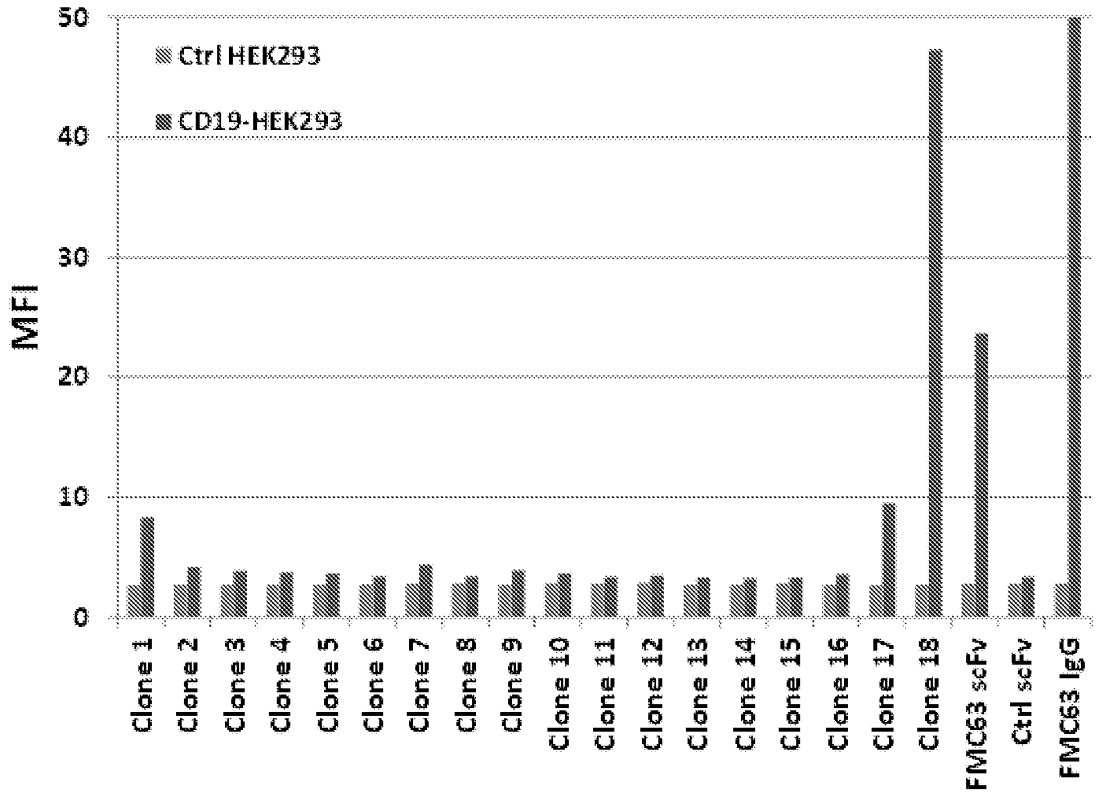

50
40
30
20
10
0
MFI
Ctrl HEK293
CD19-HEK293
Clone 1
Clone 2
Clone 3
Clone 4
Clone 5
Clone 6
Clone 7
Clone 8
Clone 9
Clone 10
Clone 11
Clone 12
Clone 13
Clone 14
Clone 15
Clone 16
Clone 17
Clone 18
FMC63 scFv
Ctrl scFv
FMC63 IgG

FIGURE 1A

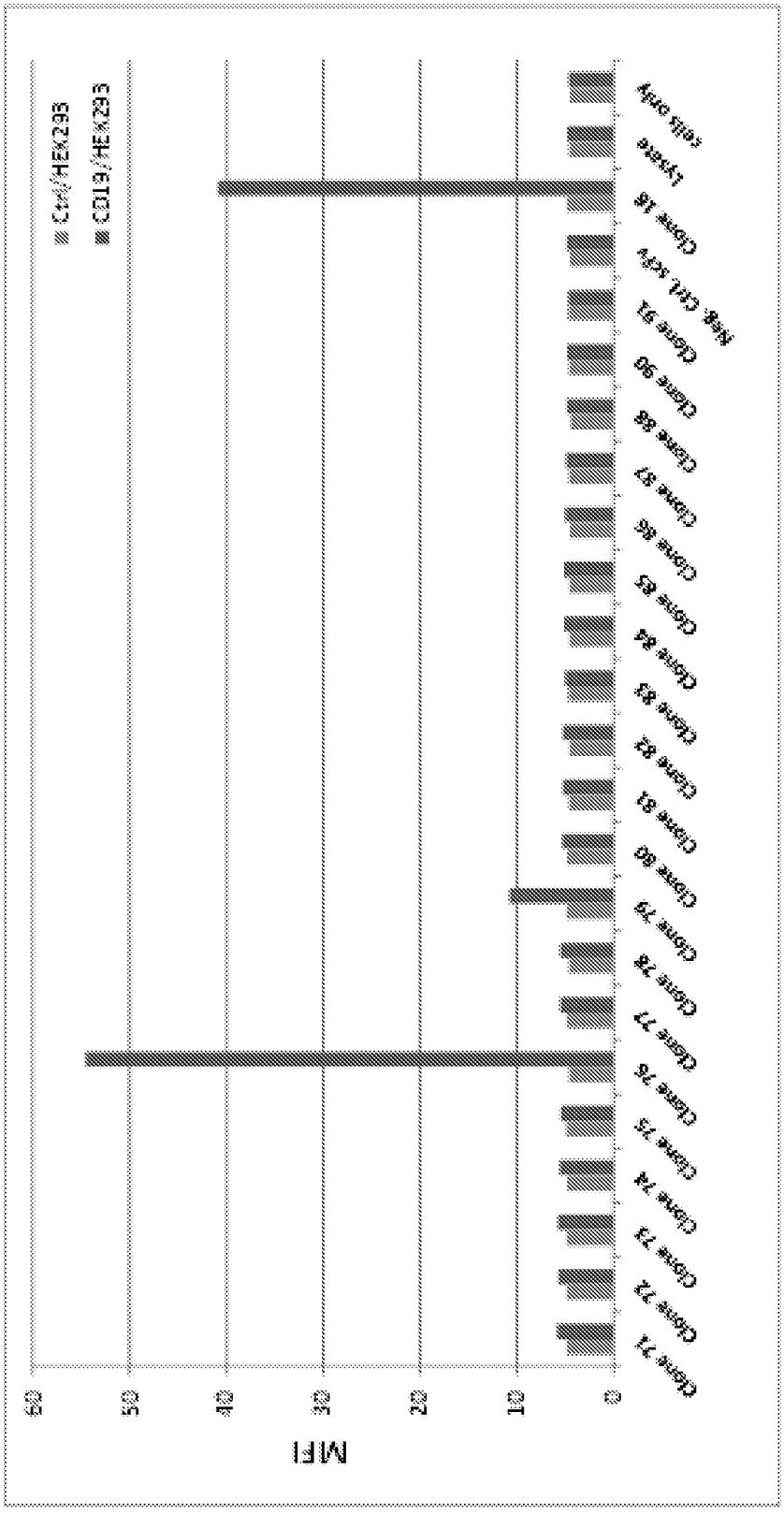

MFI
0
10
20
30
40
50
60
Cav1/HEK293
CD19/HEK293
cells only
Lysate
Clone 18
Neg. Cntl. scFv
Clone 91
Clone 90
Clone 88
Clone 87
Clone 86
Clone 85
Clone 84
Clone 83
Clone 82
Clone 81
Clone 80
Clone 79
Clone 78
Clone 77
Clone 76
Clone 75
Clone 74
Clone 73
Clone 72
Clone 71

FIGURE 1B

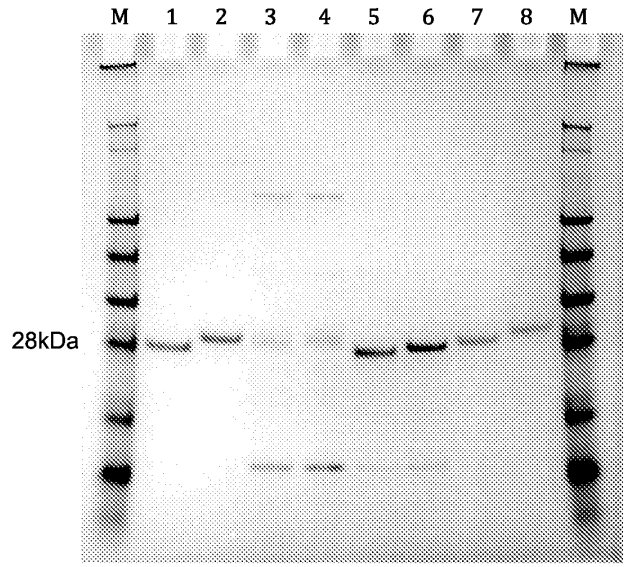


FIGURE 2

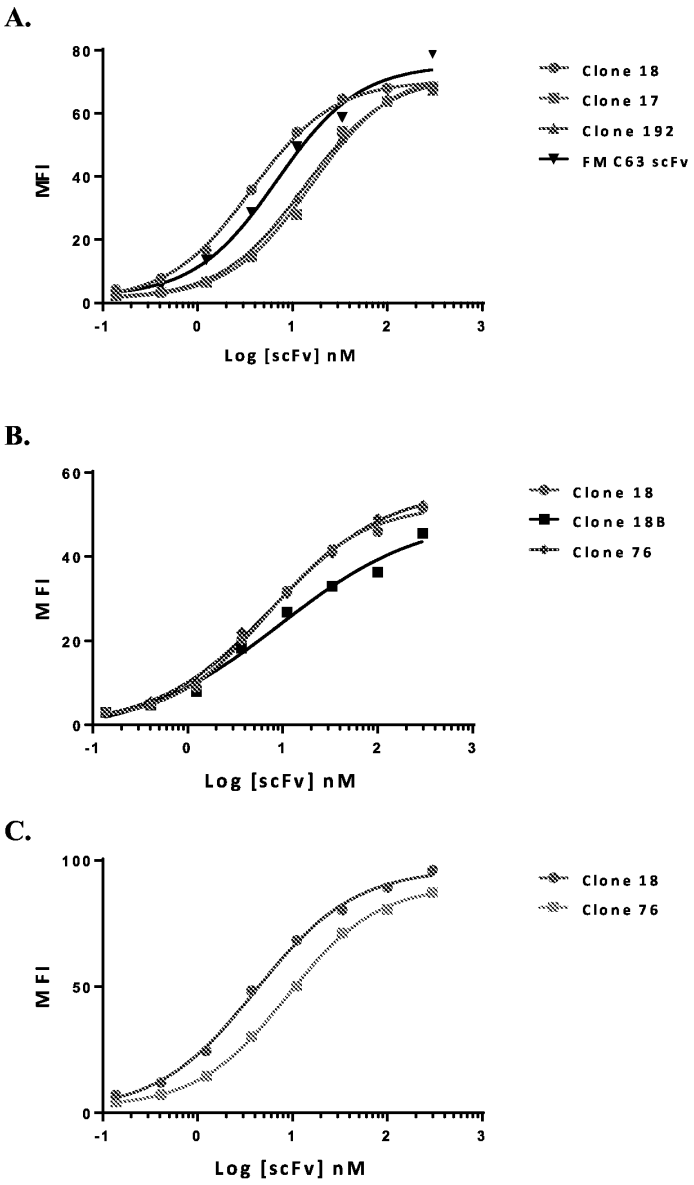

A.
MFI
Log [scFv] nM
Clone 18
Clone 17
Clone 192
FM C63 scFv
B.
MFI
Log [scFv] nM
Clone 18
Clone 18B
Clone 76
C.
MFI
Log [scFv] nM
Clone 18
Clone 76

