FIG. 1B

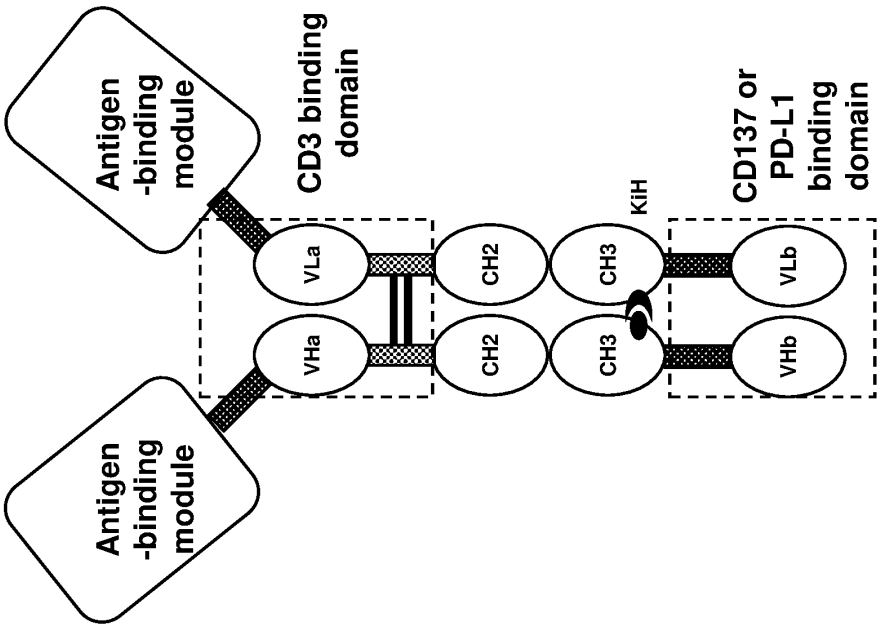

Antigen -binding module
Antigen -binding module
CD3 binding domain
VLa
VHa
CH2
CH2
CH3
CH3
KiH
CD137 or PD-L1 binding domain
VLb
VHb

FIG. 1A

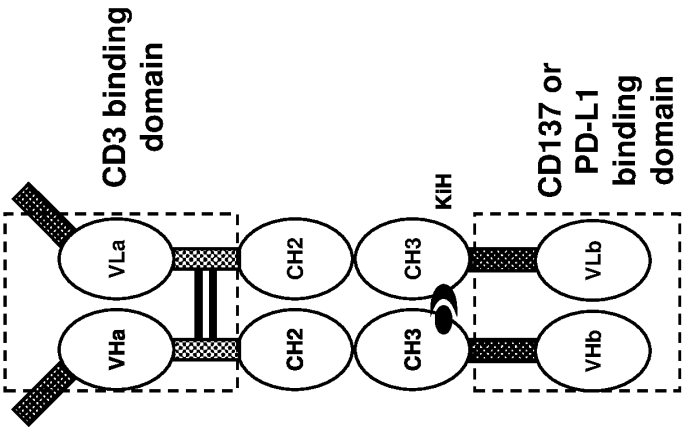

CD3 binding domain
VLa
VHa
CH2
CH2
CH3
CH3
KiH
CD137 or PD-L1 binding domain
VLb
VHb

FIG. 2A

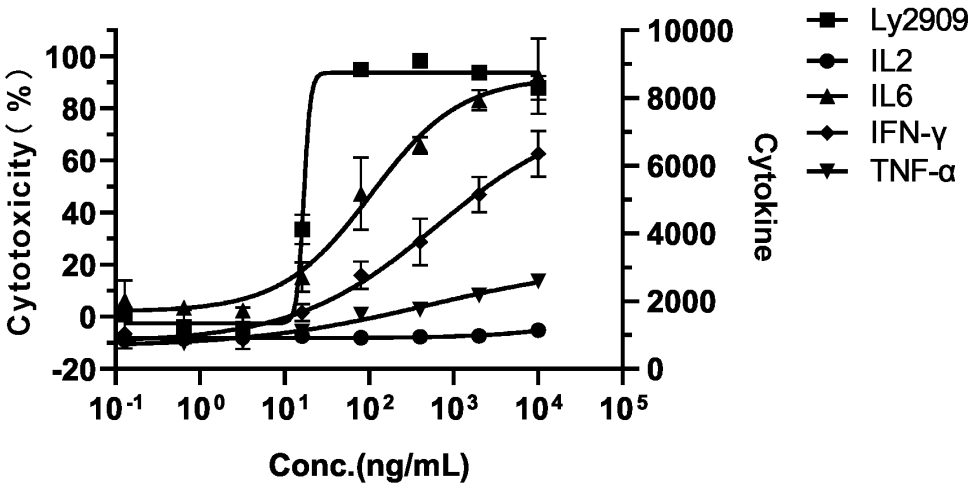
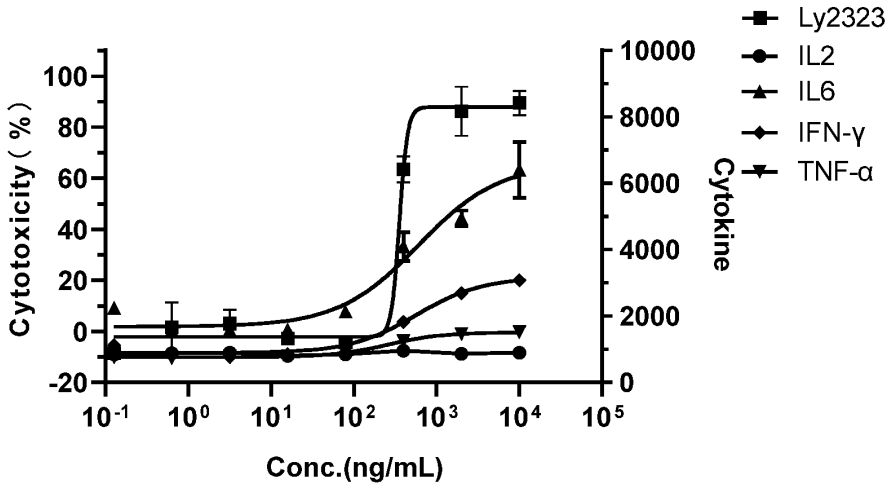

