221	ST2H136	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYDMFWVRQAPGKGLEWVSYIRGEGGDTNYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	203
STLM222	ST2H129	EVQLLESGGGLVQPGGSLRLSCAASGFTFSIYSMFWVRQAPGKGLEWVSDIGGEGGGTSYAD SVKGRFTISRDNSKNTLYLQMNSLRAEDTAVYYCARDPWSTEGSFFVLDYWGQGTLVTVSS	204

Figure 13B.

mAb	VH ID	Sequence	SEQ ID NO:
STLM103	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM107	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM108	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM123	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM124	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM206	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM207	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM208	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM209	ST2L59	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYITAPLTFGQGTKVEIK	209
STLM210	ST2L49	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYNDAITFGQGTKVEIK	208
STLM211	ST2L49	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYNDAITFGQGTKVEIK	208
STLM212	ST2L49	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYNDAITFGQGTKVEIK	208
STLM213	ST2L35	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIDAPLTFGQGTKVEIK	207
STLM214	ST2L35	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIDAPLTFGQGTKVEIK	207
STLM215	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM216	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM217	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM218	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM219	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM220	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM221	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206
STLM222	ST2L32	EIVLTQSPATLSLSPGERATLSCRASQSVDDDLAWYQQKPGQAPRLLIYDASNR ATGIPARFSGSGSGTDFTLTISSLEPEDFAVYYCQQYIGAPITFGQGTKVEIK	206

Figure 14.

V_L:

```
                    1         2         3         4         5         6
          1234567890123456789012345678901234567890123456789012345678901234567890
>VL2494   ETTVTQSPASLSVATGEKVTIRCITNTDIDDVIHWYQQKPGEPPKLLISEGNTLRPGVPS
Chothia                          -------             ---
HFA                              ----------          -------

          6         7         8         9         10
          12345678901234567890123456789012345678901234567890123456
>VL2494   RFSSSGYGTDFVFTIENTLSEDVADYYCLQSDNMLTFGAGTKLELK
Chothia                          -----
HFA                              --------
```

V_H:

```
                  1         2         3         4         5         6
          12345678901234567890123456789012345678901234567890123a3456789012345
>VH2494   EVQLQQSVAELVRPGASVKLSCTASAFNIKDDYMHWVKQRPEQGLEWIGRIDPAIGNTEYAPKFQD
Chothia                          -------             ------
HFA                              ----------          ----------..........

             7         8          9         10        11
          6789012345678901 2abc 3456789012345678 90ab 123456789012
>VH2494   KATMTADTSSNTAYLQLSSLTSEDTAVYYCALGDFYAMDYWGQGTSVTVSS
Chothia                          --------
HFA                              --------
```

Figure 15.

mAb	VL ID	VH ID	VL SEQ ID NO:	VH SEQ ID NO:	H-CDR1		H-CDR2		H-CDR3	
					Sequence	SEQ ID NO:	Sequence	SEQ ID NO:	Sequence	SEQ ID NO:
STLM226	STLL280	STLH201	142	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM227	STLL277	STLH201	140	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM228	STLL276	STLH201	139	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM229	STLL275	STLH201	138	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM230	STLL274	STLH201	137	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM231	STLL273	STLH201	136	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146
STLM232	STLL272	STLH201	135	145	DDYMH	24	RIDPAIGNTEYAEKFQG	28	GDFYAMAY	146

mAb	VL ID	VH ID	VL SEQ ID NO:	VH SEQ ID NO:	L-CDR1		L-CDR2		L-CDR3	
					Sequence	SEQ ID NO:	Sequence	SEQ ID NO:	Sequence	SEQ ID NO:
STLM226	STLL280	STLH201	142	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNLLT	147
STLM227	STLL277	STLH201	140	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44
STLM228	STLL276	STLH201	139	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44
STLM229	STLL275	STLH201	138	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44
STLM230	STLL274	STLH201	137	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44
STLM231	STLL273	STLH201	136	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44
STLM232	STLL272	STLH201	135	145	ITNTDIDDVIH	36	EGNTLRP	40	LQSDNMLT	44

Figure 16A.