FIGURE 3

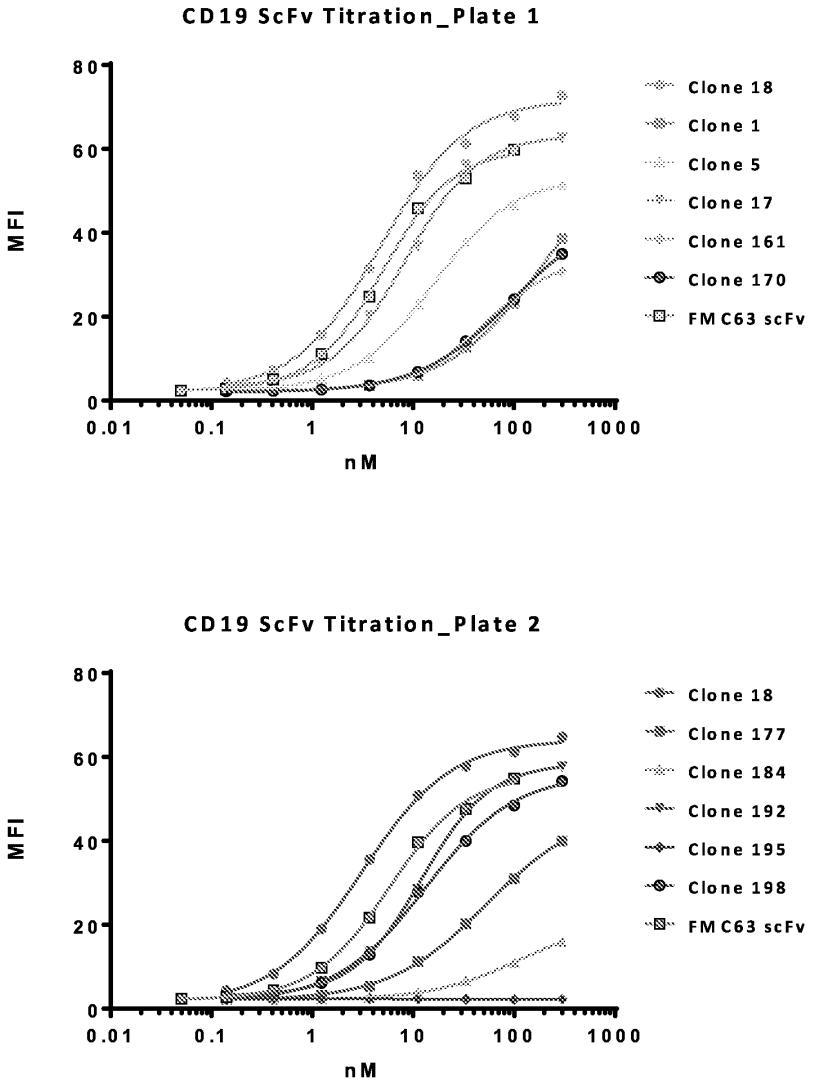
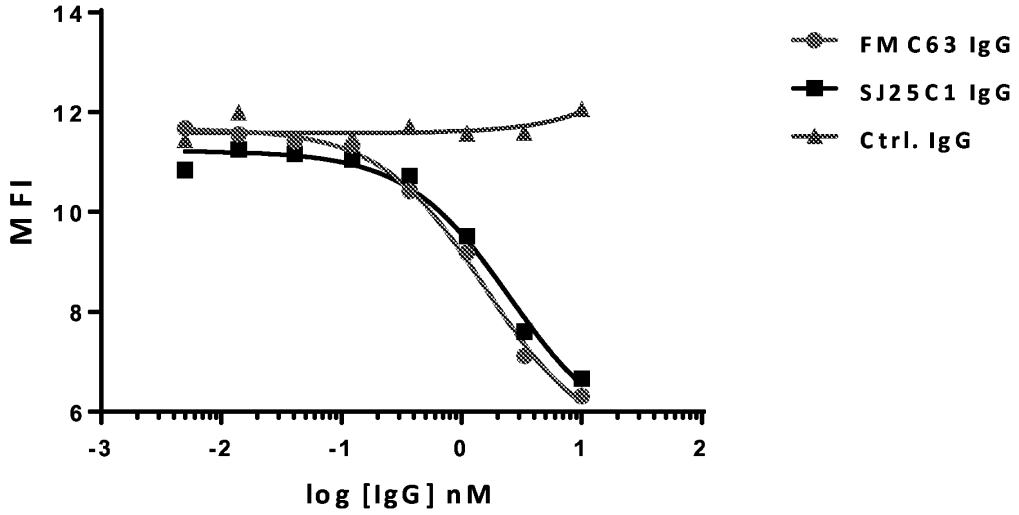

CD19 ScFv Titration_Plate 1
MFI
80
60
40
20
0
0.01
0.1
1
10
100
1000
nM
Clone 18
Clone 1
Clone 5
Clone 17
Clone 161
Clone 170
FMC63 scFv
CD19 ScFv Titration_Plate 2
MFI
80
60
40
20
0
0.01
0.1
1
10
100
1000
nM
Clone 18
Clone 177
Clone 184
Clone 192
Clone 195
Clone 198
FMC63 scFv

FIGURE 4

A.


14
12
10
8
6
MFI
-3
-2
-1
0
1
2
log [IgG] nM
FM C63 IgG
SJ25C1 IgG
Ctrl. IgG

B

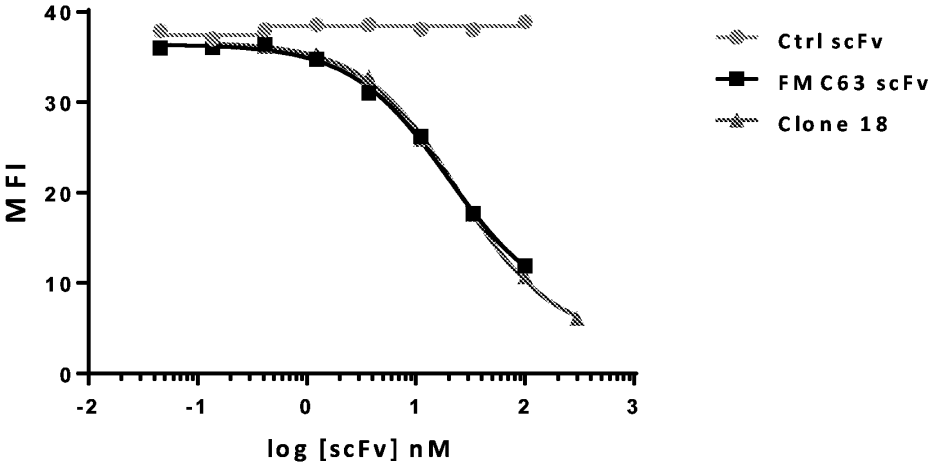

40
30
20
10
0
MFI
-2
-1
0
1
2
3
log [scFv] nM
Ctrl scFv
FM C63 scFv
Clone 18

FIGURE 5

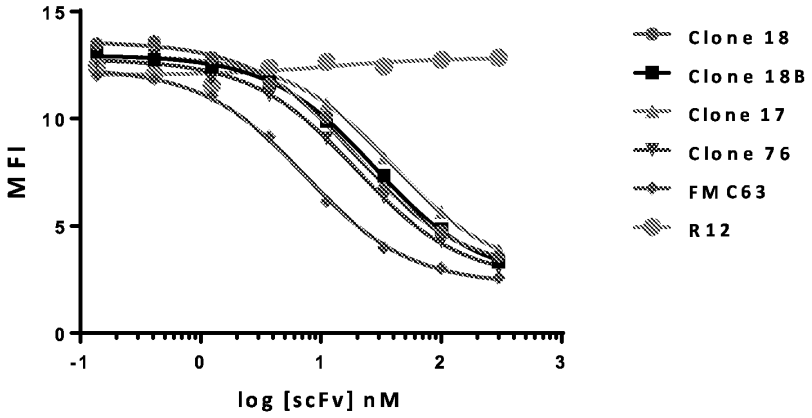
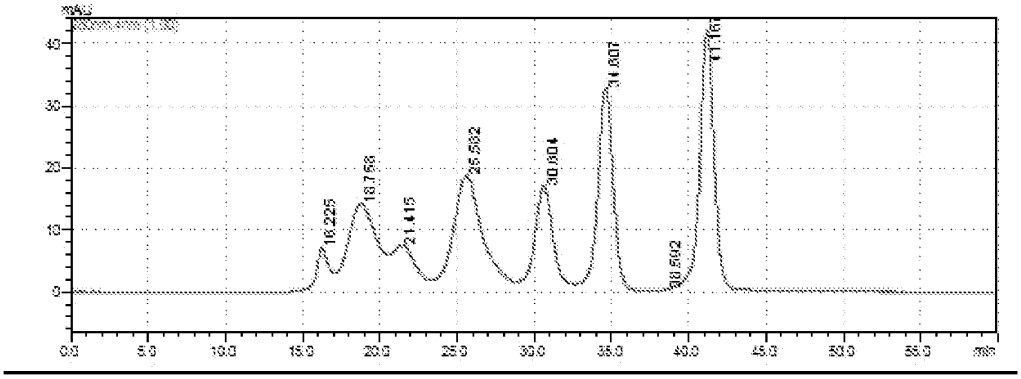

15
10
5
0
MFI
-1
0
1
2
3
log [scFv] nM
Clone 18
Clone 18B
Clone 17
Clone 76
FMC63
R12

FIGURE 6

A.


16.225
18.758
21.415
25.582
30.804
34.807
38.592
41.161
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
min

B.