Cytotoxicity (%)
100
80
60
40
20
0
-20
10000
8000
6000
4000
2000
0
Cytokine
10-1 100 101 102 103 104 105
Conc.(ng/mL)
Ly2909
IL2
IL6
IFN-γ
TNF-α

FIG. 2B


Cytotoxicity (%)
100
80
60
40
20
0
-20
10000
8000
6000
4000
2000
0
Cytokine
10-1 100 101 102 103 104 105
Conc.(ng/mL)
Ly2323
IL2
IL6
IFN-γ
TNF-α

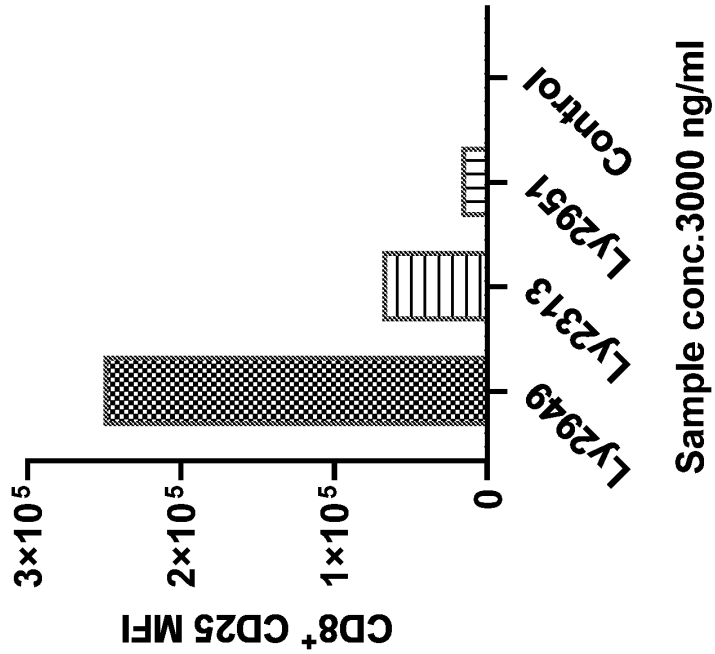

CD8+ CD25 MFI
3×10^5
2×10^5
1×10^5
0
LY2949
LY2313
LY2951
Control
Sample conc.3000 ng/ml

FIG. 4

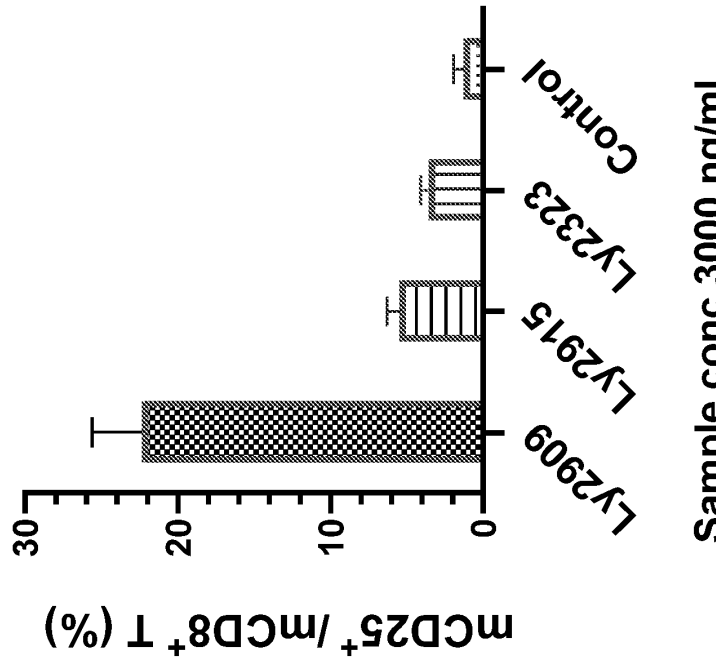

mCD25+ /mCD8+ T (%)
30
20
10
0
LY2909
LY2915
LY2323
Control
Sample conc.3000 ng/ml