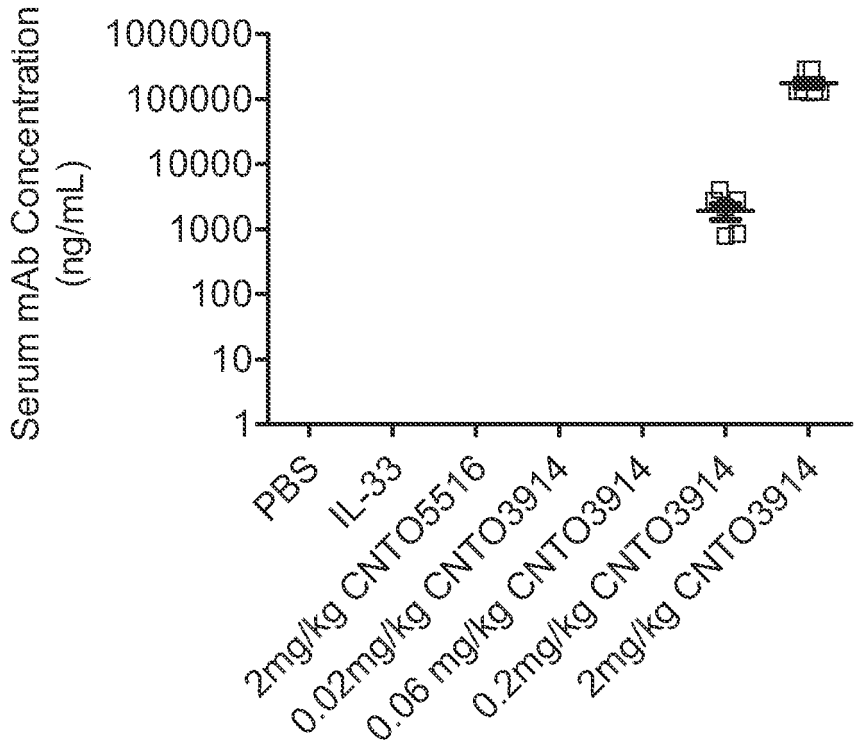

Serum mAb Concentration (ng/mL)
1000000
100000
10000
1000
100
10
1
PBS
IL-33
2mg/kg CNTO5516
0.02mg/kg CNTO3914
0.06 mg/kg CNTO3914
0.2mg/kg CNTO3914
2mg/kg CNTO3914

Figure 16B.