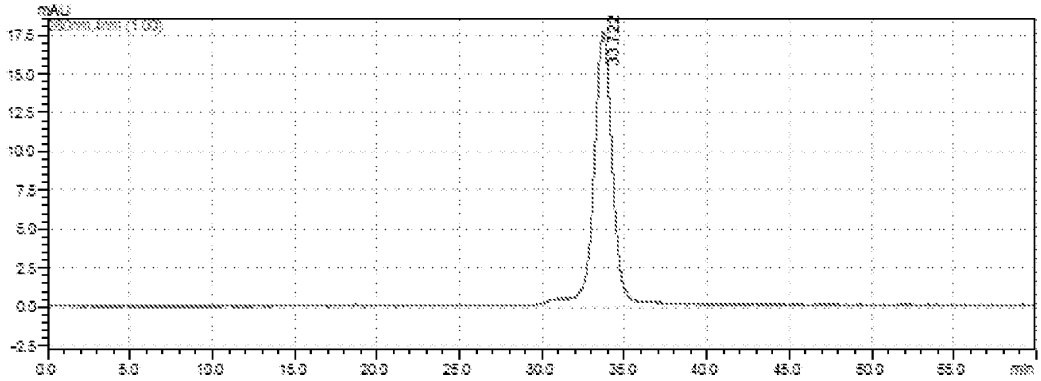

33.722
17.5
15.0
12.5
10.0
7.5
5.0
2.5
0.0
-2.5
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0
50.0
55.0
min