FIG. 3

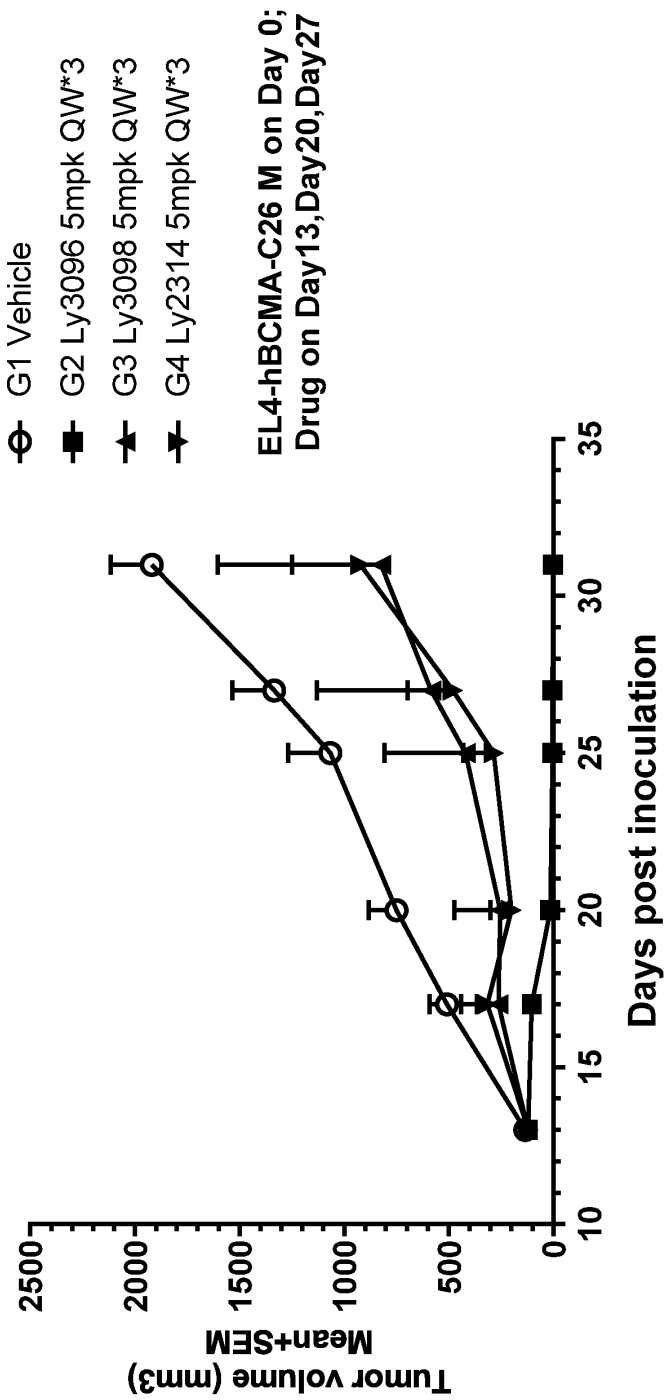

G1 Vehicle
G2 Ly3096 5mpk QW*3
G3 Ly3098 5mpk QW*3
G4 Ly2314 5mpk QW*3
EL4-hBCMA-C26 M on Day 0;
Drug on Day13,Day20,Day27
Tumor volume (mm3)
Mean+SEM
2500
2000
1500
1000
500
0
10
15
20
25
30
35
Days post inoculation

FIG. 5

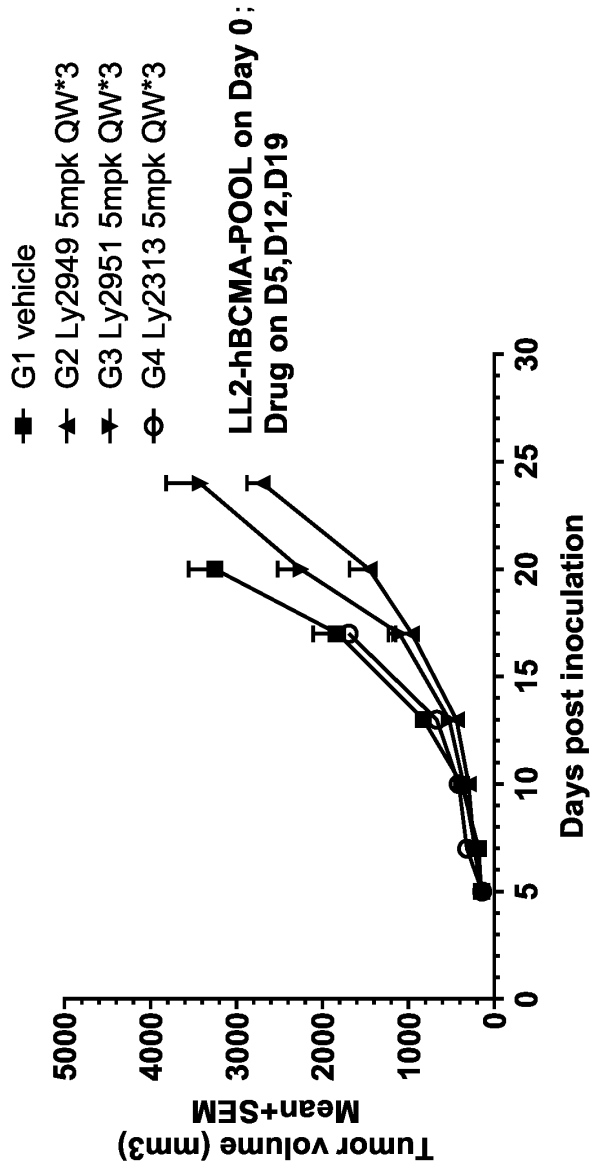

G1 vehicle
G2 Ly2949 5mpk QW*3
G3 Ly2951 5mpk QW*3
G4 Ly2313 5mpk QW*3
LL2-hBCMA-POOL on Day 0;
Drug on D5,D12,D19
Tumor volume (mm3)
Mean+SEM
5000
4000
3000
2000
1000
0
0
5
10
15
20
25
30
Days post inoculation