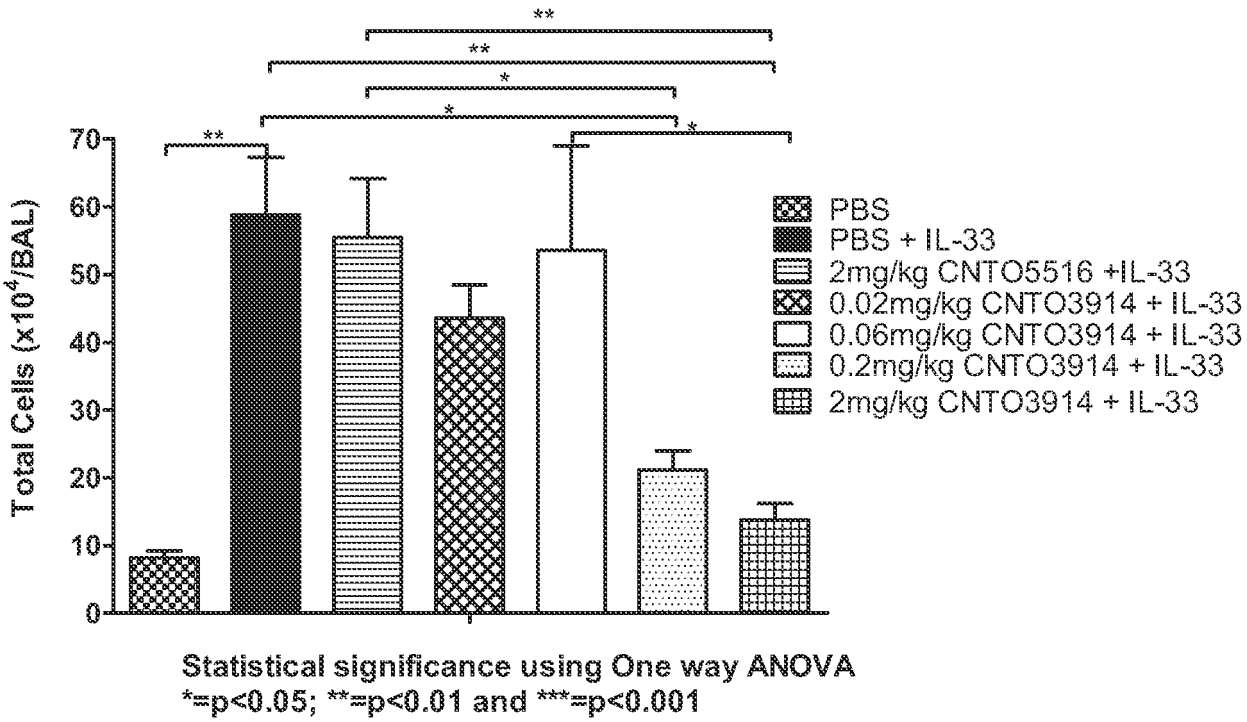
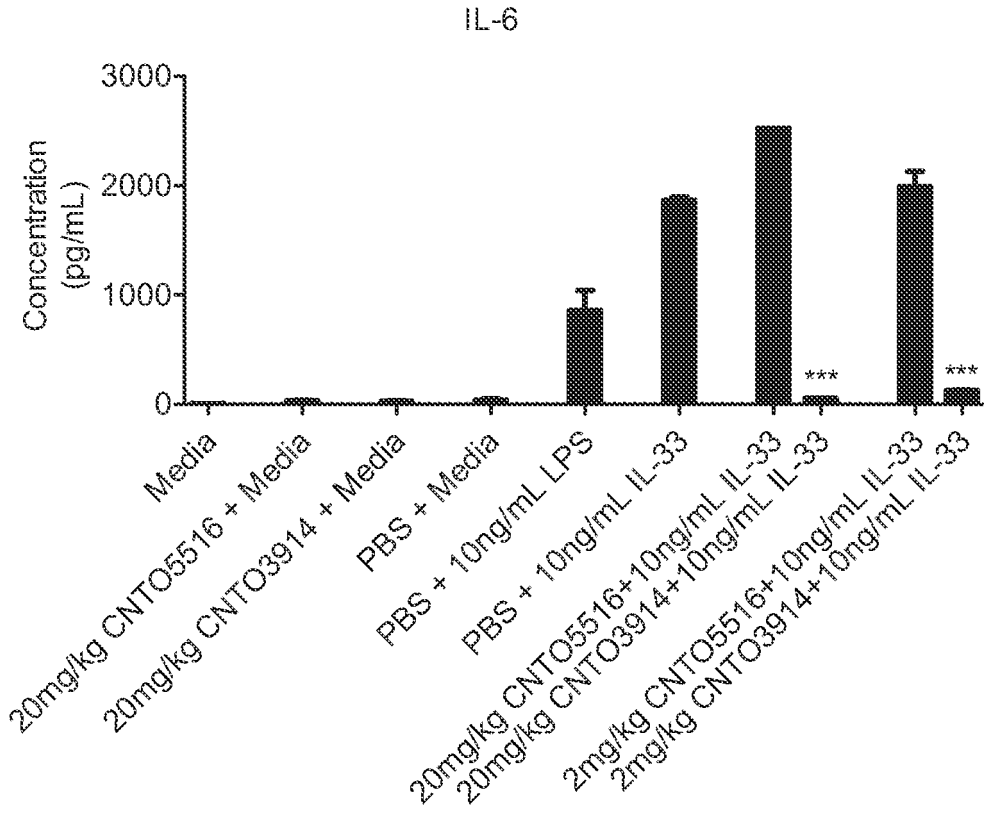
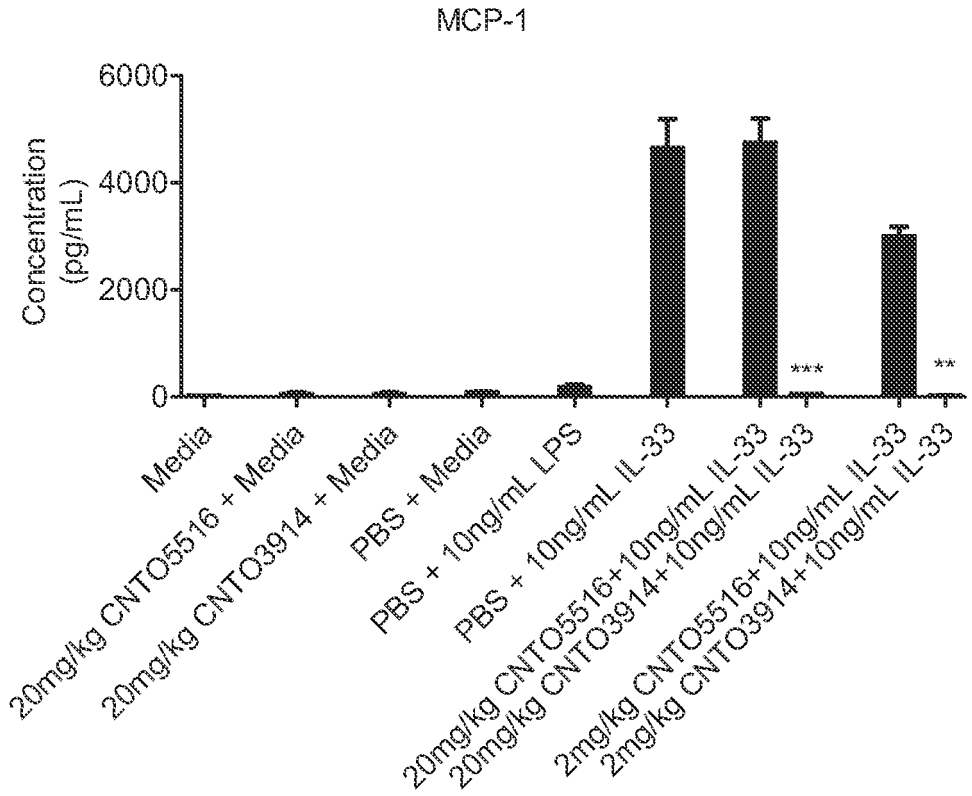