FIGURE 7

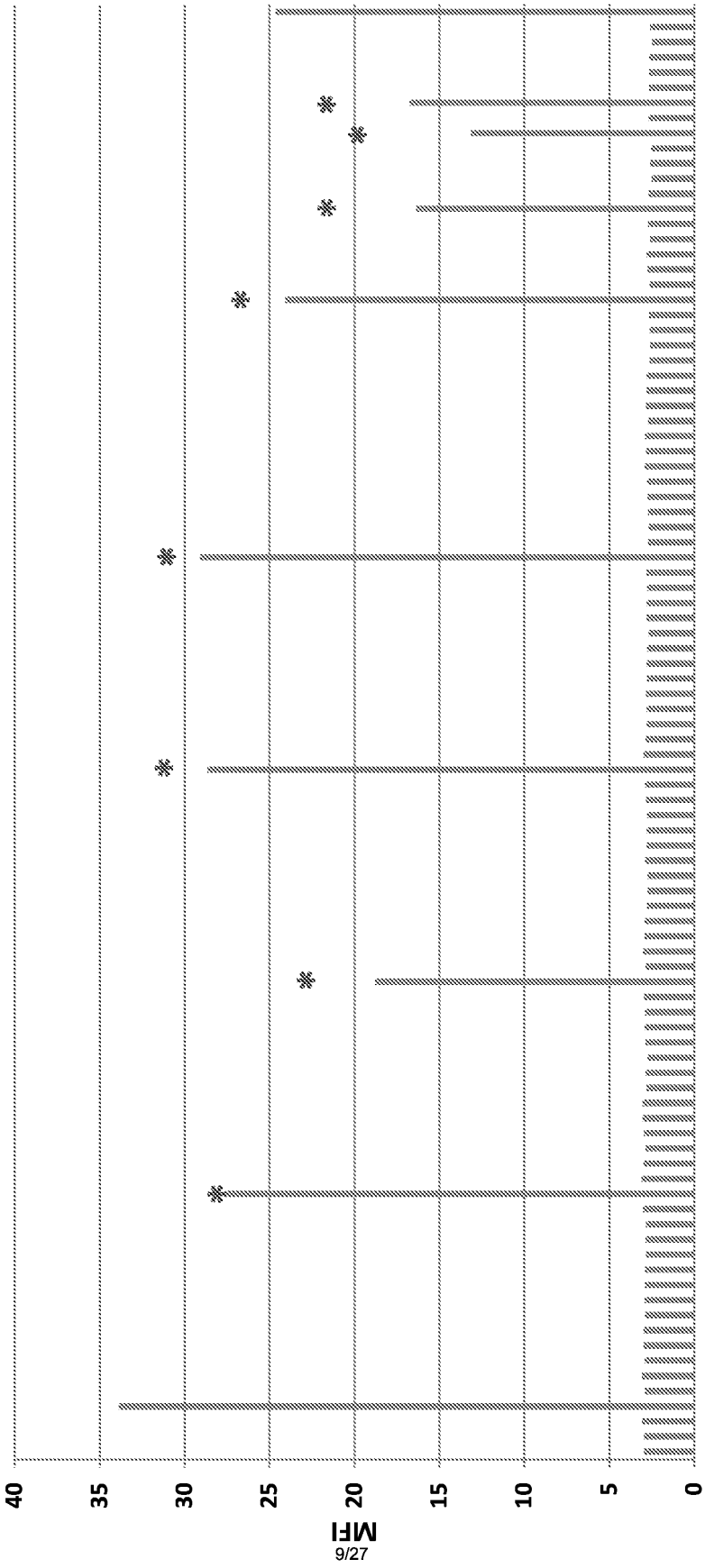


Figure 8A

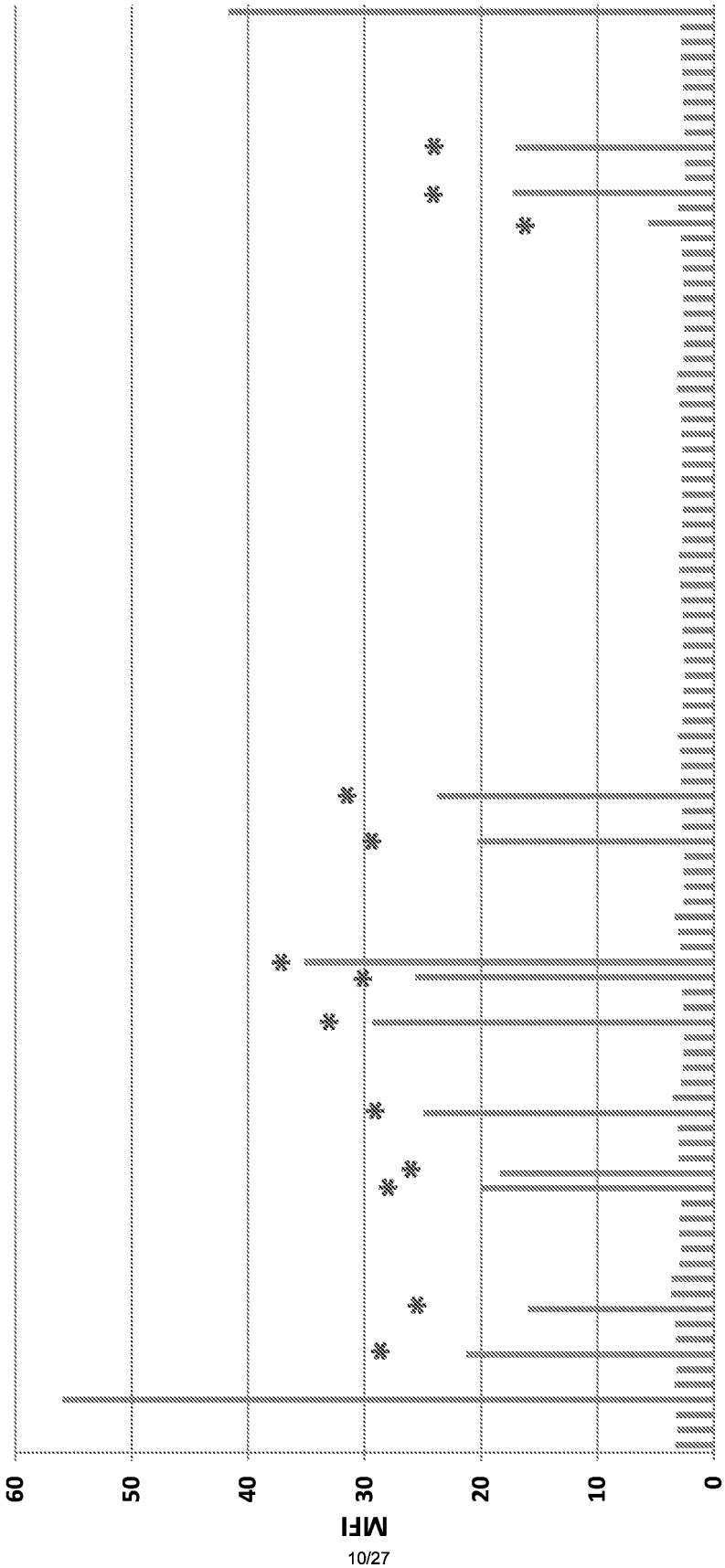


Figure 8B

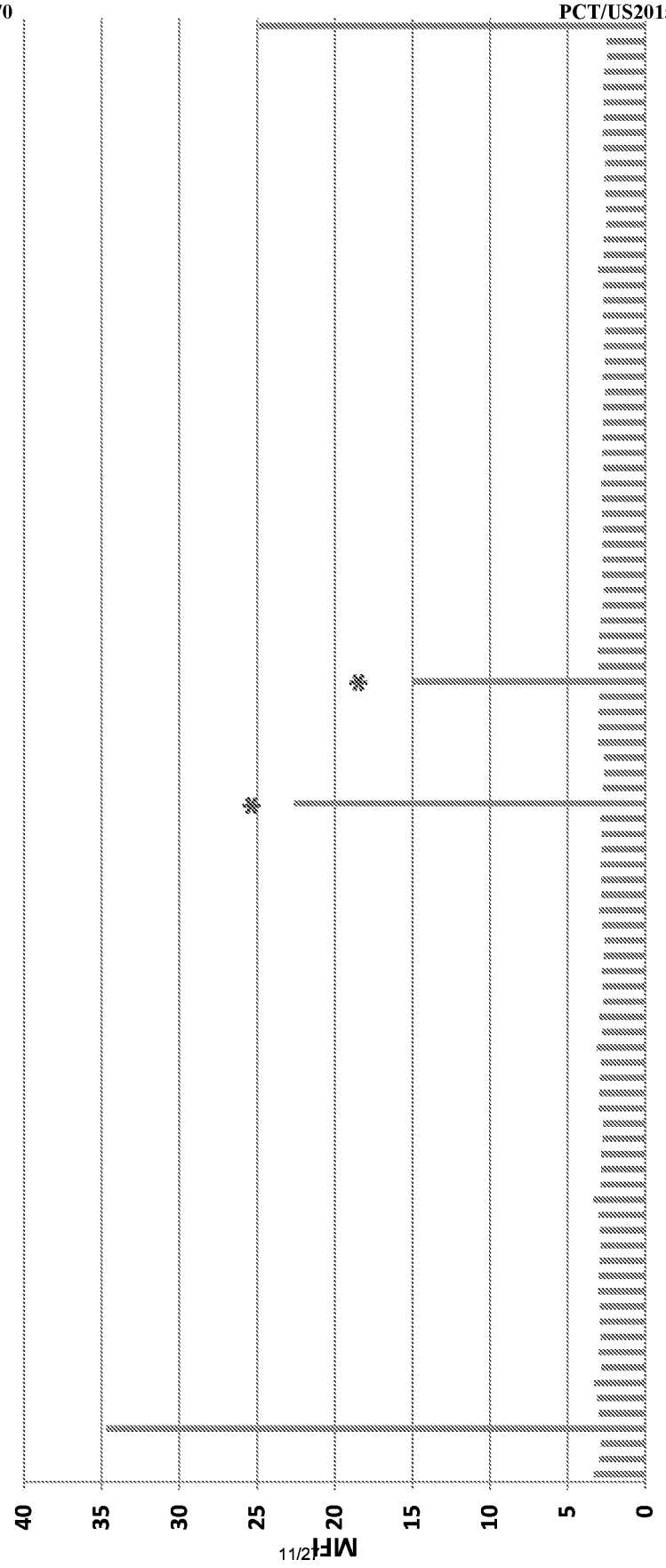


Figure 8C

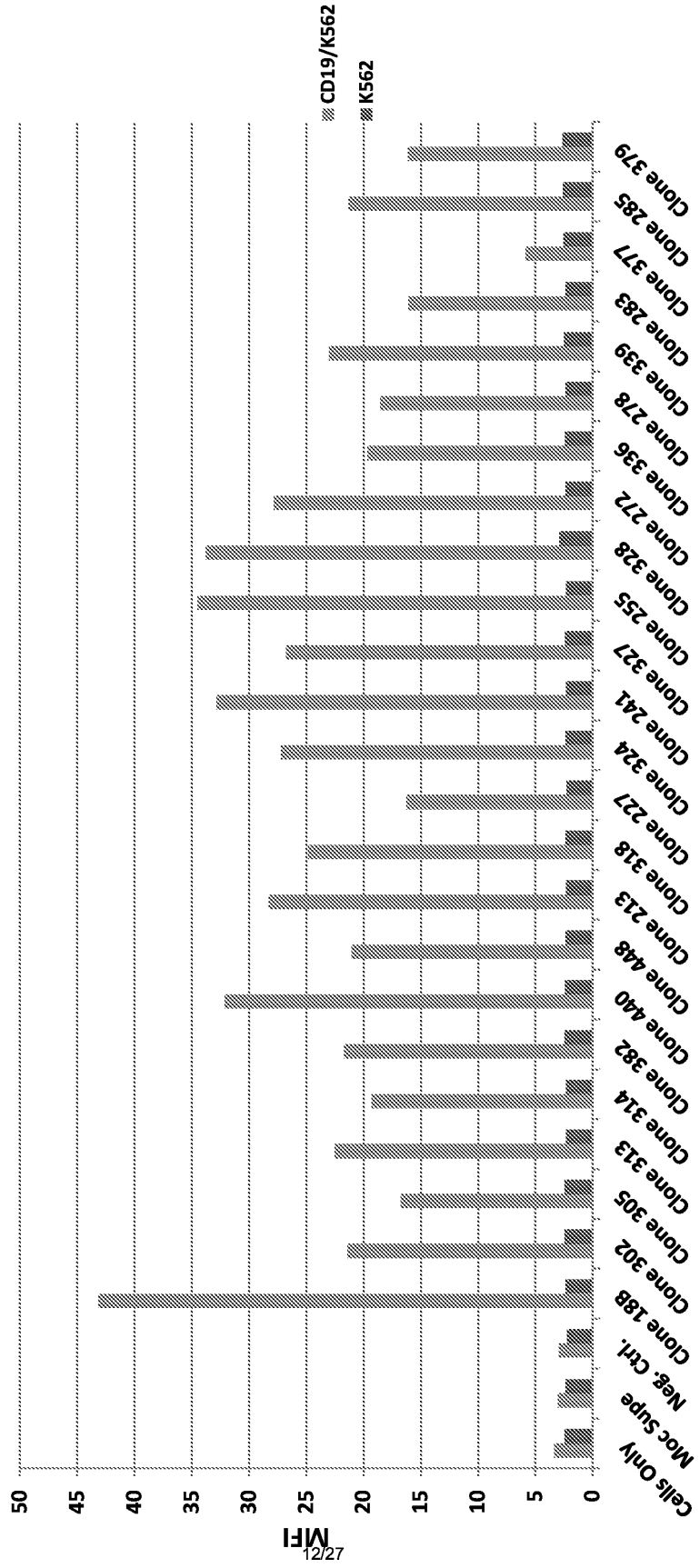

CD19/K562
K562
MFI
0
5
10
15
20
25
30
35
40
45
50
Cells Only
Moc Supe
Neg. Ctrl.
Clone 188
Clone 302
Clone 305
Clone 313
Clone 314
Clone 382
Clone 440
Clone 448
Clone 243
Clone 318
Clone 227
Clone 324
Clone 241
Clone 327
Clone 255
Clone 328
Clone 272
Clone 336
Clone 278
Clone 339
Clone 283
Clone 377
Clone 285
Clone 379

Figure 8D

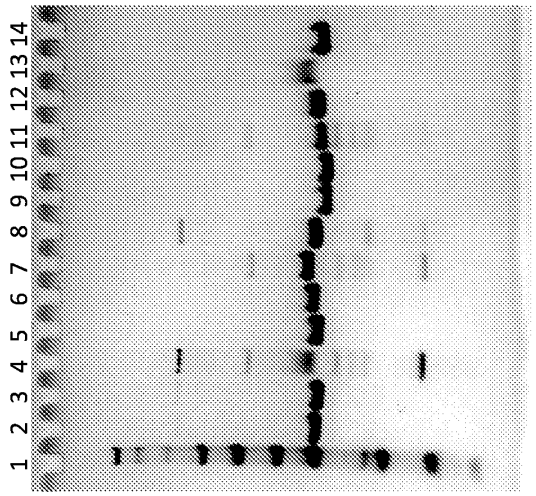


Figure 9

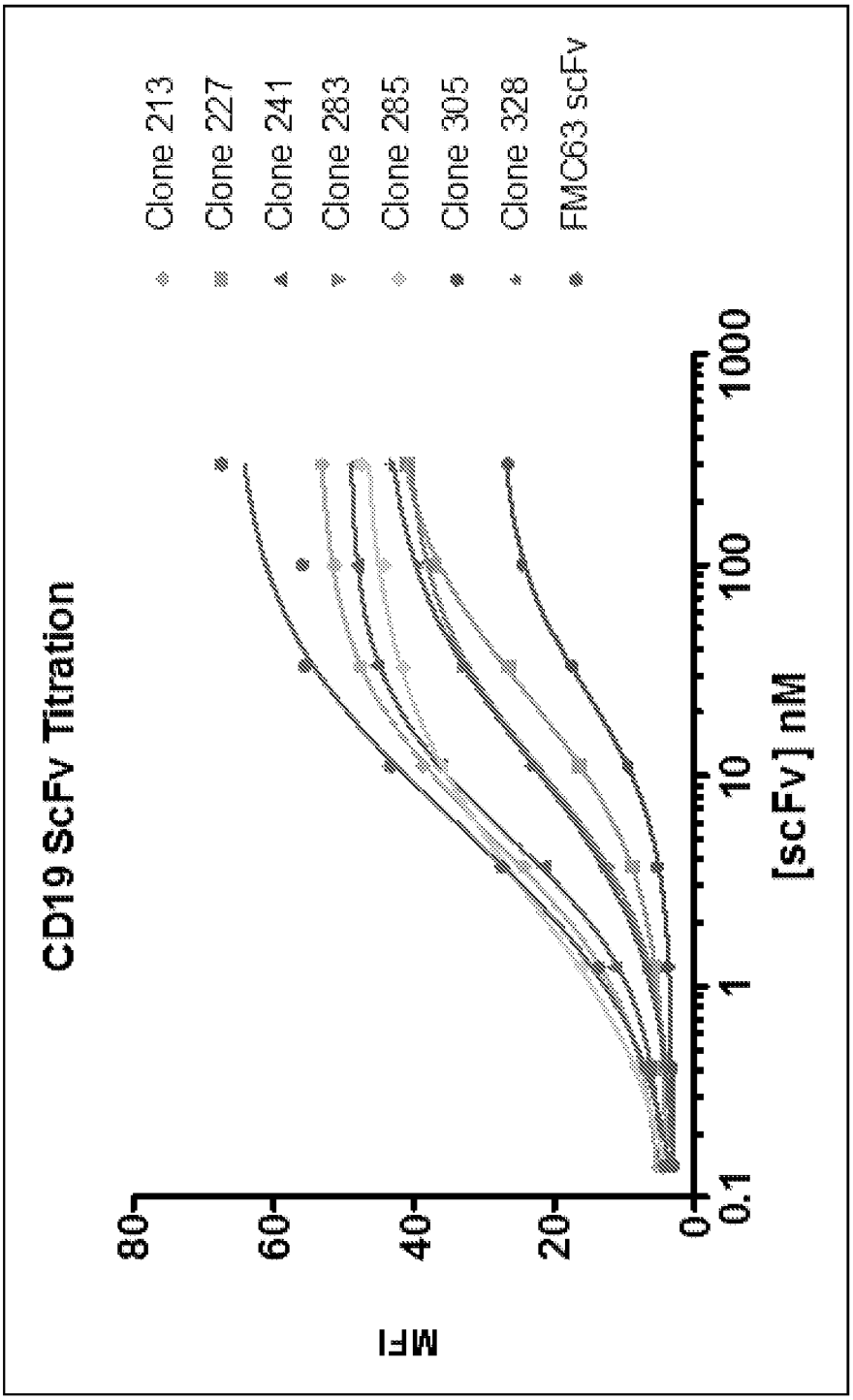

CD19 ScFv Titration
Clone 213
Clone 227
Clone 241
Clone 283
Clone 285
Clone 305
Clone 328
FMC63 scFv
MFI
0
20
40
60
80
0.1
1
10
100
1000
[scFv] nM