FIG. 6

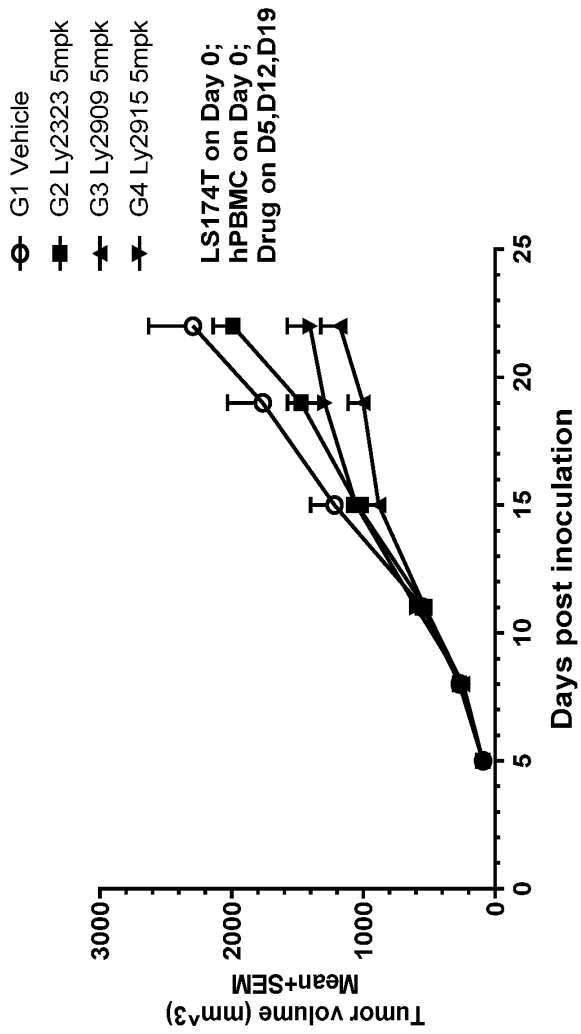

G1 Vehicle
G2 Ly2323 5mpk
G3 Ly2909 5mpk
G4 Ly2915 5mpk
LS174T on Day 0;
hPBMC on Day 0;
Drug on D5,D12,D19
Tumor volume (mm^3)
Mean+SEM
3000
2000
1000
0
0
5
10
15
20
25
Days post inoculation

FIG. 7

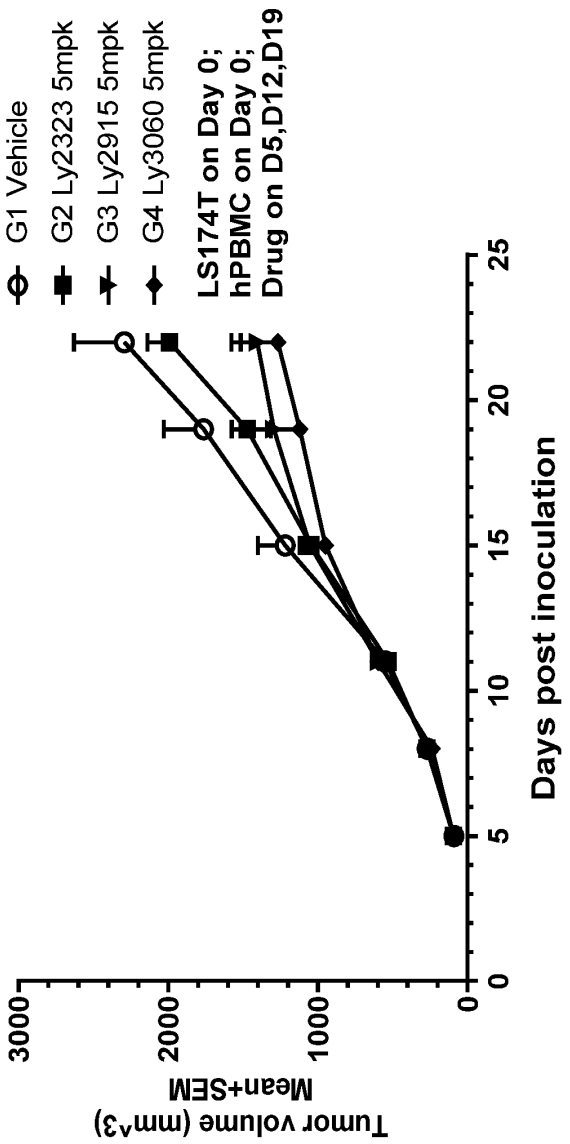

G1 Vehicle
G2 Ly2323 5mpk
G3 Ly2915 5mpk
G4 Ly3060 5mpk
LS174T on Day 0;
hPBMC on Day 0;
Drug on D5,D12,D19
Tumor volume (mm^3)
Mean+SEM
3000
2000
1000
0
0
5
10
15
20
25
Days post inoculation