**
**
*
*
*
**
70
60
50
40
30
20
10
0
Total Cells (x10⁴/BAL)
PBS
PBS + IL-33
2mg/kg CNTO5516 +IL-33
0.02mg/kg CNTO3914 + IL-33
0.06mg/kg CNTO3914 + IL-33
0.2mg/kg CNTO3914 + IL-33
2mg/kg CNTO3914 + IL-33
Statistical significance using One way ANOVA
*=p<0.05; **=p<0.01 and ***=p<0.001

Figure 16C.



mAb Significance is compared to isotype control at same concentration

Figure 16D.



mAb Significance is compared to isotype control at same concentration

Figure 17A.

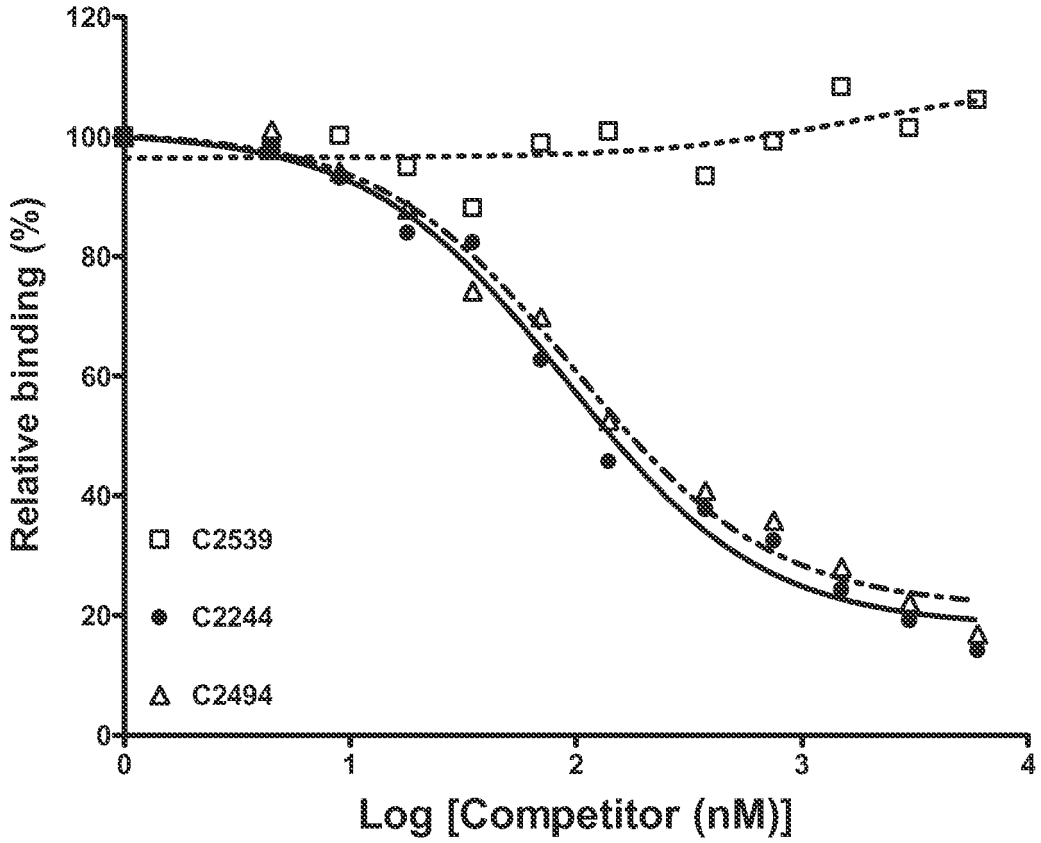

120
100
80
60
40
20
0
Relative binding (%)
C2539
C2244
C2494
0
1
2
3
4
Log [Competitor (nM)]

Figure 17B.

