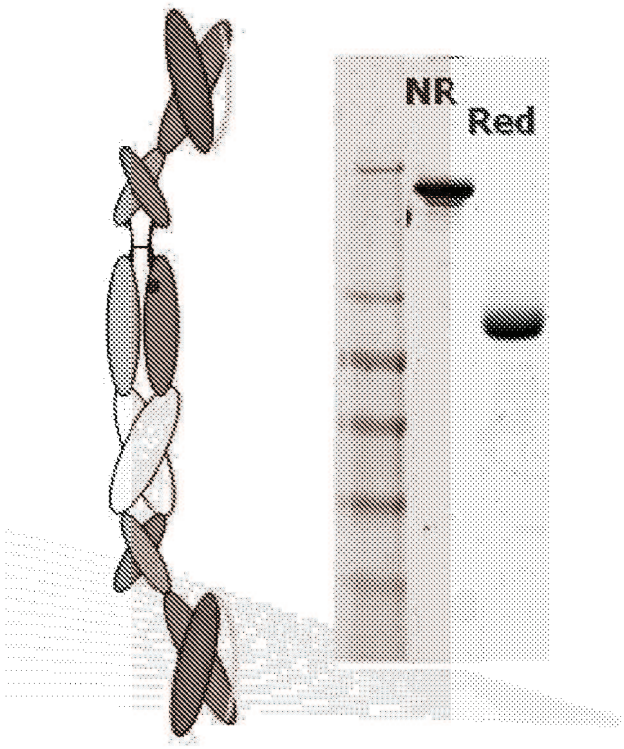


FIG. 1

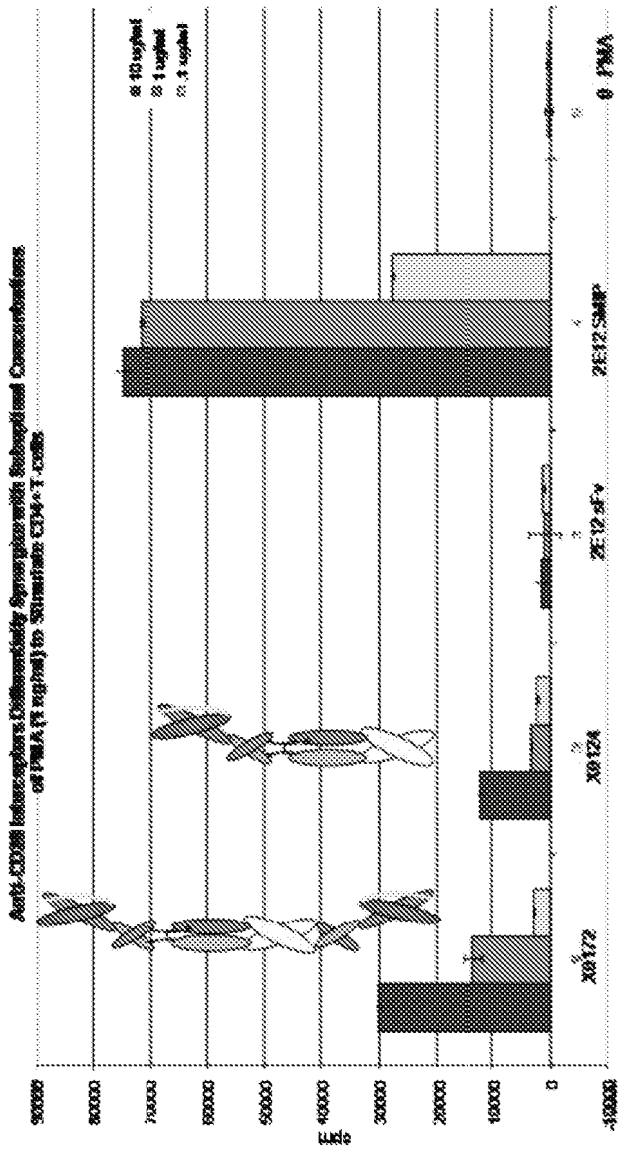

Anti-CD38 Internalization Differentially Synergizes with Suboptimal Concentrations of PMA (1 ng/ml) to Stimulate CD4+ T cells
100 ng/ml
1 ng/ml
0.1 ng/ml
0 PMA
X9172
X9124
2E12 sFv
2E12 SMIP
(Isotype)
MFI
90000
80000
70000
60000
50000
40000
30000
20000
10000
0
-10000