Figure 10A

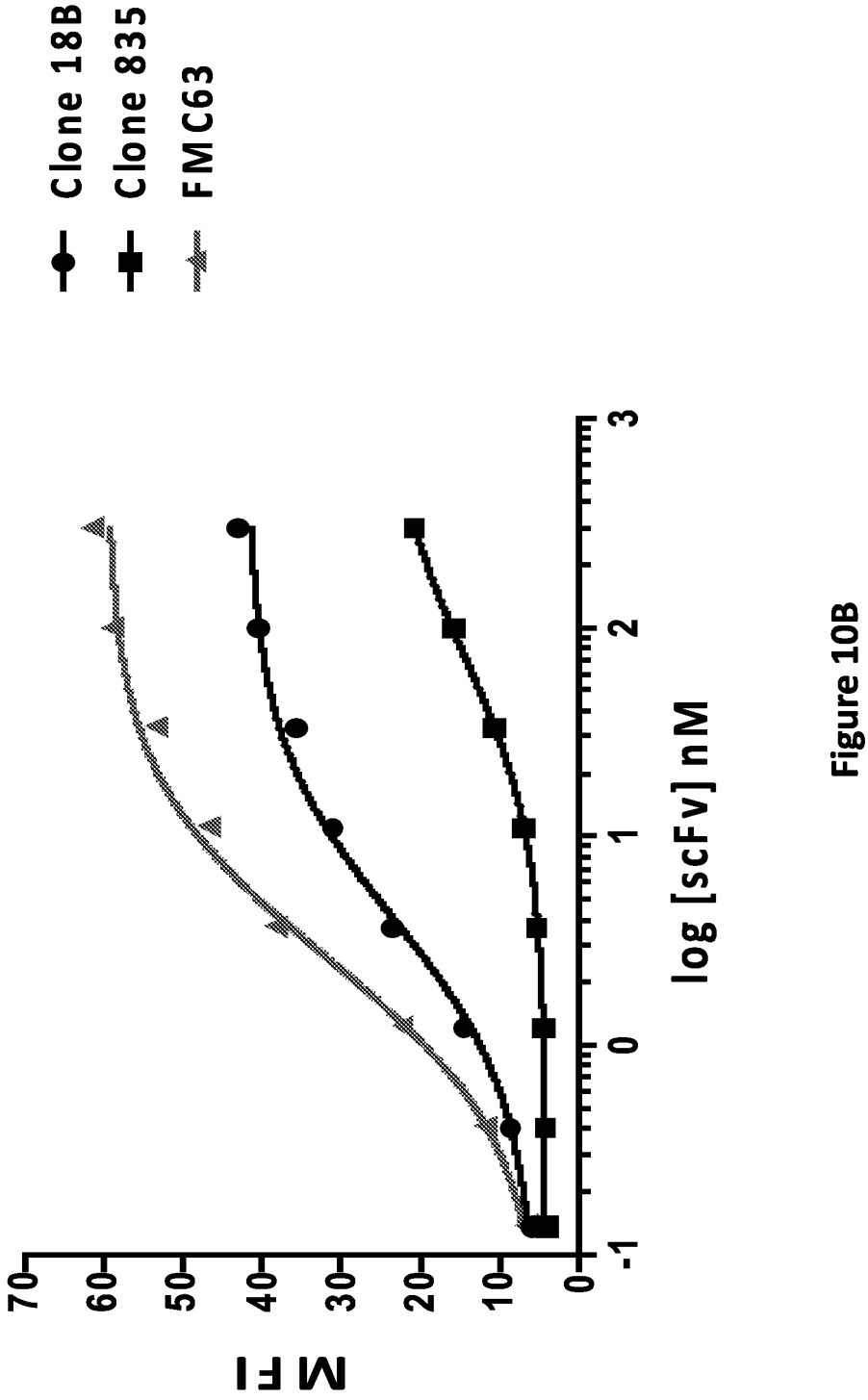

Clone 18B
Clone 835
FMC63
MFI
70
60
50
40
30
20
10
0
-1
0
1
2
3
log [scFv] nM

Figure 10B

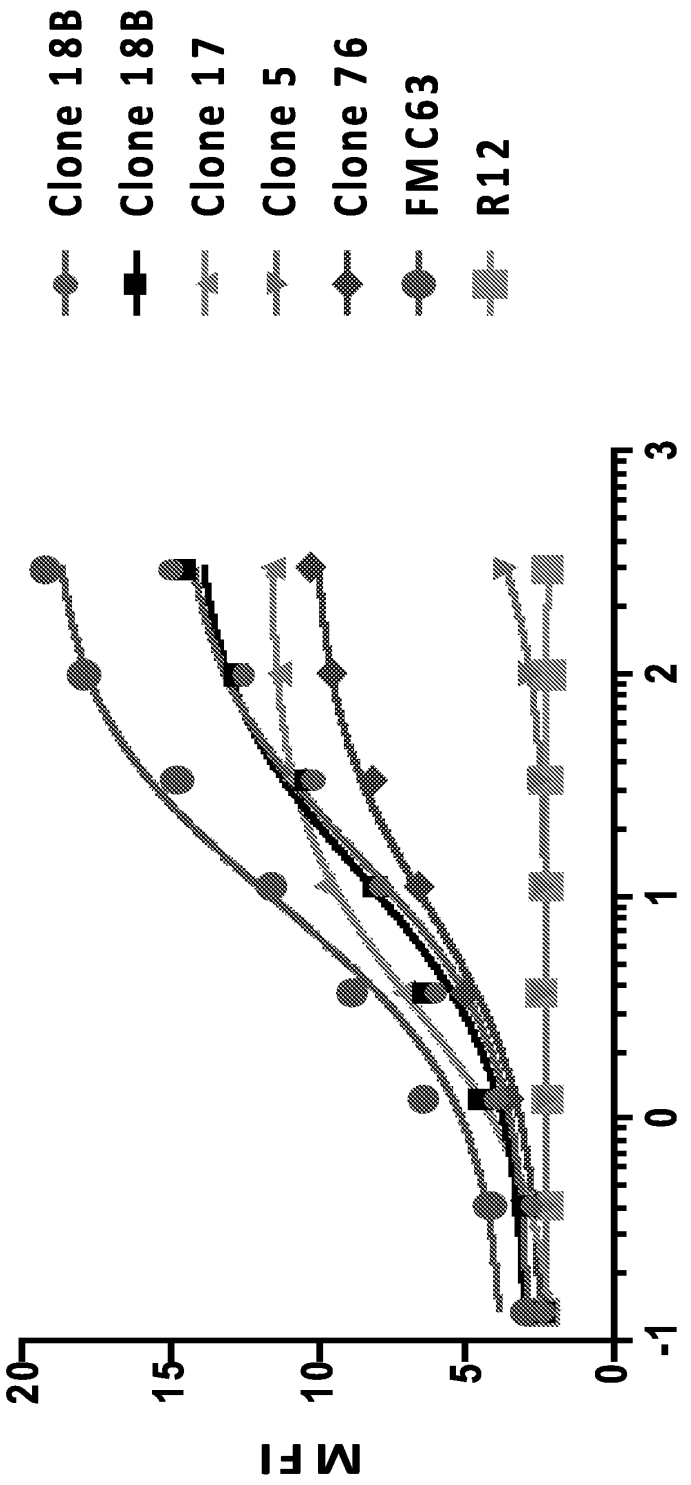

Clone 18B
Clone 18B
Clone 17
Clone 5
Clone 76
FMC63
R12
MFI
20
15
10
5
0
-1
0
1
2
3
log[scFv] nM

Figure 10C

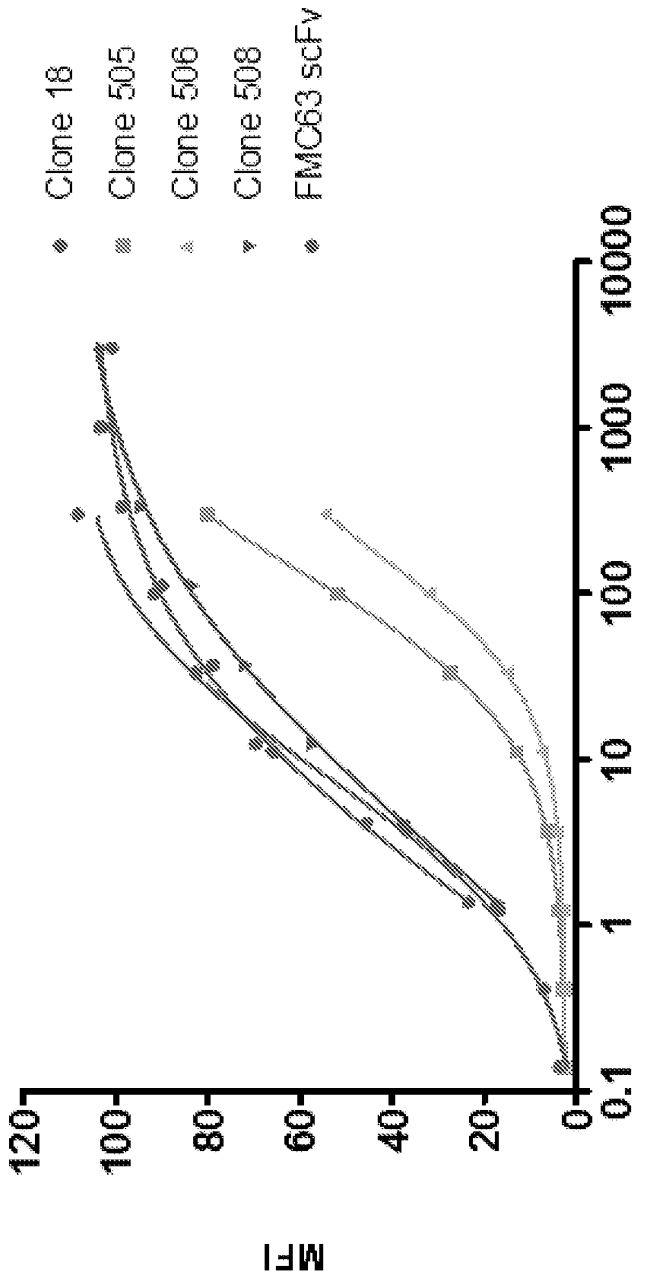

Clone 18
Clone 505
Clone 506
Clone 508
FMC63 scFv
MFI
120
100
80
60
40
20
0
0.1
1
10
100
1000
10000
[scFv] nM