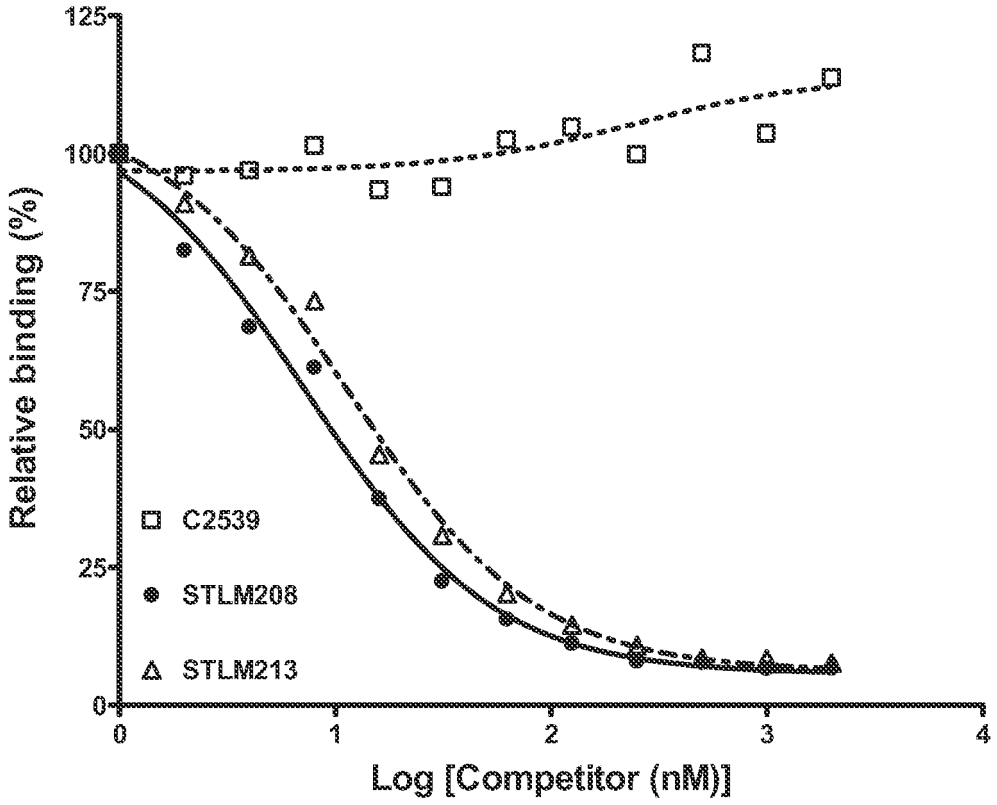

125
100
75
50
25
0
Relative binding (%)
C2539
STLM208
STLM213
0
1
2
3
4
Log [Competitor (nM)]

Figure 18.