FIG. 2

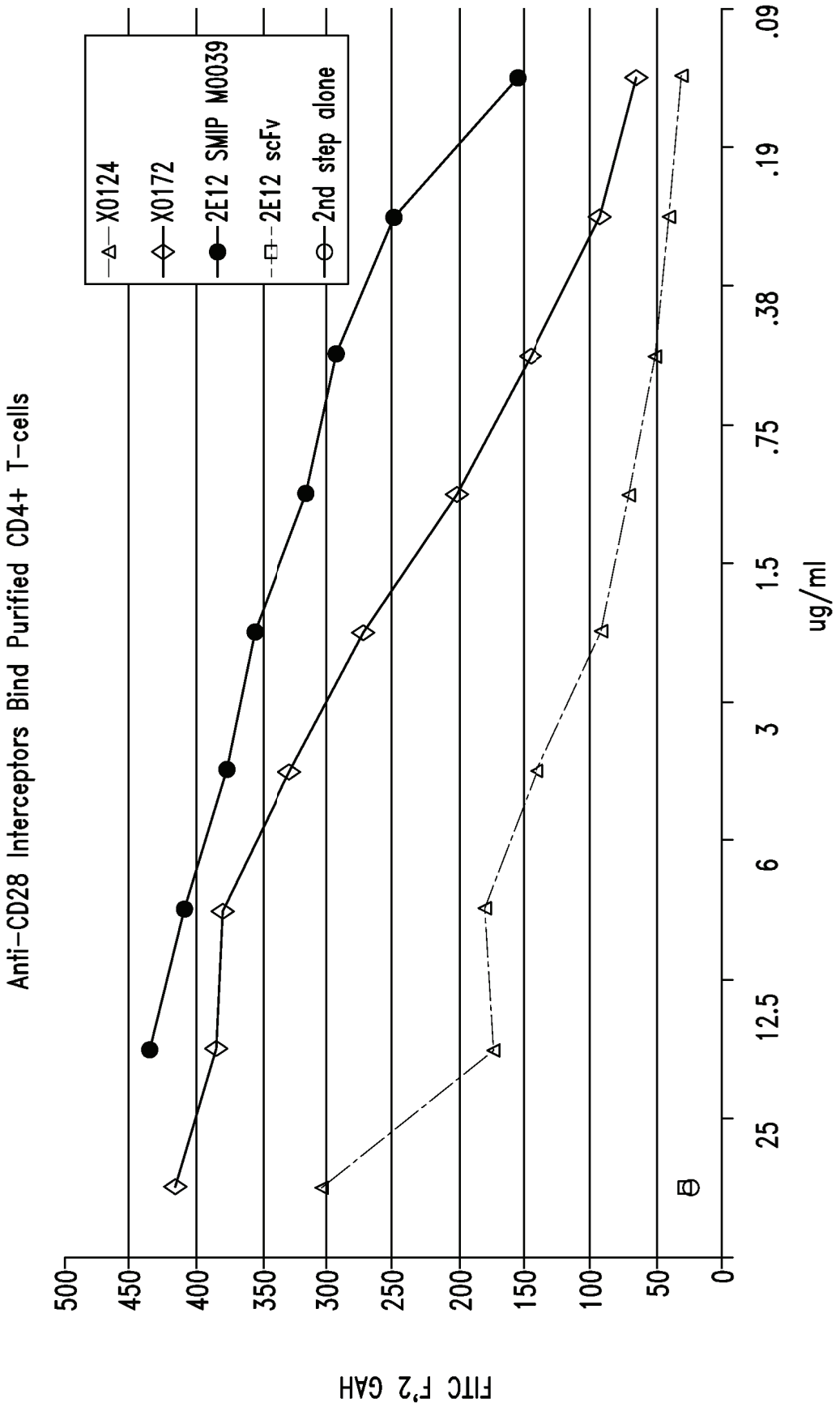

Anti-CD28 Interceptors Bind Purified CD4+ T-cells
X0124
X0172
2E12 SMIP M0039
2E12 scFv
2nd step alone
FITC F'2 GAH
500
450
400
350
300
250
200
150
100
50
0
25
12.5
6
3
1.5
.75
.38
.19
.09
ug/ml

FIG. 3

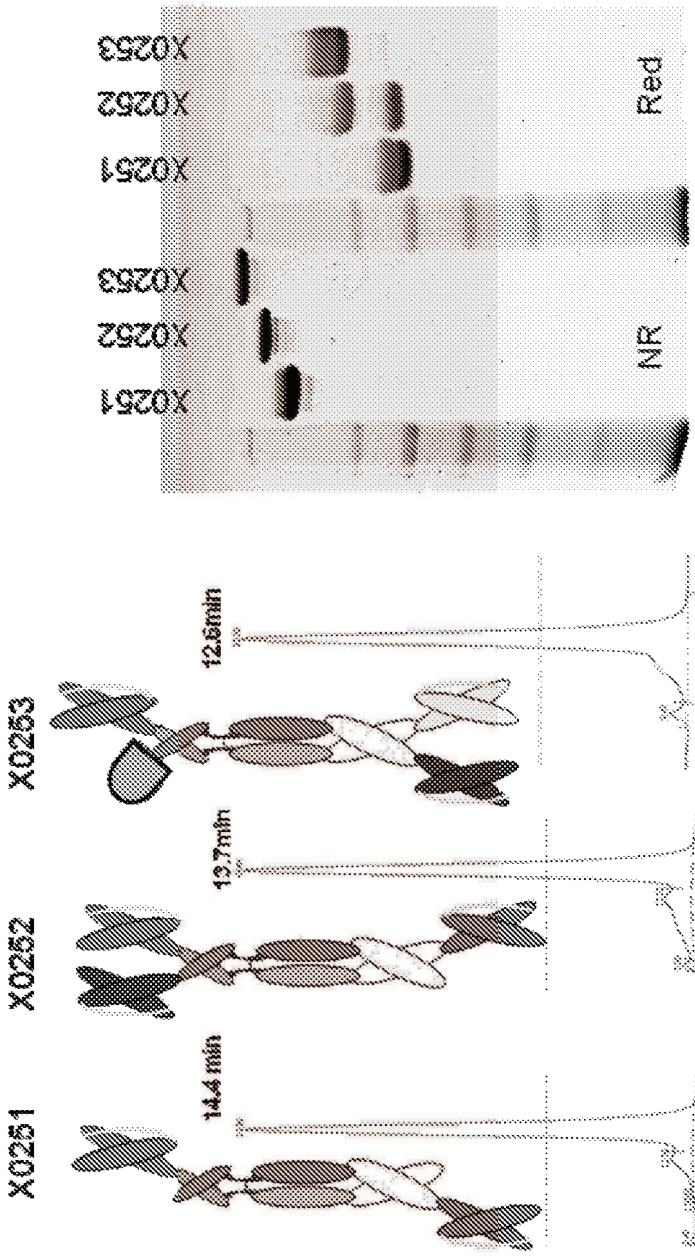

X0253
X0252
X0251
Red
NR
X0253
X0252
X0251
12.6min
13.7min
14.4 min
85% POI
85% POI
94% POI

FIG. 4

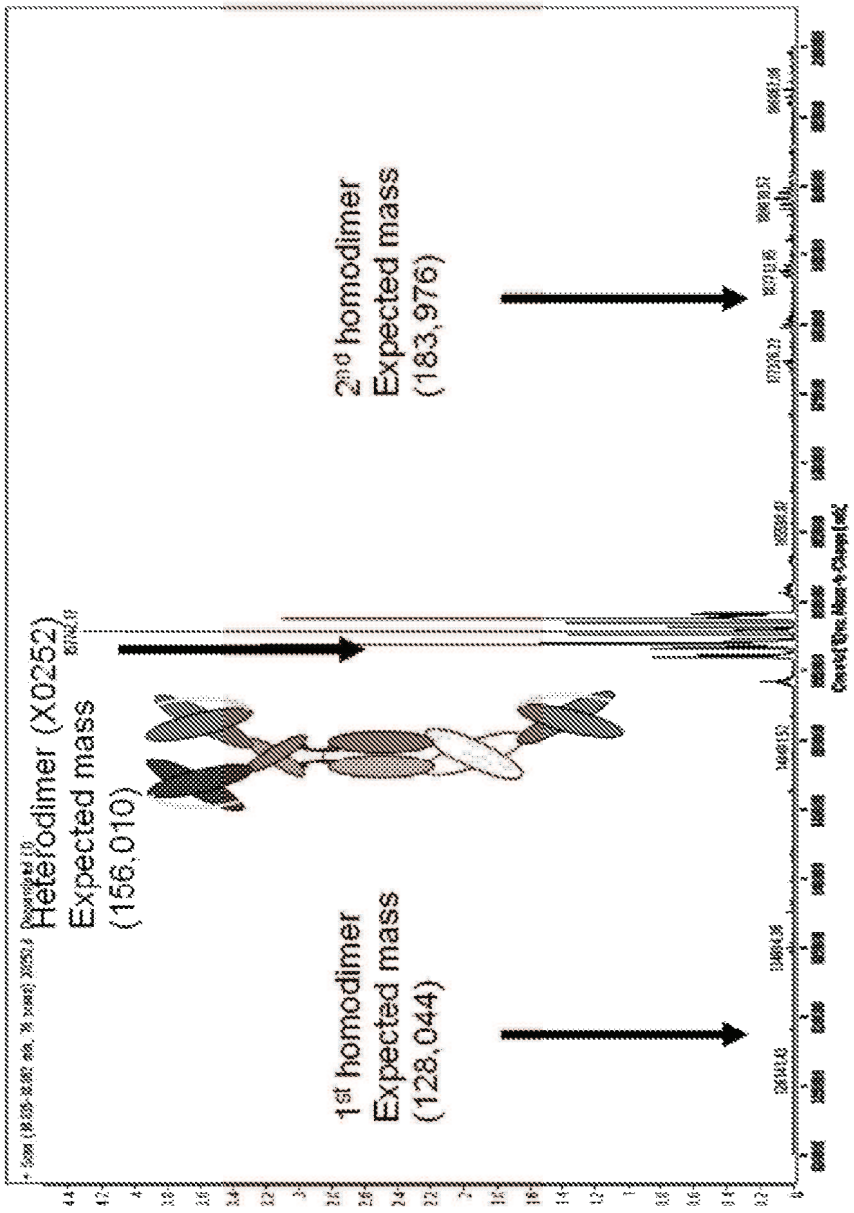

Heterodimer (X0252)
Expected mass
(156,010)
1st homodimer
Expected mass
(128,044)
2nd homodimer
Expected mass
(183,976)