FIG. 8

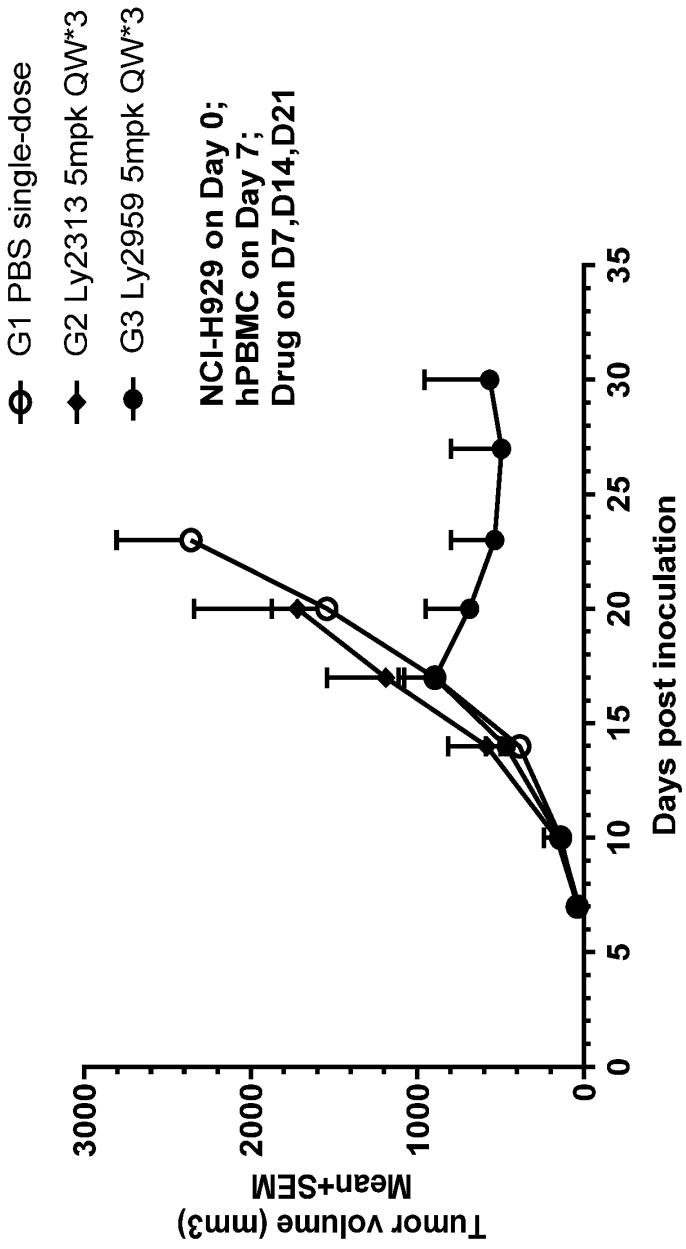

G1 PBS single-dose
G2 Ly2313 5mpk QW*3
G3 Ly2959 5mpk QW*3
NCI-H929 on Day 0;
hPBMC on Day 7;
Drug on D7,D14,D21
Tumor volume (mm3)
Mean+SEM
3000
2000
1000
0
0
5
10
15
20
25
30
35
Days post inoculation