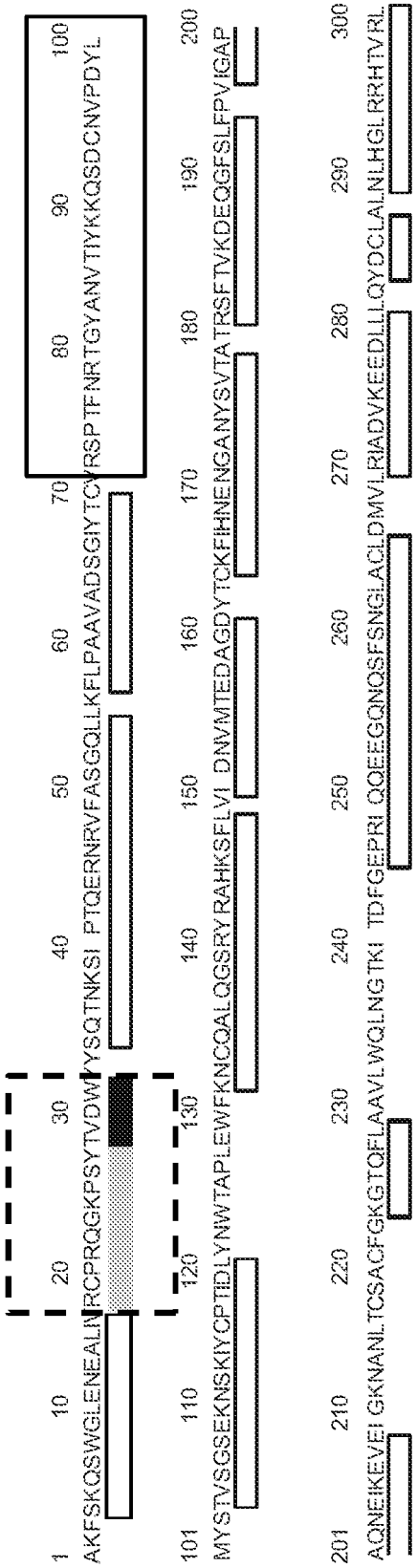

1 10 20 30 40 50 60 70 80 90 100
AKFSKQSWGLENEALIVRCPRQGKPSYTVDWYSQTNKSI PTQERNRVFASGQLLKFLPAAVADSGIYTCVRSPTFNRTGYANVTIYKKQSDCNVPDYL
101 110 120 130 140 150 160 170 180 190 200
MYSTVSGSEKNSKIYCPTIDLYNWTAPLEWFKNCQALQGSRYRAHKSFLVI DNVMTEDAGDYTCKFIHNENGANYSVTATRSFTVKDEQGFSLFPVIGAP
201 210 220 230 240 250 260 270 280 290 300
AQNEIKEVEI GKNANLTCSACFGKGTQFLAAVLWQLNGTKI TDFGEPRI QQEEGQNQSFSNGLACLDMVLRIADVKEEDLLLQYDCLALNLHGLRRHTVRL
302 310
SRKNPSKECF
strongly H/D-exchange protected by antibody
weakly H/D-exchange protected by antibody
not protected

Figure 19.

ST2L variant	Antibody					
	STLB206 (STLM208)			STLB252		
	ka	kd	K_D	ka	kd	K_D
	1/Ms	1/s	pM	1/Ms	1/s	pM
Wild type	1.14E+07	1.22E-04	10.8	8.85E+06	1.22E-04	13.8
$_{18}$AKF$_{20}$-->TEG	1.30E+07	2.29E-04	19.3	8.34E+06	1.93E-04	23.2
K$_{55}$E	1.26E+07	1.29E-04	10	1.07E+07	1.26E-04	11.8
E$_{61}$K	1.55E+07	1.26E-04	8.1	1.56E+07	1.21E-04	7.8
$_{69}$GQL$_{71}$-->RDR	1.02E+07	9.27E-05	9.6	8.06E+06	9.36E-05	11.6
A$_{78}$R	1.24E+07	1.30E-04	10.4	1.08E+07	1.23E-04	11.4
A$_{80}$E	1.15E+07	1.27E-04	11	1.13E+07	1.39E-04	12.4
$_{93}$TF$_{94}$-->NL	1.27E+07	6.25E-04	49.5	1.07E+07	5.22E-04	48.9
$_{108}$QSD$_{110}$-->PPS	1.28E+07	1.19E-04	10	8.99E+06	1.17E-04	13

Figure 20A.

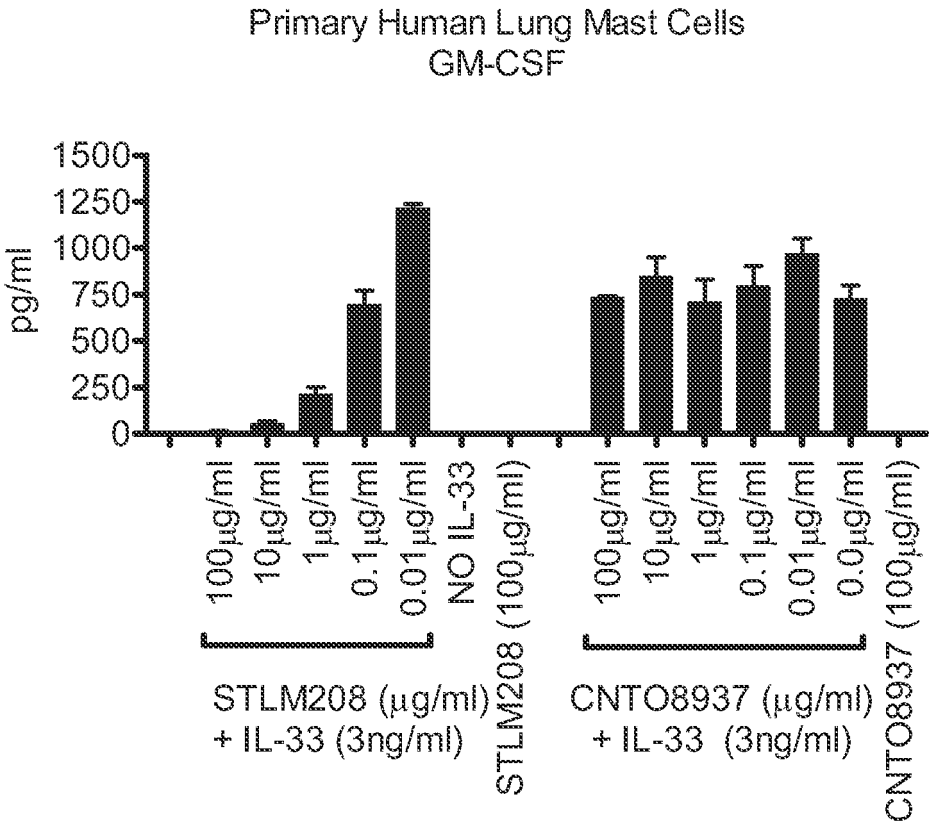

Primary Human Lung Mast Cells
GM-CSF
pg/ml
1500
1250
1000
750
500
250
0
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
NO IL-33
STLM208 (100µg/ml)
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
0.0µg/ml
CNTO8937 (100µg/ml)
STLM208 (µg/ml)
+ IL-33 (3ng/ml)
CNTO8937 (µg/ml)
+ IL-33 (3ng/ml)

Figure 20B.