FIG. 5

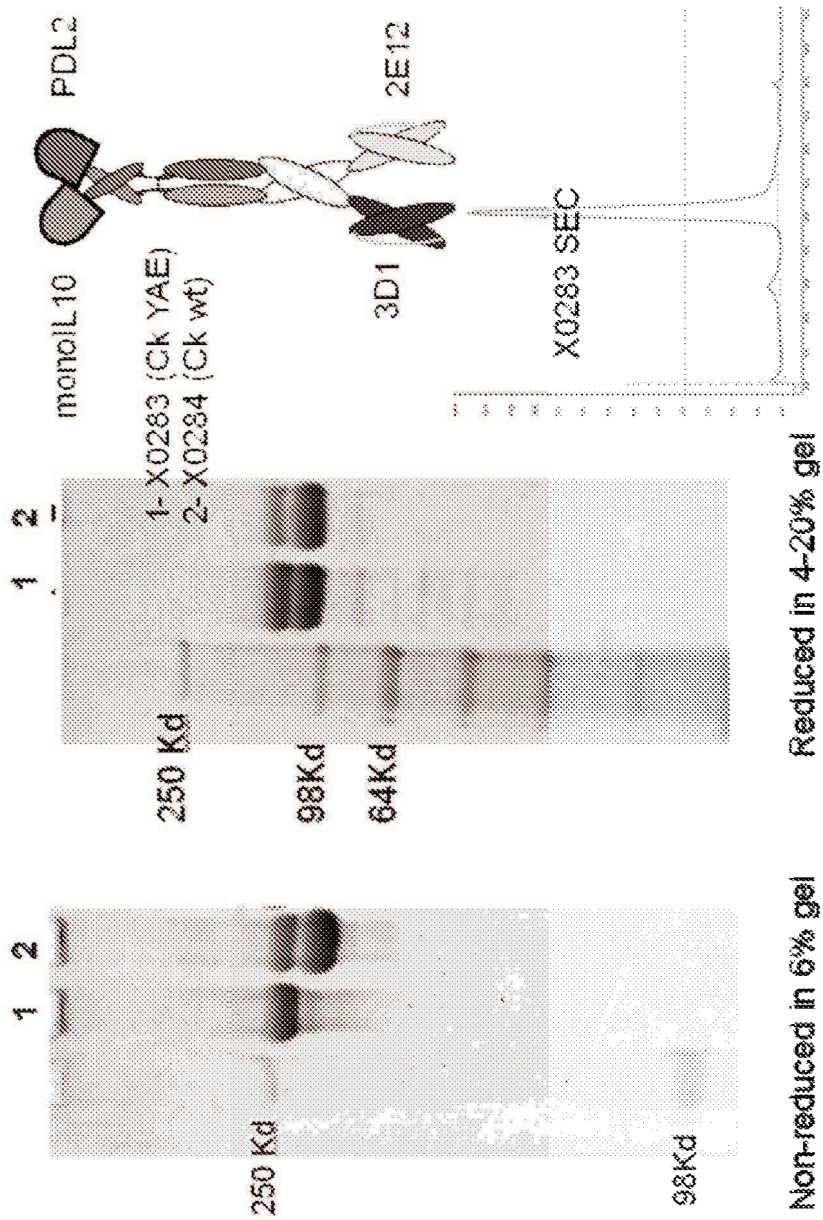
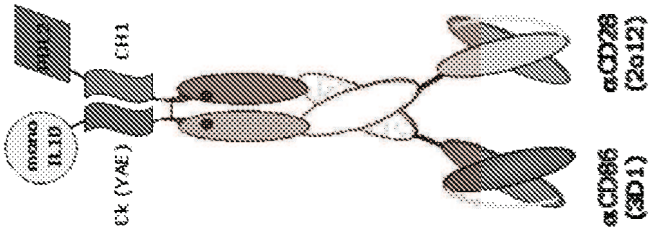

PDL2
monoIL10
1- X0283 (Ck YAE)
2- X0284 (Ck wt)
3D1
2E12
X0283 SEC
1 2
250 Kd
98Kd
64Kd
Reduced in 4-20% gel
1 2
250 Kd
98Kd
Non-reduced in 6% gel

FIG. 6


CH1
αCD28
(2a12)
αCD86
(2D1)