FIG. 9

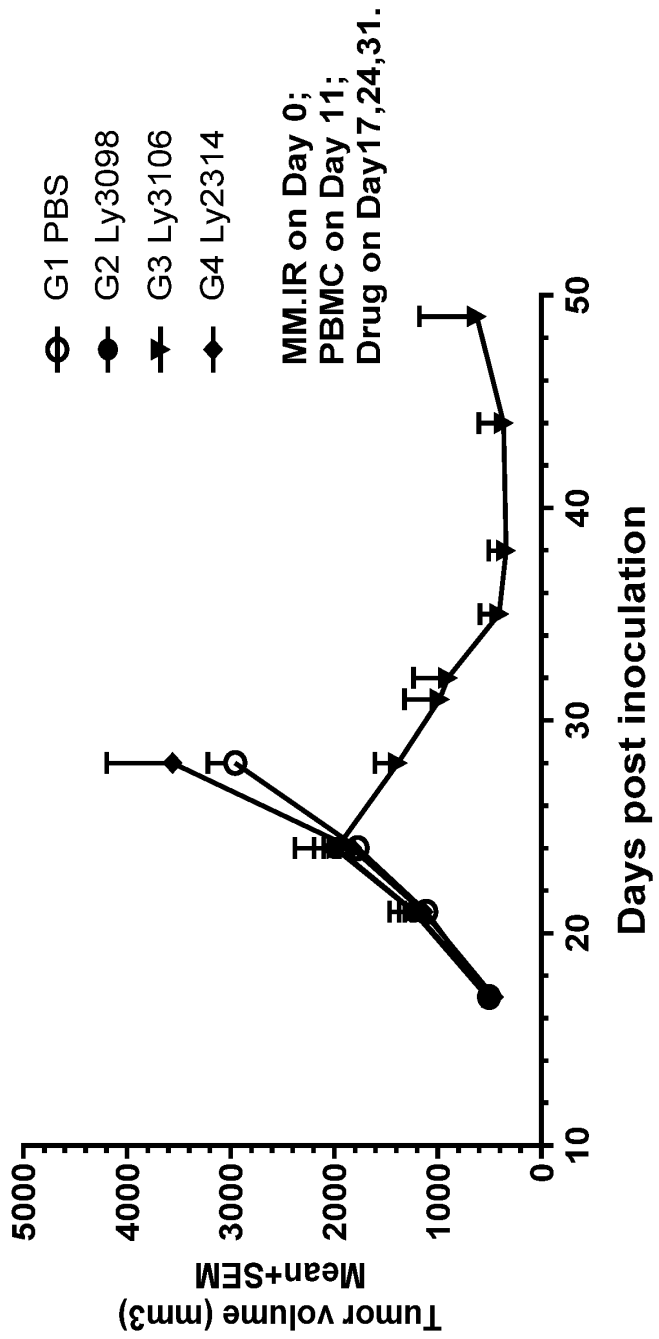

G1 PBS
G2 Ly3098
G3 Ly3106
G4 Ly2314
MM.IR on Day 0;
PBMC on Day 11;
Drug on Day17,24,31.
Tumor volume (mm3)
Mean+SEM
5000
4000
3000
2000
1000
0
10
20
30
40
50
Days post inoculation