Figure 10D

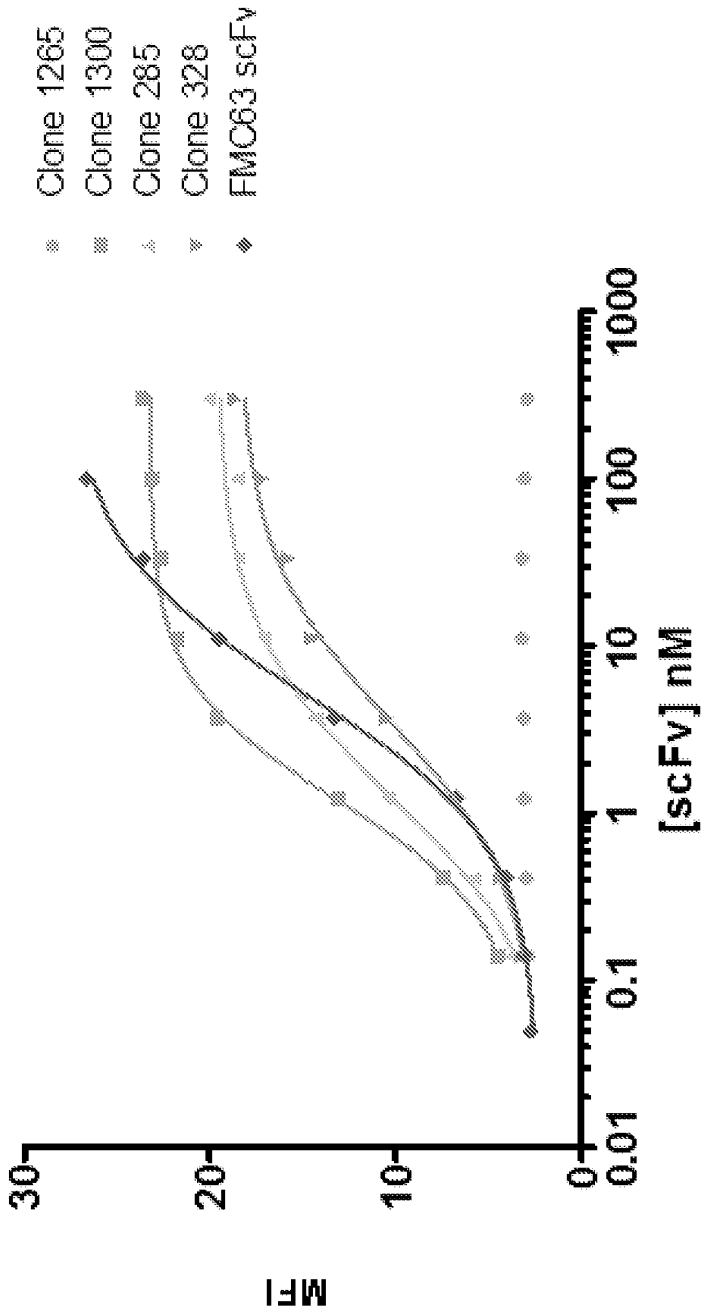

Clone 1265
Clone 1300
Clone 285
Clone 328
FMC63 scFv
MFI
30
20
10
0
0.01
0.1
1
10
100
1000
[scFv] nM

Figure 10E

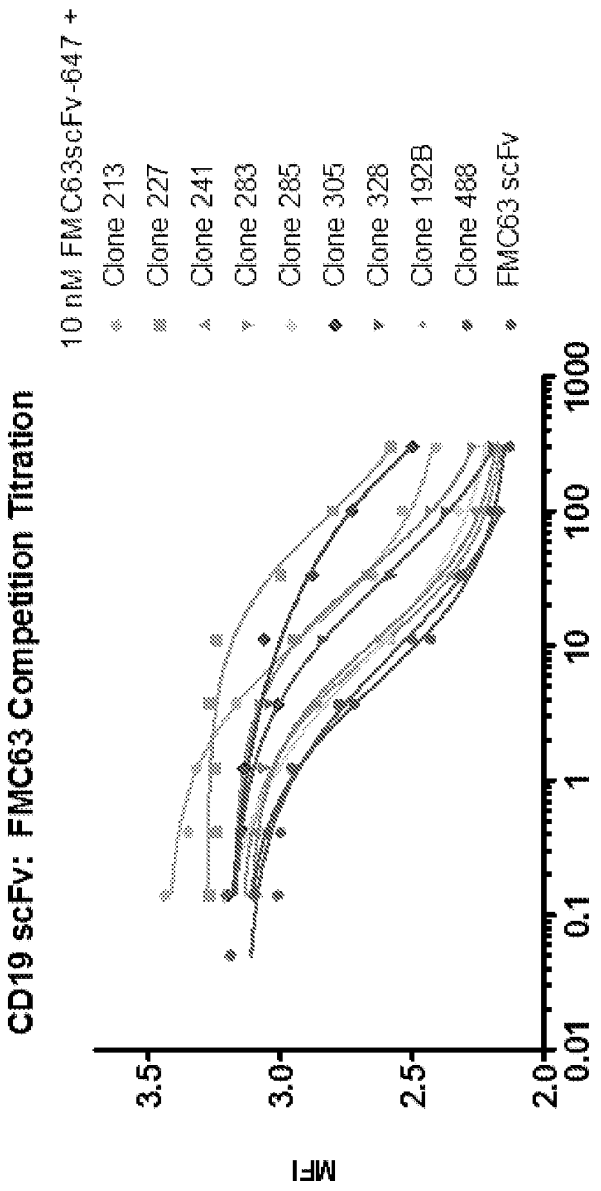

CD19 scFv: FMC63 Competition Titration
10 nM FMC63scFv-647 +
Clone 213
Clone 227
Clone 241
Clone 283
Clone 285
Clone 305
Clone 328
Clone 192B
Clone 488
FMC63 scFv
MFI
3.5
3.0
2.5
2.0
0.01
0.1
1
10
100
1000
[scFv] nM

Figure 11

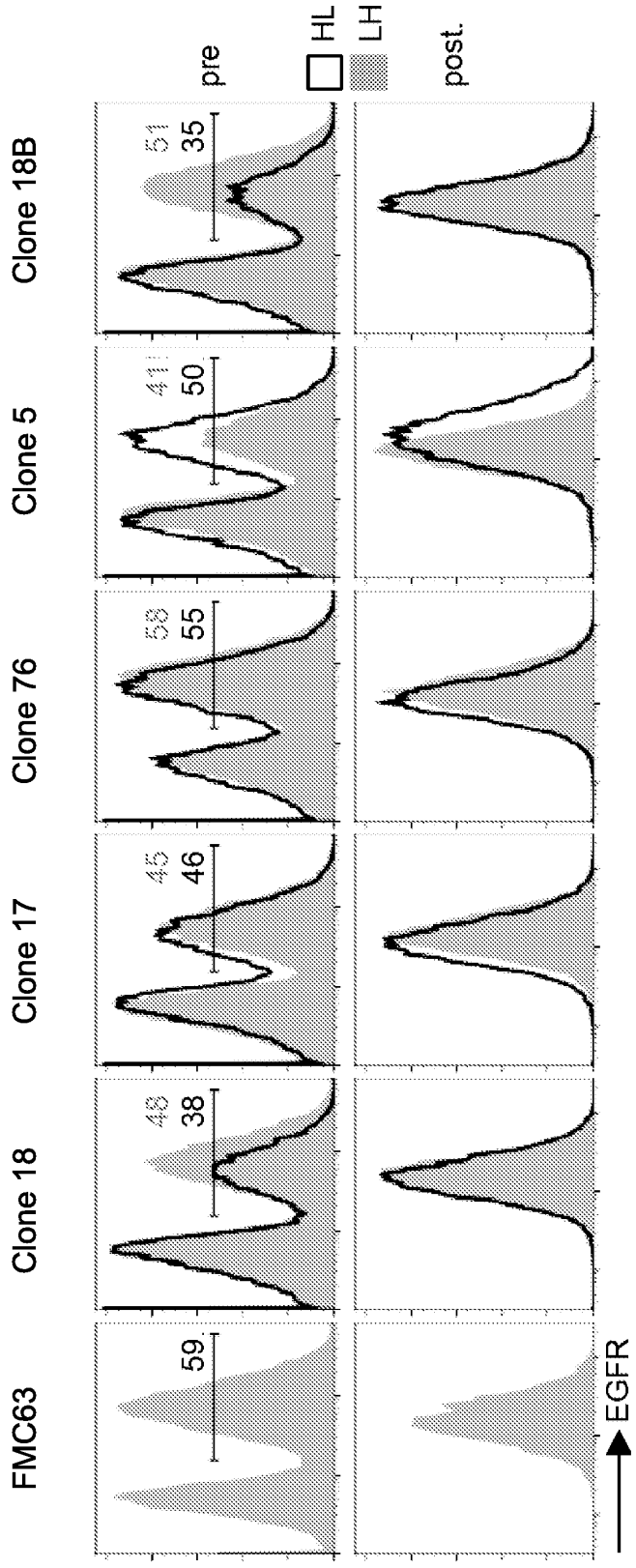

FMC63
Clone 18
Clone 17
Clone 76
Clone 5
Clone 18B
pre
post.
HL
LH
59
48
38
45
46
58
55
41
50
51
35
EGFR

FIGURE 12A

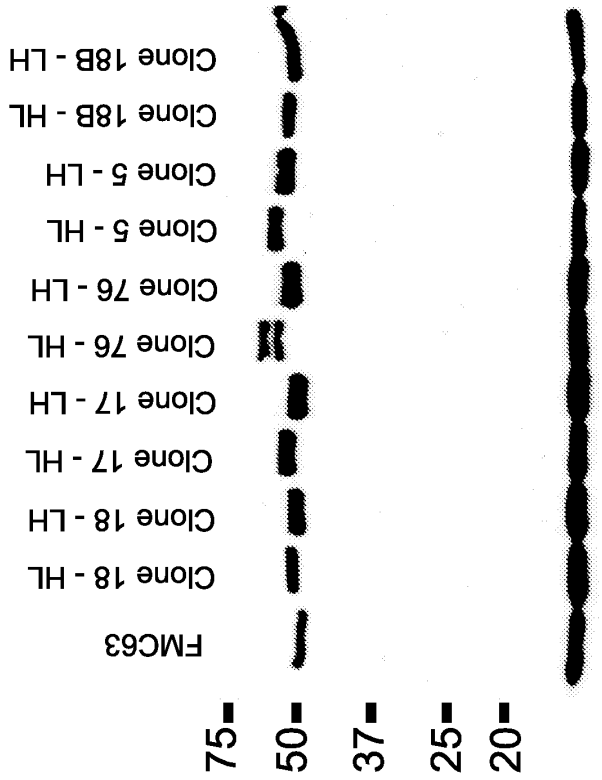

75
50
37
25
20
FMC63
Clone 18 - HL
Clone 18 - LH
Clone 17 - HL
Clone 17 - LH
Clone 76 - HL
Clone 76 - LH
Clone 5 - HL
Clone 5 - LH
Clone 18B - HL
Clone 18B - LH