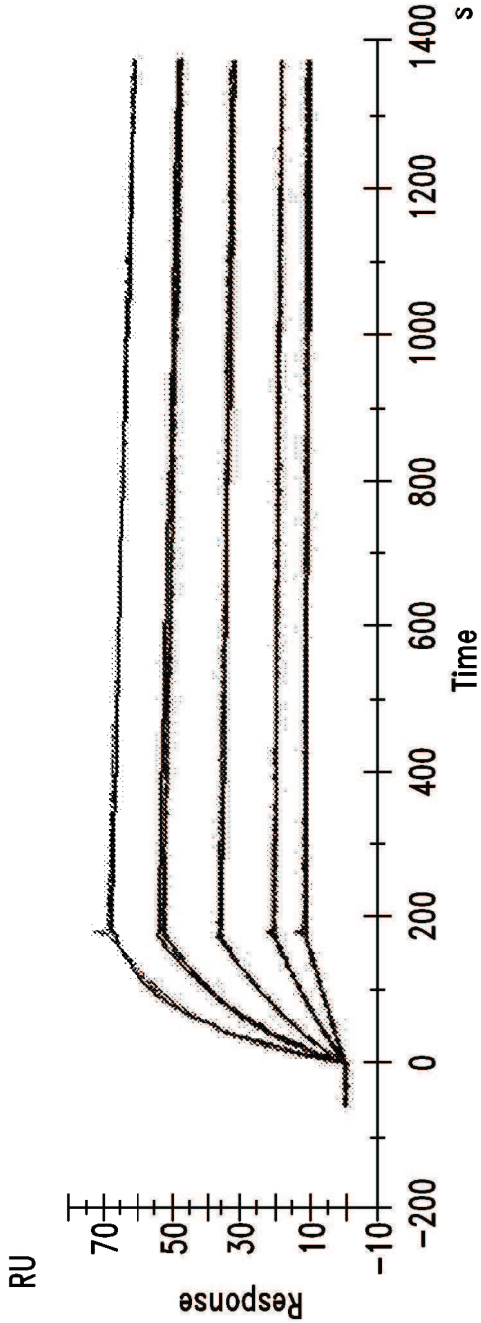
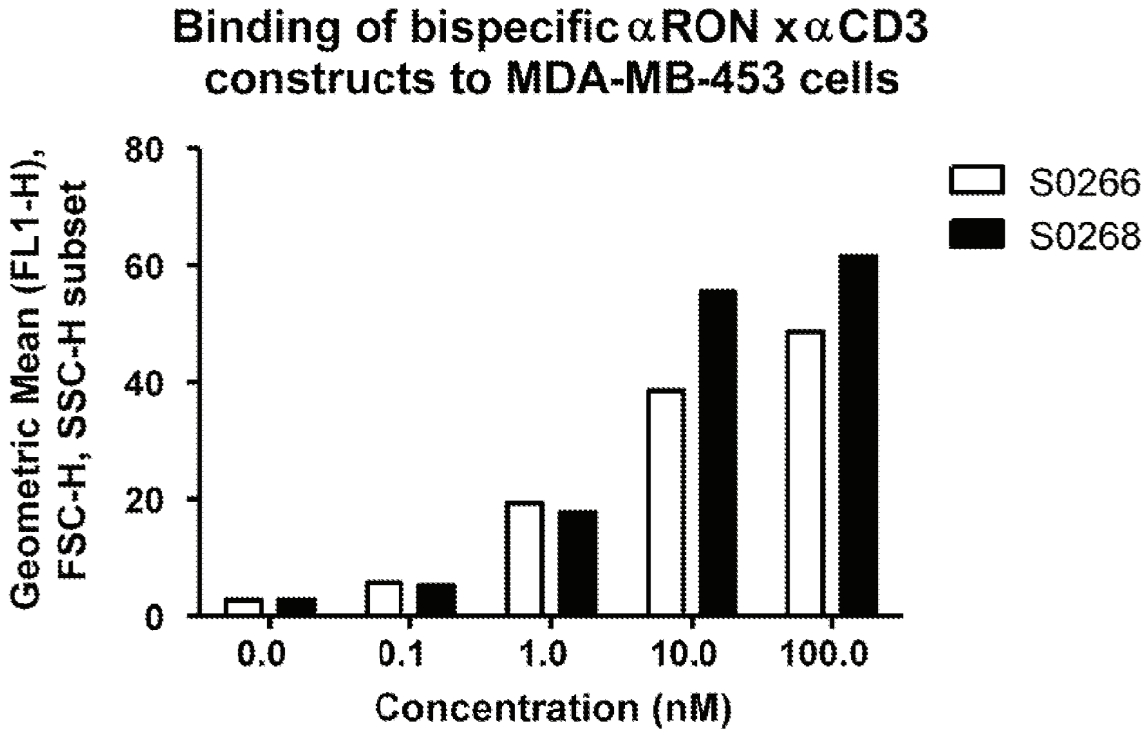
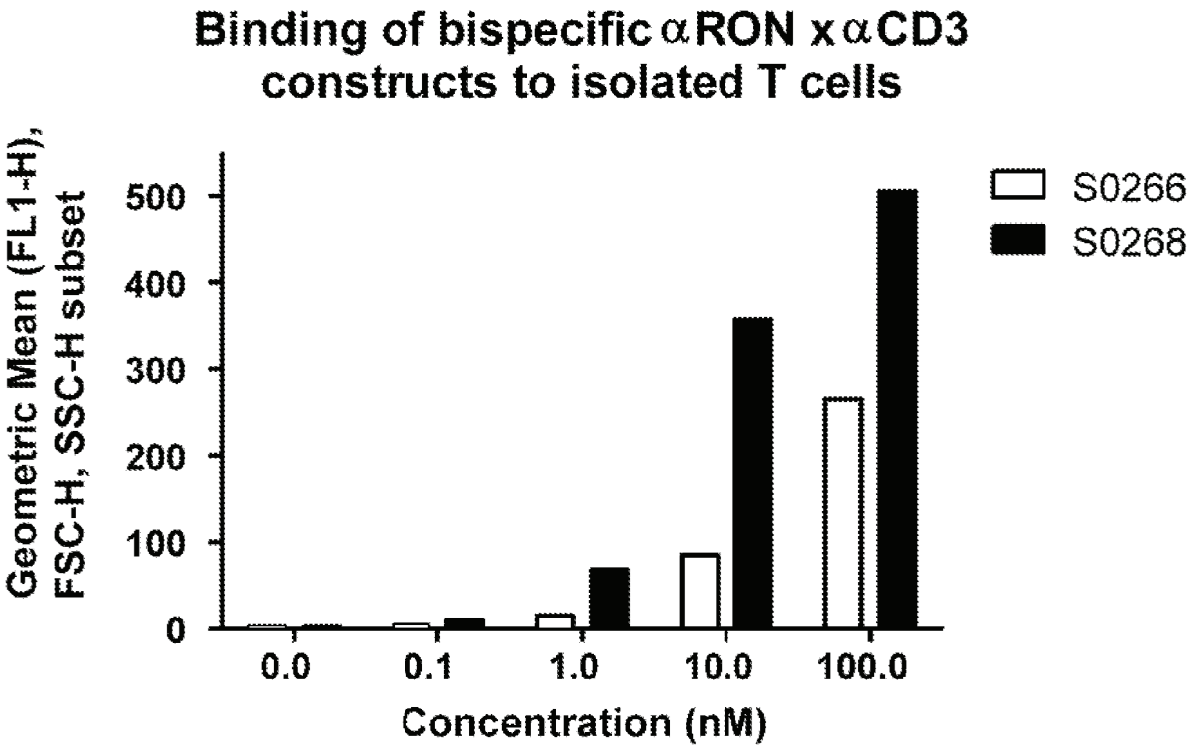

Response
RU
70
50
30
10
-10
-200
0
200
400
600
800
1000
1200
1400
s
Time
Monovalent binding kinetics to human CD86
(fit shown is to 1:1 binding model)