FIG. 10

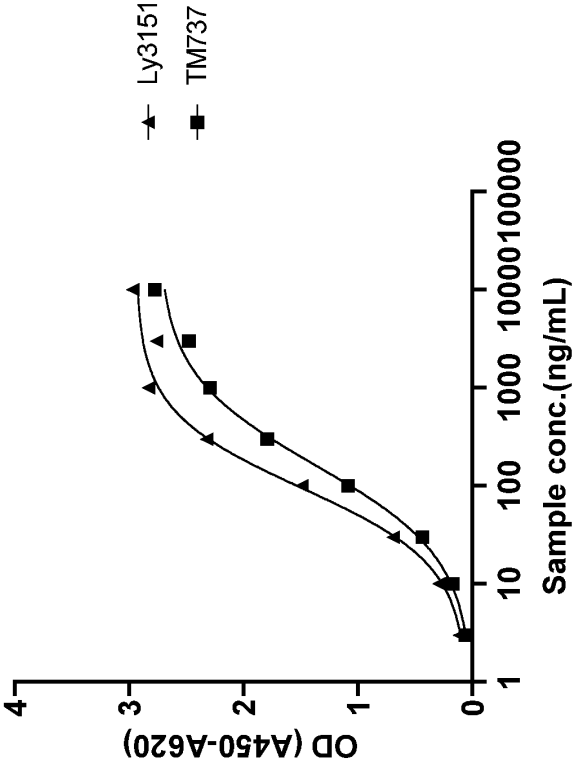


FIG. 11A

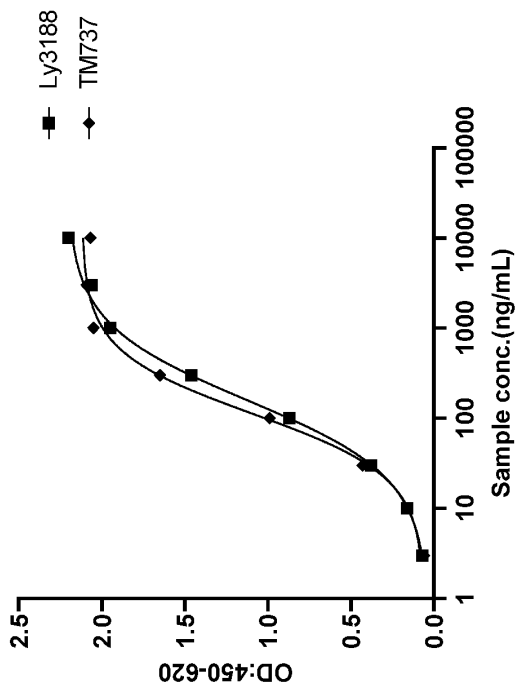


FIG. 11B

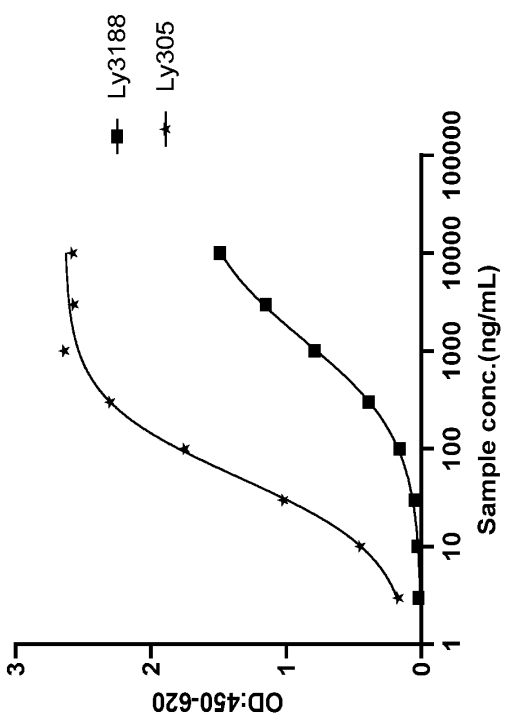


FIG. 11D

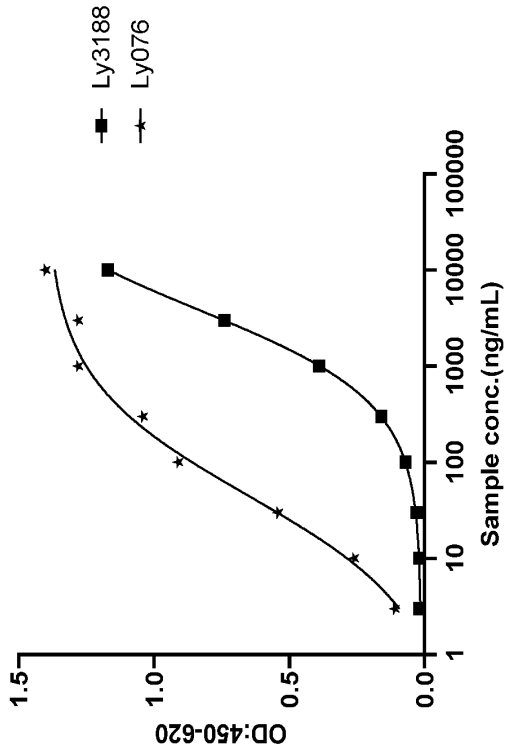


FIG. 11F

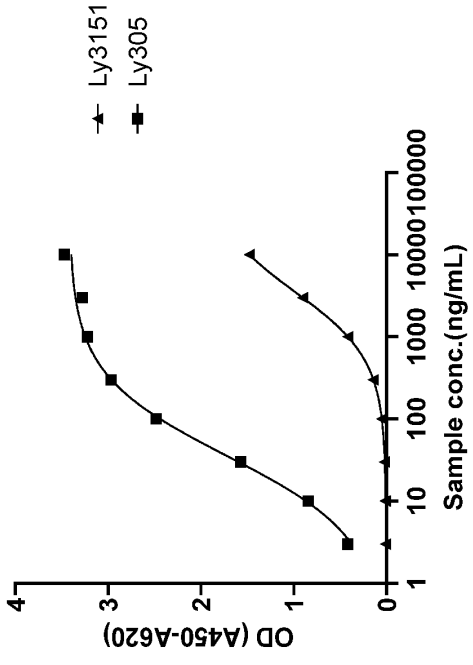


FIG. 11C

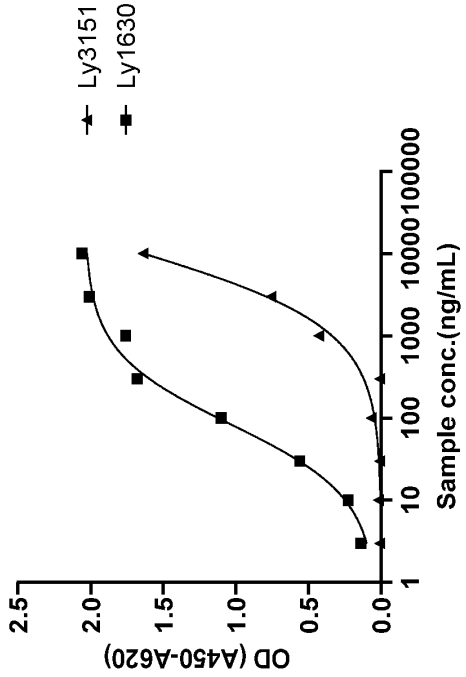


FIG. 11E