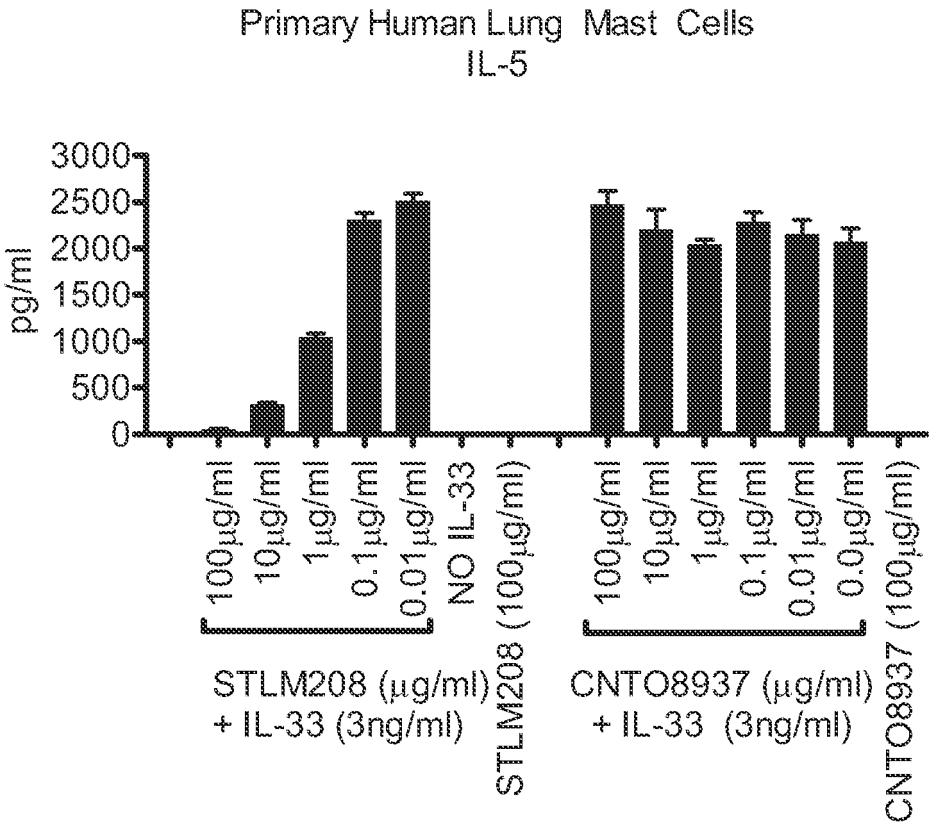

Primary Human Lung Mast Cells
IL-5
pg/ml
3000
2500
2000
1500
1000
500
0
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
NO IL-33
STLM208 (100µg/ml)
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
0.0µg/ml
CNTO8937 (100µg/ml)
STLM208 (µg/ml)
+ IL-33 (3ng/ml)
CNTO8937 (µg/ml)
+ IL-33 (3ng/ml)

Figure 20C.