FIG. 7



S0266 = αRON x αCD3 Scorpion
S0268 = αRON x αCD3 Interceptor

FIG. 8A



S0266 = αRON x αCD3 Scorpion
S0268 = αRON x αCD3 Interceptor

FIG. 8B

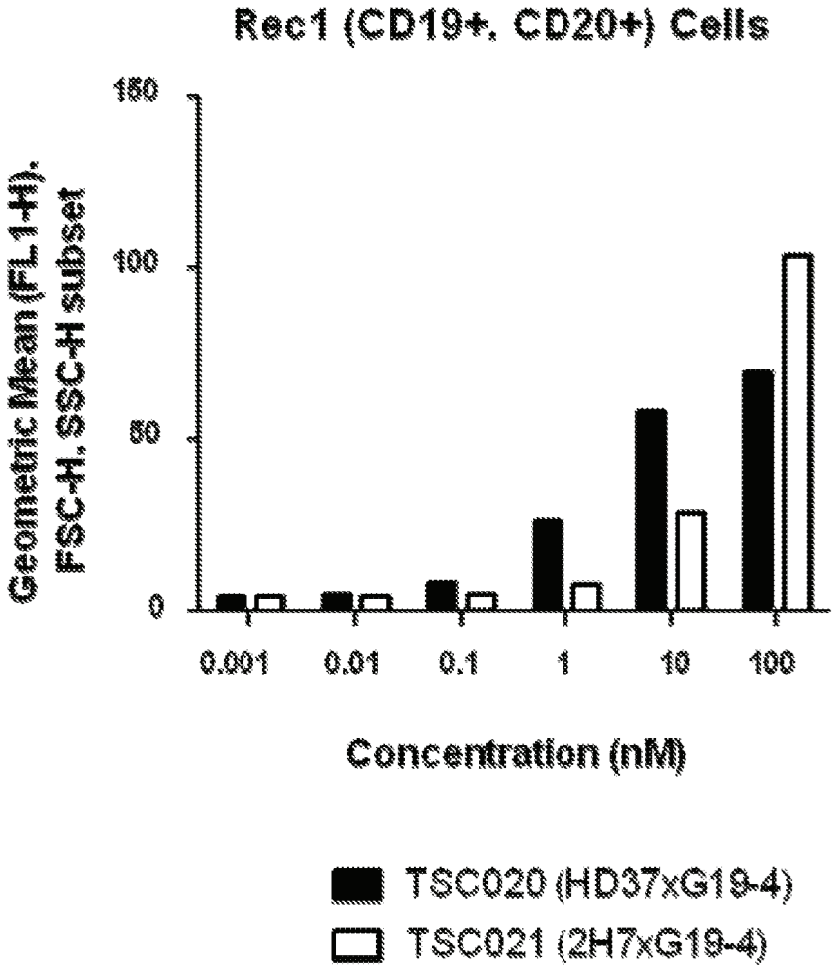

Rec1 (CD19+, CD20+) Cells
Geometric Mean (FL1-H), FSC-H, SSC-H subset
150
100
50
0
0.001
0.01
0.1
1
10
100
Concentration (nM)
TSC020 (HD37xG19-4)
TSC021 (2H7xG19-4)

FIG. 9A

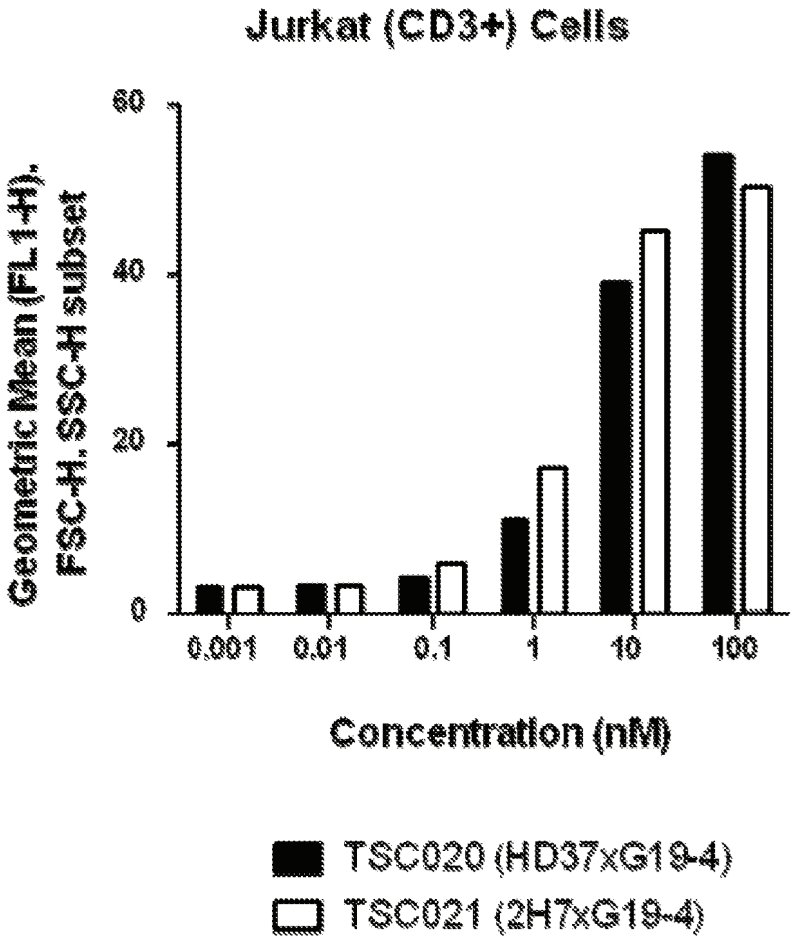

Jurkat (CD3+) Cells
Geometric Mean (FL1-H), FSC-H, SSC-H subset
60
40
20
0
0.001
0.01
0.1
1
10
100
Concentration (nM)
TSC020 (HD37xG19-4)
TSC021 (2H7xG19-4)