FIGURE 12B

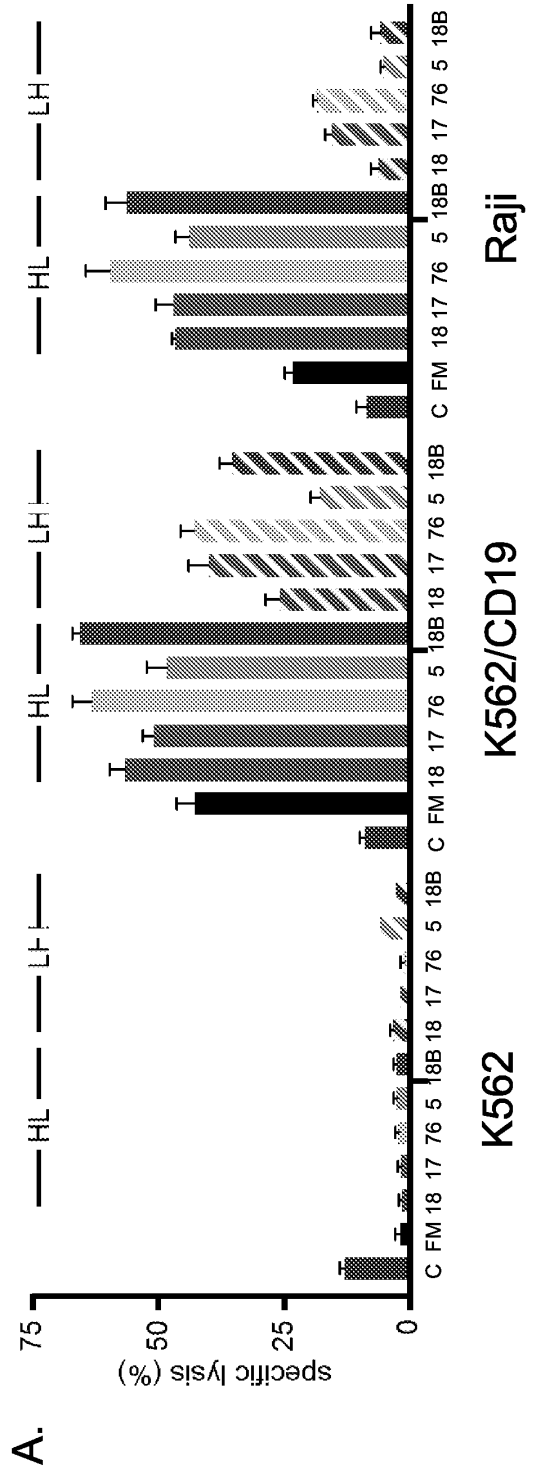

A.
specific lysis (%)
75
50
25
0
HL
LH
C FM 18 17 76 5 18B 18 17 76 5 18B
K562
K562/CD19
Raji
B.
specific lysis (%)
60
40
20
0
C FM 18 17 76 5 18B
Chronic lymphocytic leukemia (CLL) cells

FIGURE 13

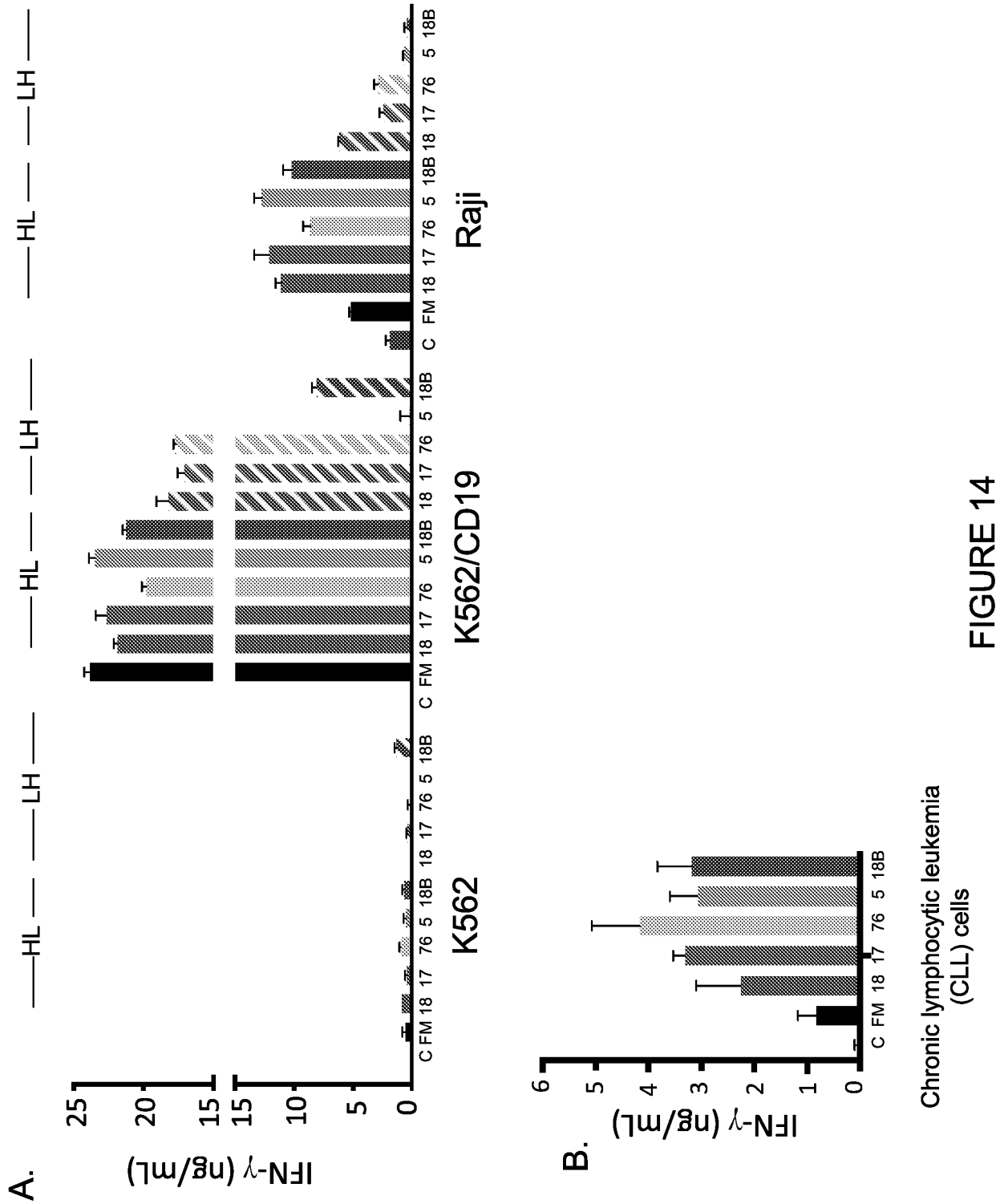

A.
HL
LH
HL
LH
HL
LH
IFN-γ (ng/mL)
25
20
15
15
10
5
0
C FM 18 17 76 5 18B 18 17 76 5 18B C FM 18 17 76 5 18B 18 17 76 5 18B
K562
K562/CD19
Raji
B.
IFN-γ (ng/mL)
6
5
4
3
2
1
0
C FM 18 17 76 5 18B
Chronic lymphocytic leukemia (CLL) cells

FIGURE 14

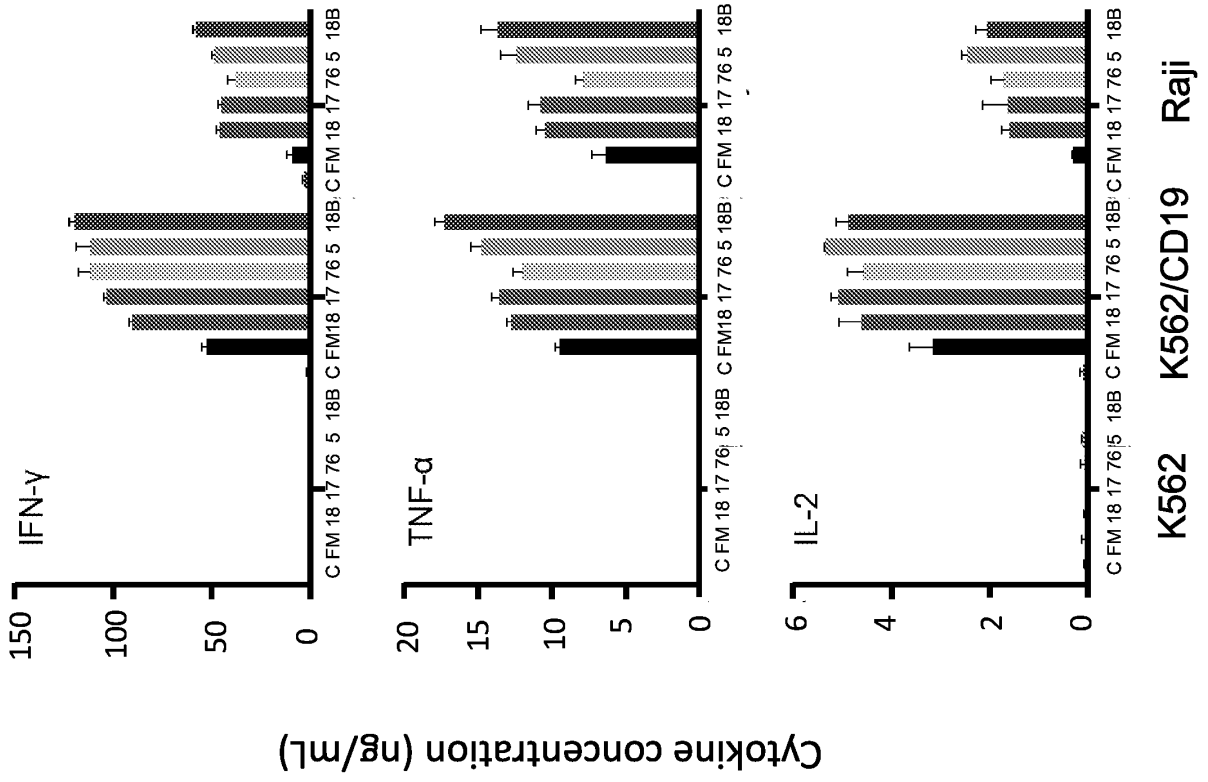

IFN-γ
TNF-α
IL-2
Cytokine concentration (ng/mL)
C FM 18 17 76 5 18B C FM18 17 76 5 18B C FM 18 17 76 5 18B
150
100
50
0
20
15
10
5
0
6
4
2
0
K562
K562/CD19
Raji