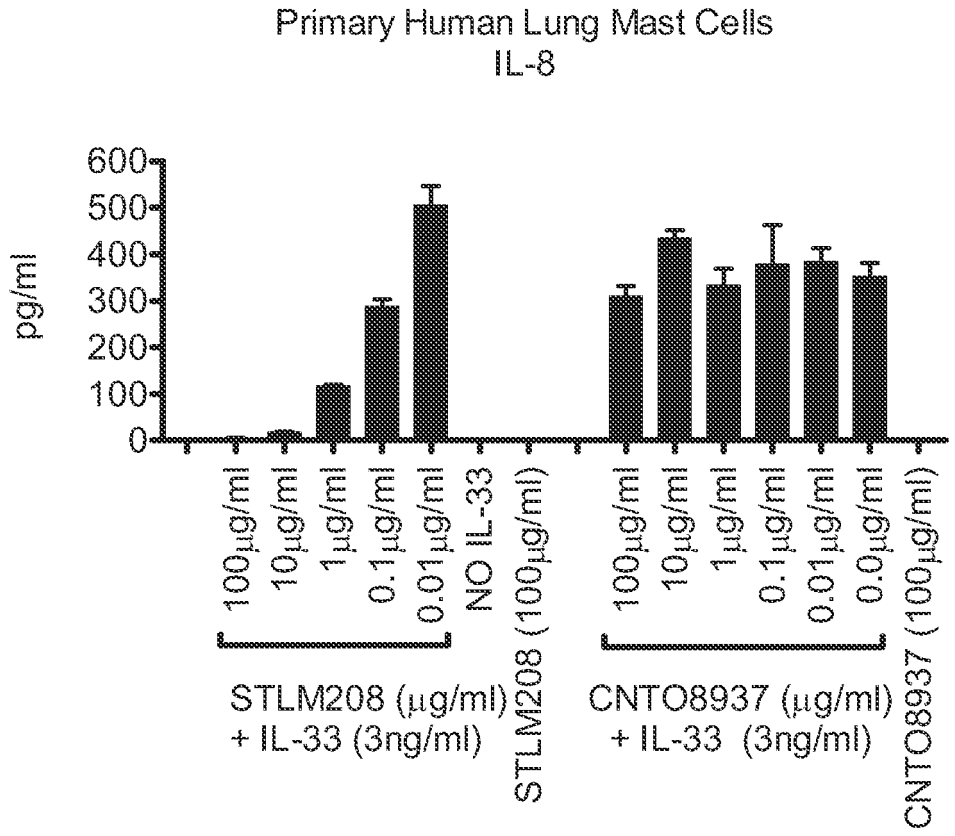
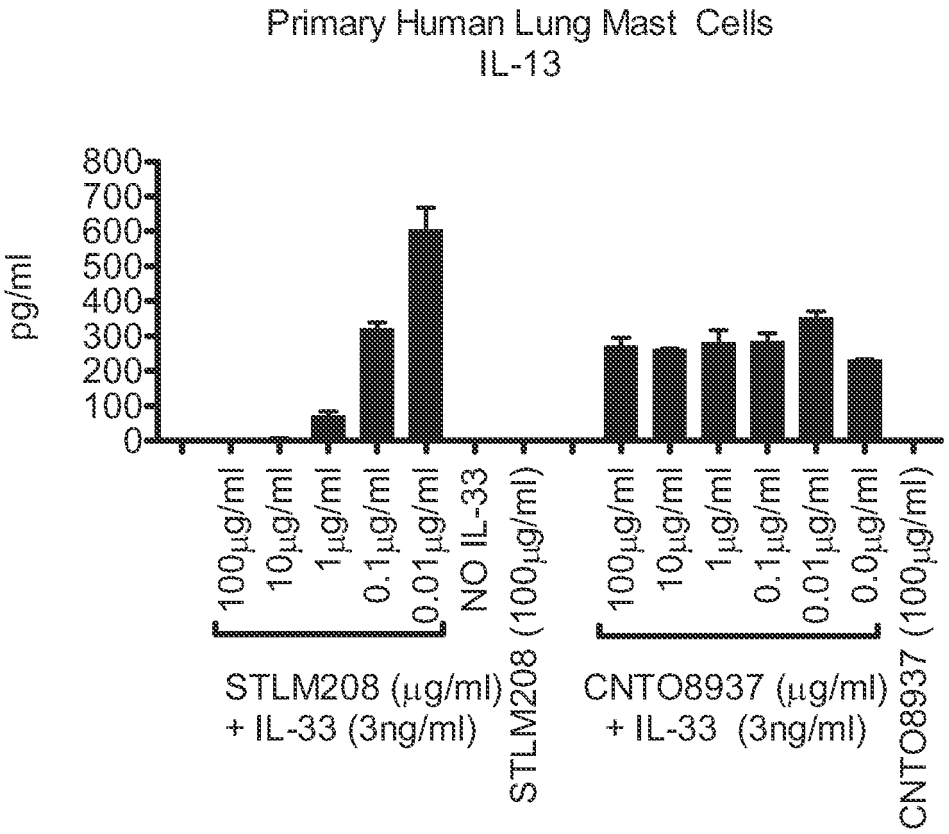

Primary Human Lung Mast Cells
IL-8
pg/ml
600
500
400
300
200
100
0
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
NO IL-33
STLM208 (100µg/ml)
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
0.0µg/ml
CNTO8937 (100µg/ml)
STLM208 (µg/ml)
+ IL-33 (3ng/ml)
CNTO8937 (µg/ml)
+ IL-33 (3ng/ml)

Figure 20D.


Primary Human Lung Mast Cells
IL-13
pg/ml
800
700
600
500
400
300
200
100
0
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
NO IL-33
STLM208 (100µg/ml)
100µg/ml
10µg/ml
1µg/ml
0.1µg/ml
0.01µg/ml
0.0µg/ml
CNTO8937 (100µg/ml)
STLM208 (µg/ml)
+ IL-33 (3ng/ml)
CNTO8937 (µg/ml)
+ IL-33 (3ng/ml)