FIG. 9B

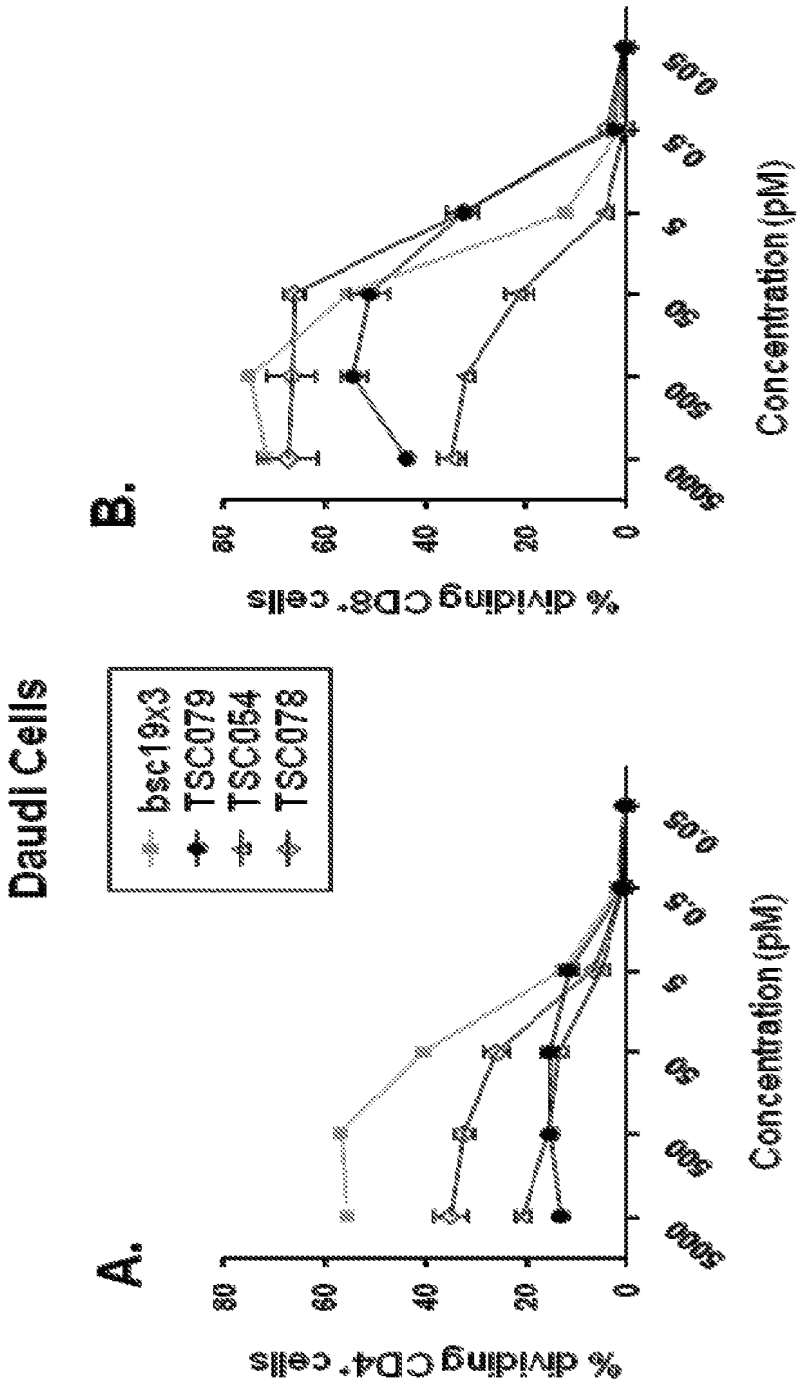


FIG. 10A

FIG. 10B

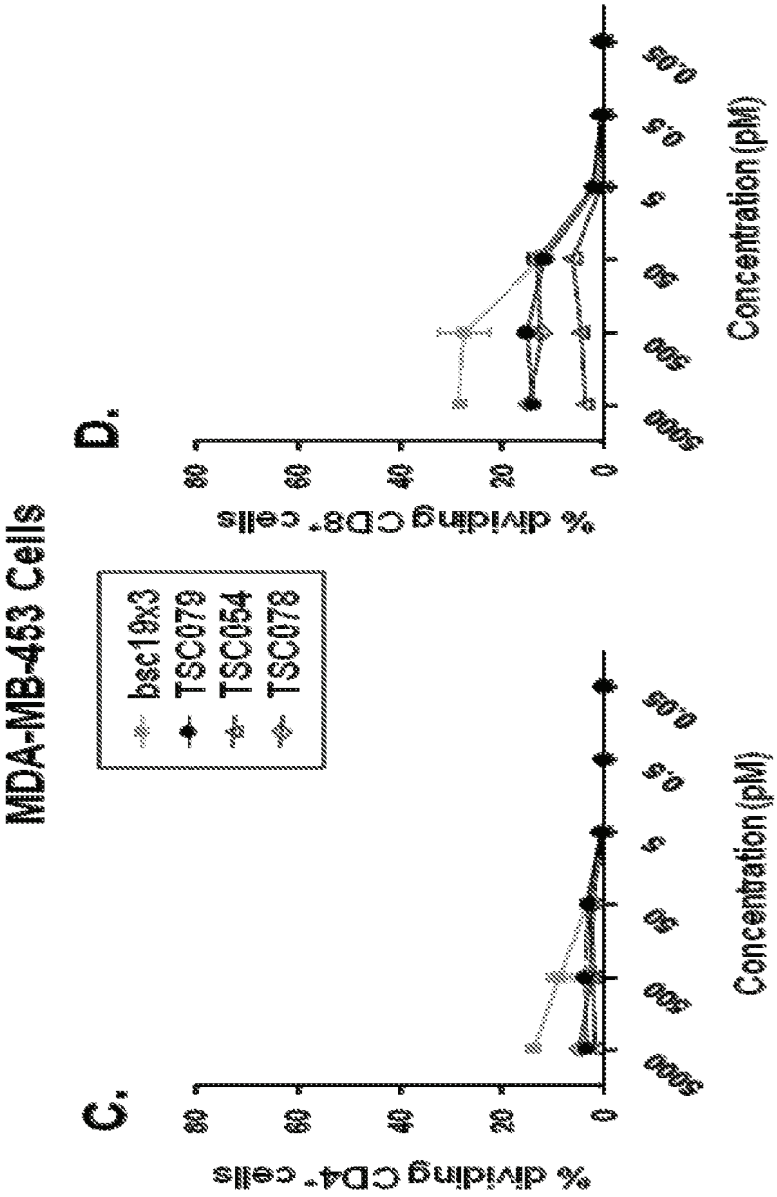


FIG. 10C

FIG. 10D

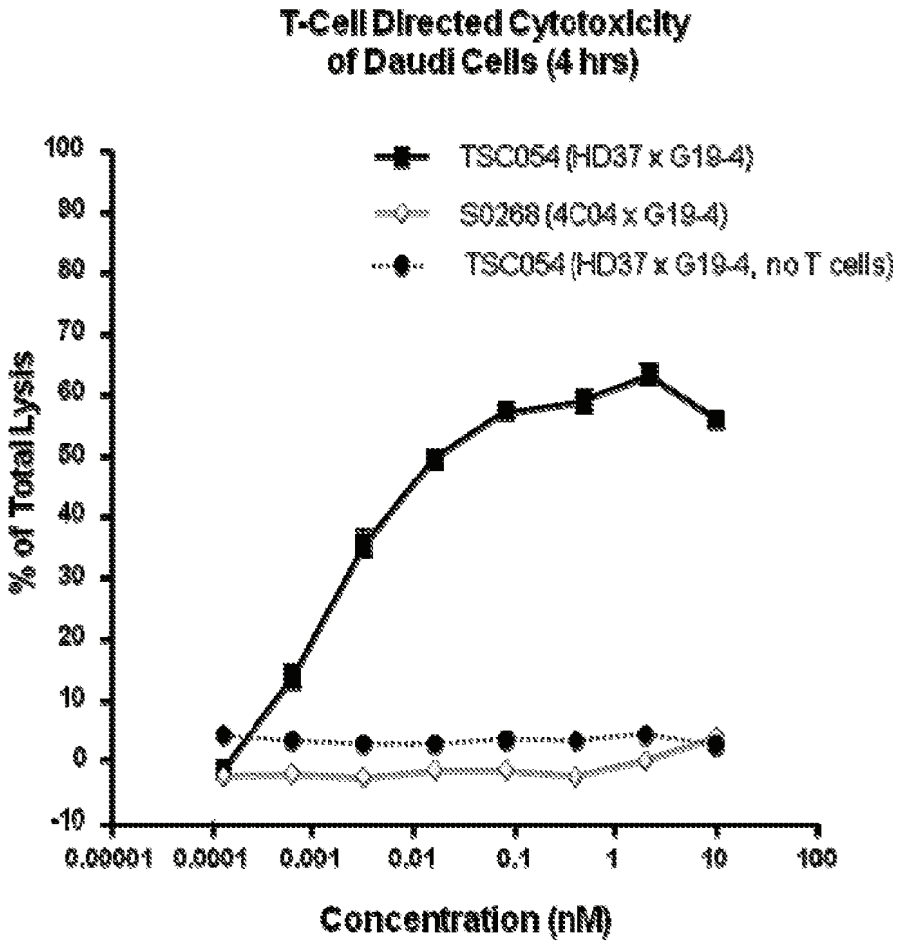

T-Cell Directed Cytotoxicity
of Daudi Cells (4 hrs)
TSC054 (HD37 x G19-4)
S0268 (4C04 x G19-4)
TSC054 (HD37 x G19-4, no T cells)
% of Total Lysis
100
90
80
70
60
50
40
30
20
10
0
-10
0.00001
0.0001
0.001
0.01
0.1
1
10
100
Concentration (nM)