FIGURE 15

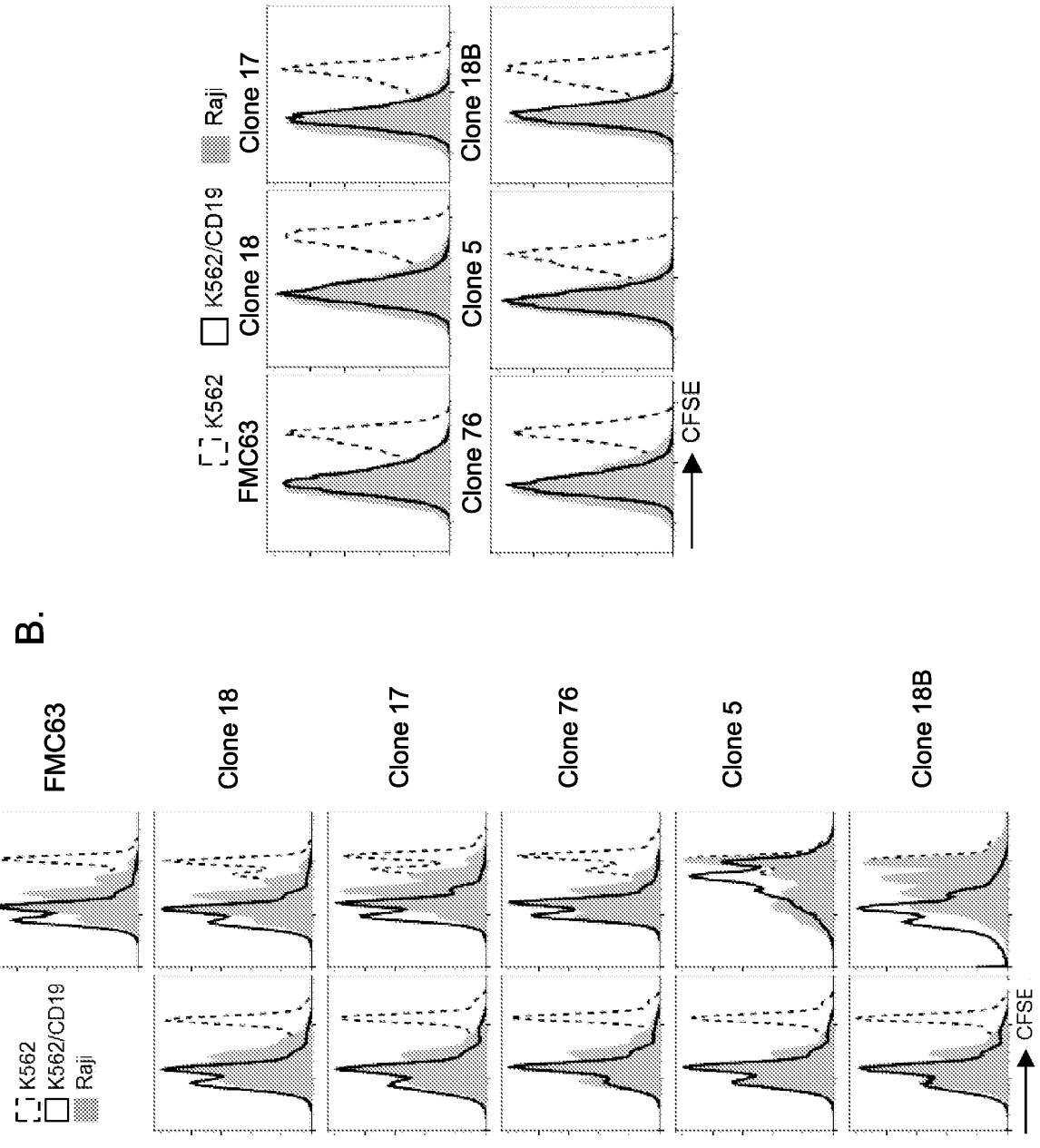

A.
HL
LH
K562
K562/CD19
Raji
FMC63
Clone 18
Clone 17
Clone 76
Clone 5
Clone 18B
CFSE
B.
K562
K562/CD19
Raji
FMC63
Clone 18
Clone 17
Clone 76
Clone 5
Clone 18B
CFSE

FIGURE 16

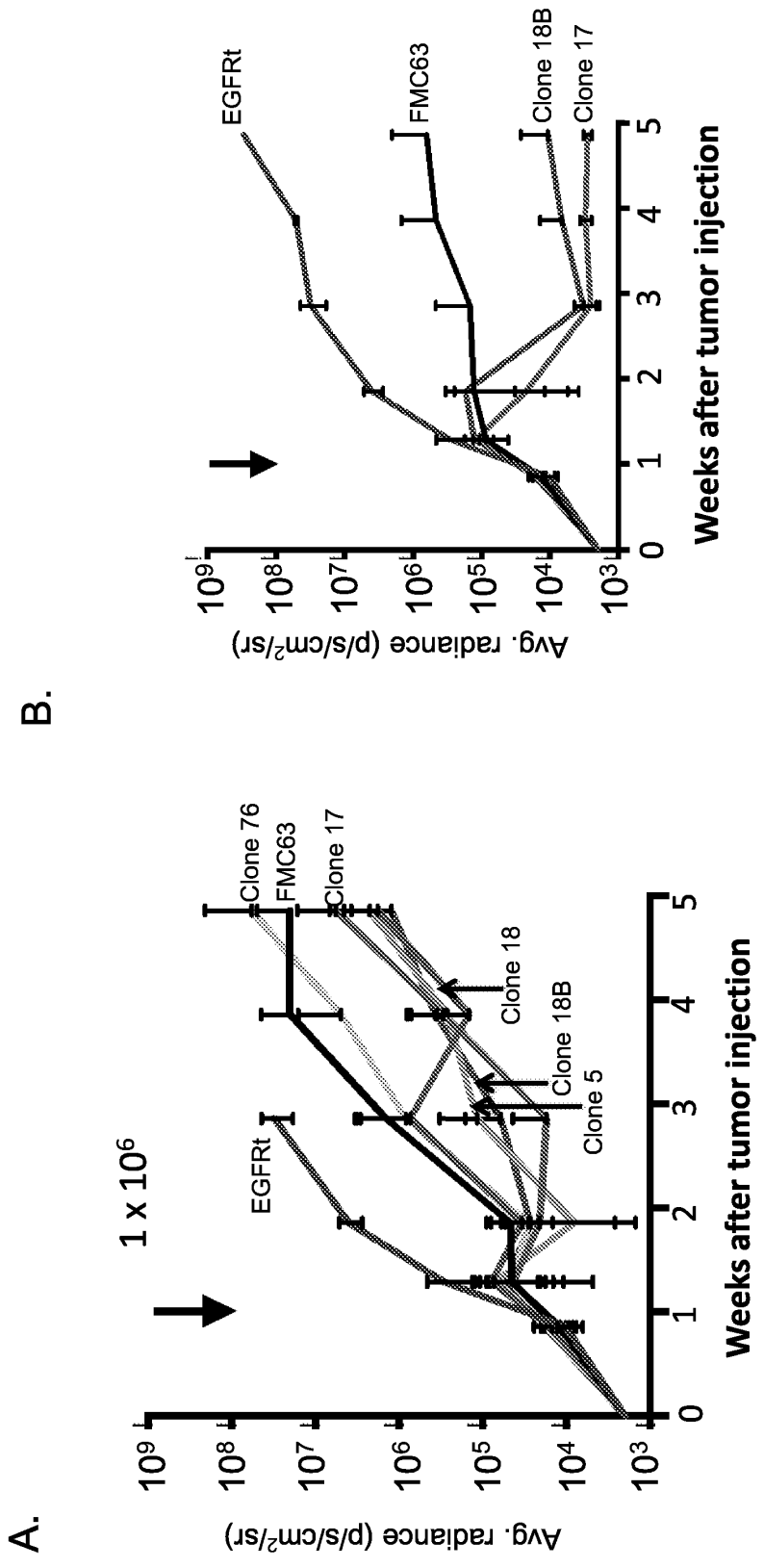

A.
1 x 10^6
EGFRt
Clone 76
FMC63
Clone 17
Clone 18
Clone 18B
Clone 5
Avg. radiance (p/s/cm²/sr)
Weeks after tumor injection
B.
EGFRt
FMC63
Clone 18B
Clone 17
Avg. radiance (p/s/cm²/sr)
Weeks after tumor injection

FIGURE 17

A.

```
V1: HPKGPKS-LLSLELKDDRPARDMWVMETGLLLPRATAQDAGKYYCHRGNLTMSFHLEITARPVLWHWLLRTGGWK
V2: RPKGPKSSLLSLELKDDRPDRDMWVVDTGLLLTRATAQDAGKYYCHRGNLTMSFHLEITARPVLWHWLLRTGGWK
V3: HPKGPKS-LLSLELKDDRPARDMWVMETGLLLPRATAQDAGKYYCHRGNWTKSFYLEITARPALWHWLLRIGGWK
    :****** *********** *****::*****.*************** * **:*******.******* ****
```

B.

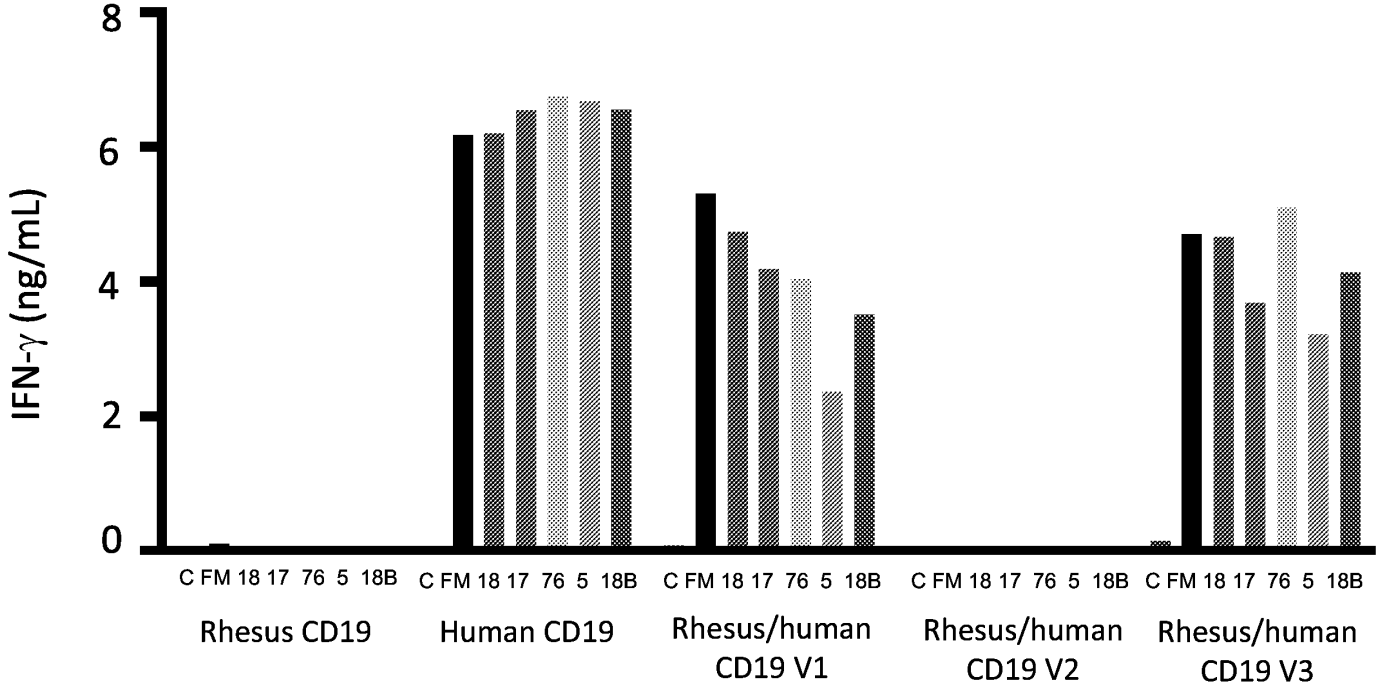


FIGURE 18