FIG. 11A

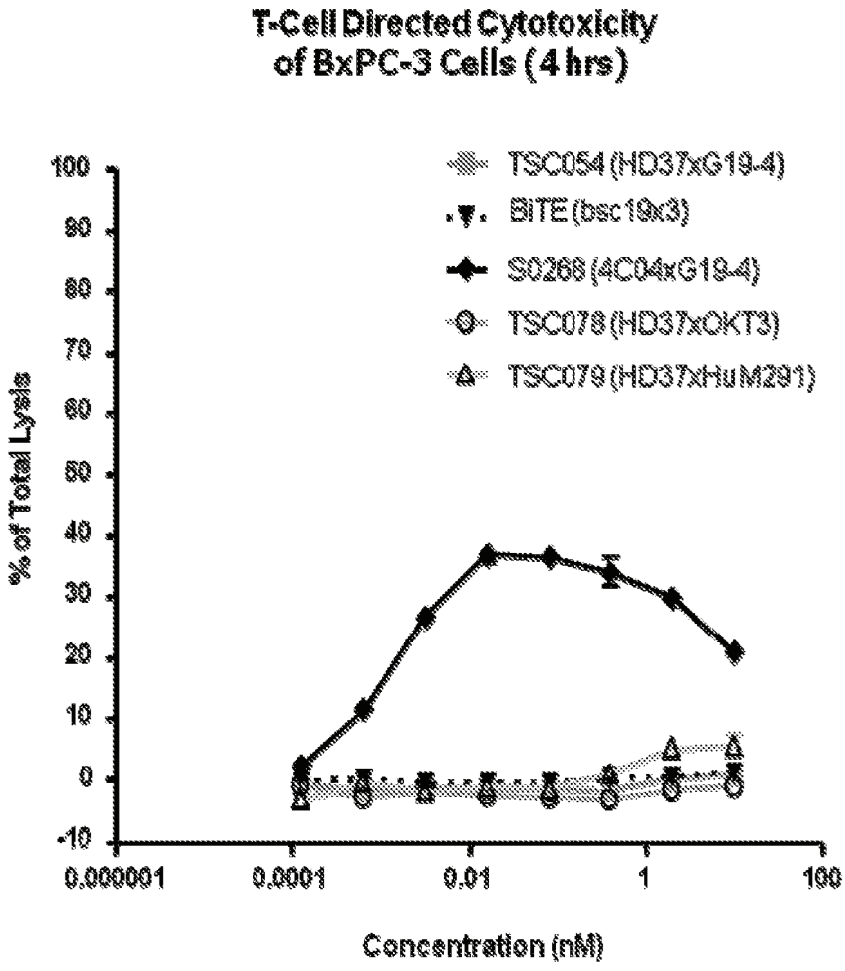

T-Cell Directed Cytotoxicity
of BxPC-3 Cells (4 hrs)
TSC054 (HD37xG19-4)
BiTE (bsc19x3)
S0268 (4C04xG19-4)
TSC078 (HD37xOKT3)
TSC079 (HD37xHuM291)
% of Total Lysis
100
90
80
70
60
50
40
30
20
10
0
-10
0.000001
0.0001
0.01
1
100
Concentration (nM)

FIG. 11B

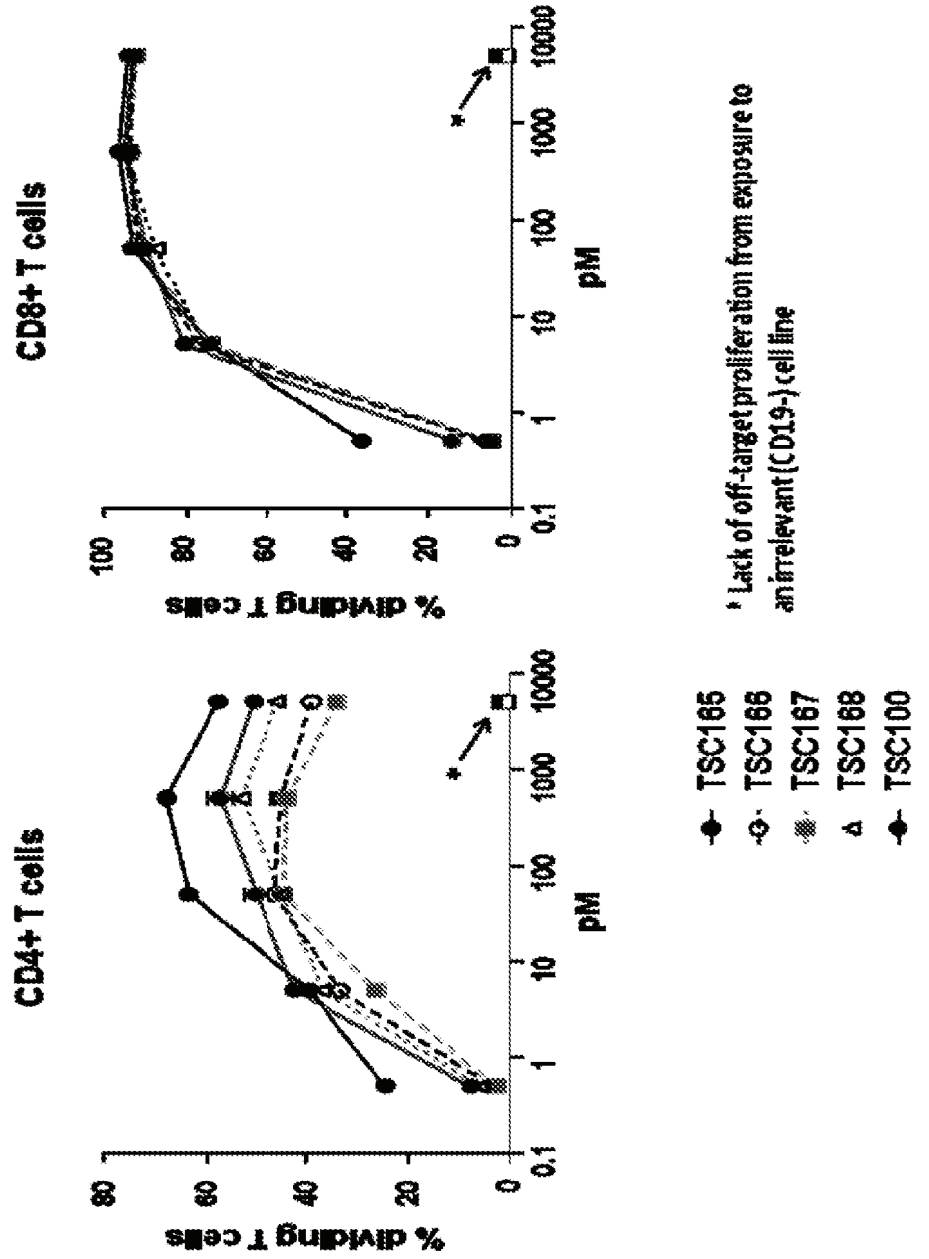

CD8+ T cells
% dividing T cells
pM
CD4+ T cells
% dividing T cells
pM
* Lack of off-target proliferation from exposure to an irrelevant (CD19-) cell line
TSC165
TSC166
TSC167
TSC168
TSC100

FIG. 12

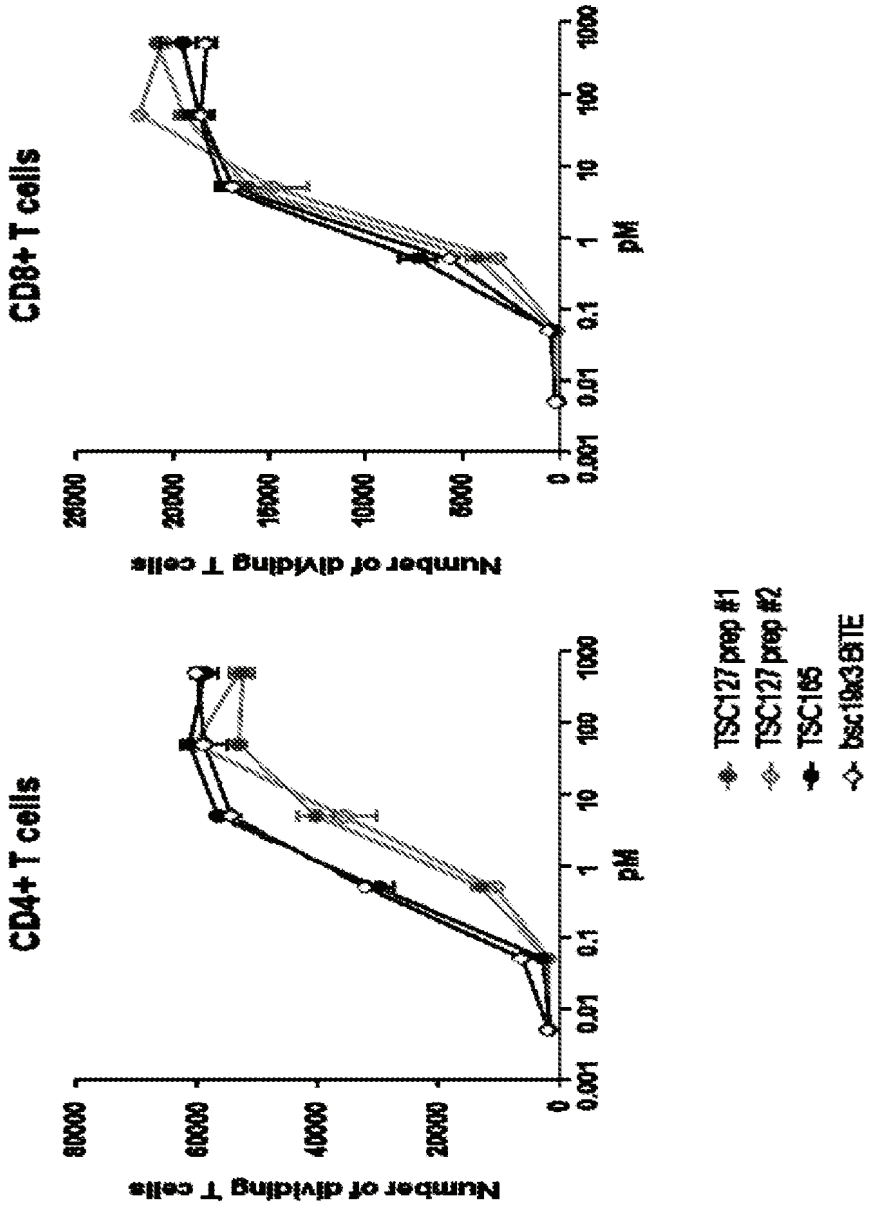

CD8+ T cells
Number of dividing T cells
25000
20000
15000
10000
5000
0
0.001
0.01
0.1
1
10
100
1000
pM
CD4+ T cells
Number of dividing T cells
80000
60000
40000
20000
0
0.001
0.01
0.1
1
10
100
1000
pM
TSC127 prep #1
TSC127 prep #2
TSC165
bsc19x3BiTE

FIG. 13

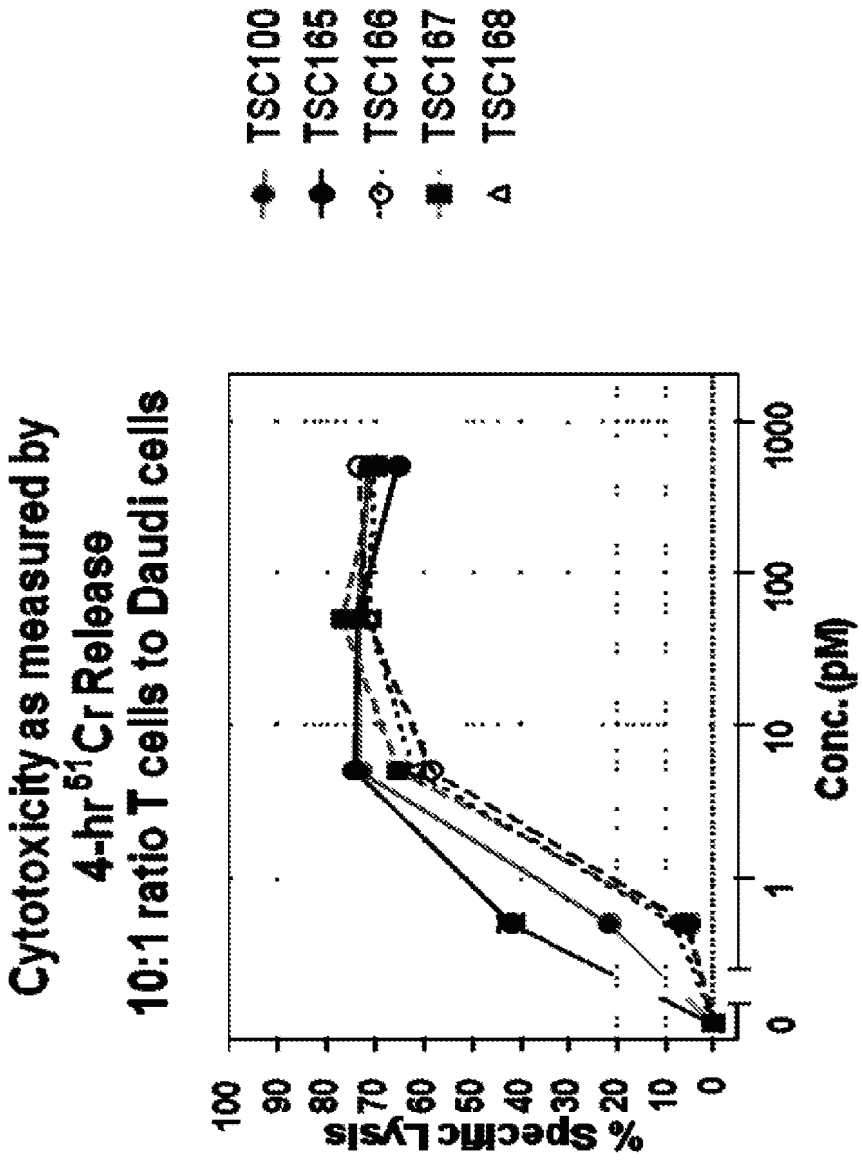

Cytotoxicity as measured by
4-hr 51Cr Release
10:1 ratio T cells to Daudi cells
% Specific Lysis
Conc. (pM)
TSC100
TSC165
TSC166
TSC167
TSC168

FIG. 14