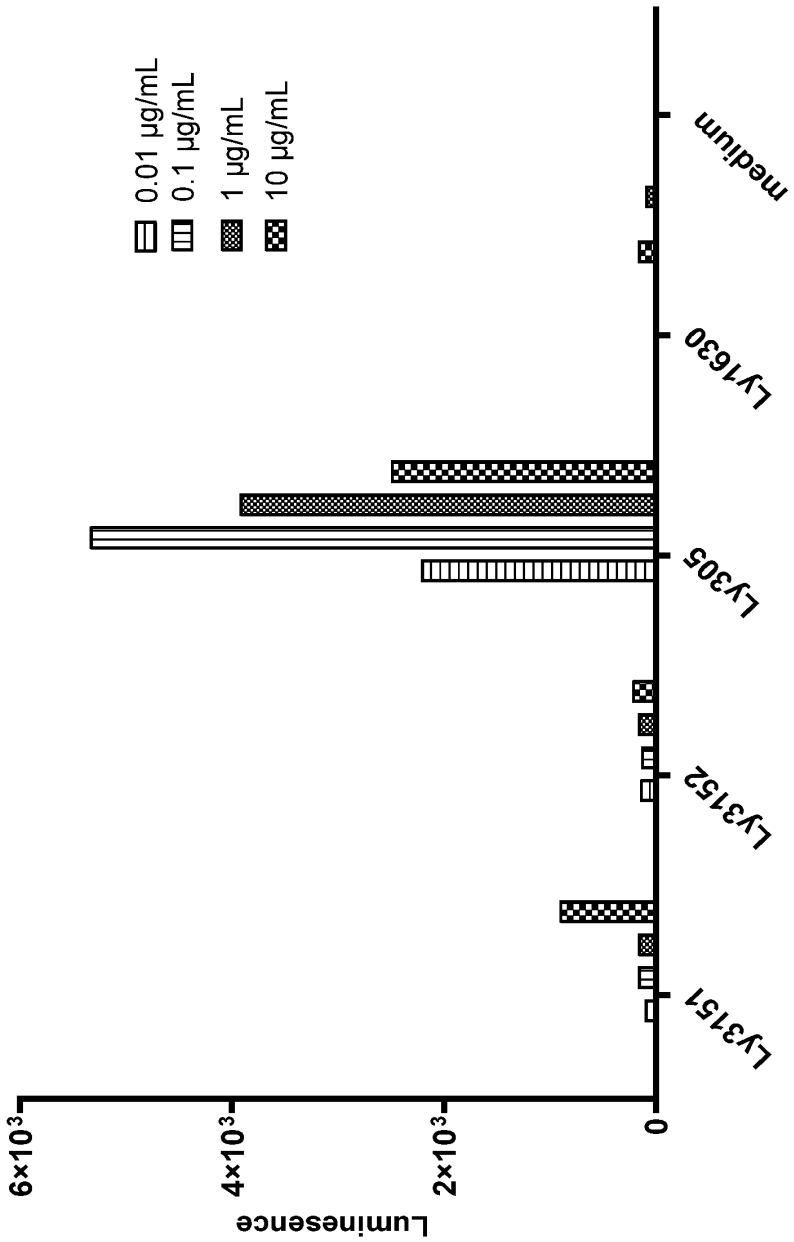

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
6×10^3
4×10^3
2×10^3
0
medium
Ly1630
Ly305
Ly3152
Ly3151

FIG. 12A

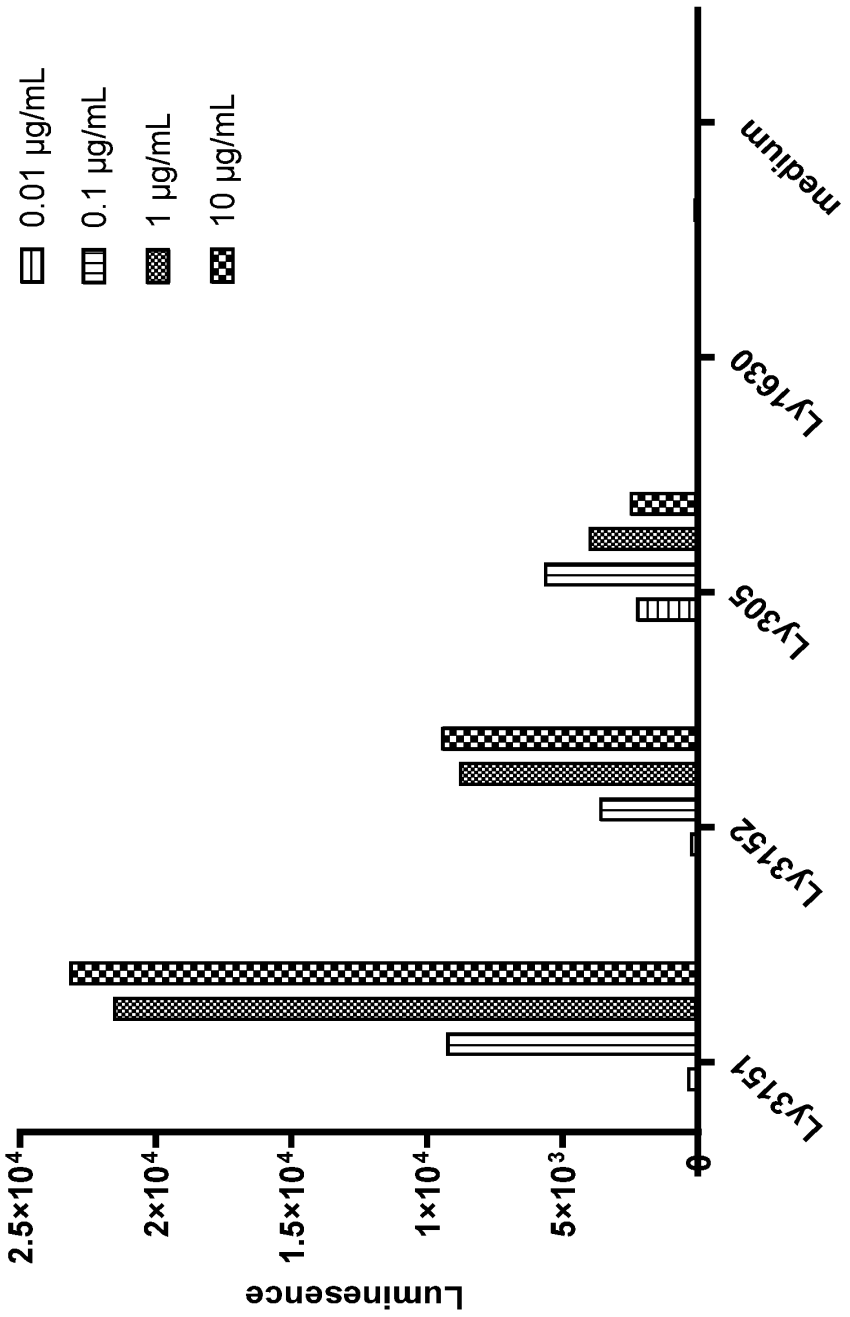

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2.5×10^4
2×10^4
1.5×10^4
1×10^4
5×10^3
0
medium
Ly1630
Ly305
Ly3152
Ly3151

FIG. 12B

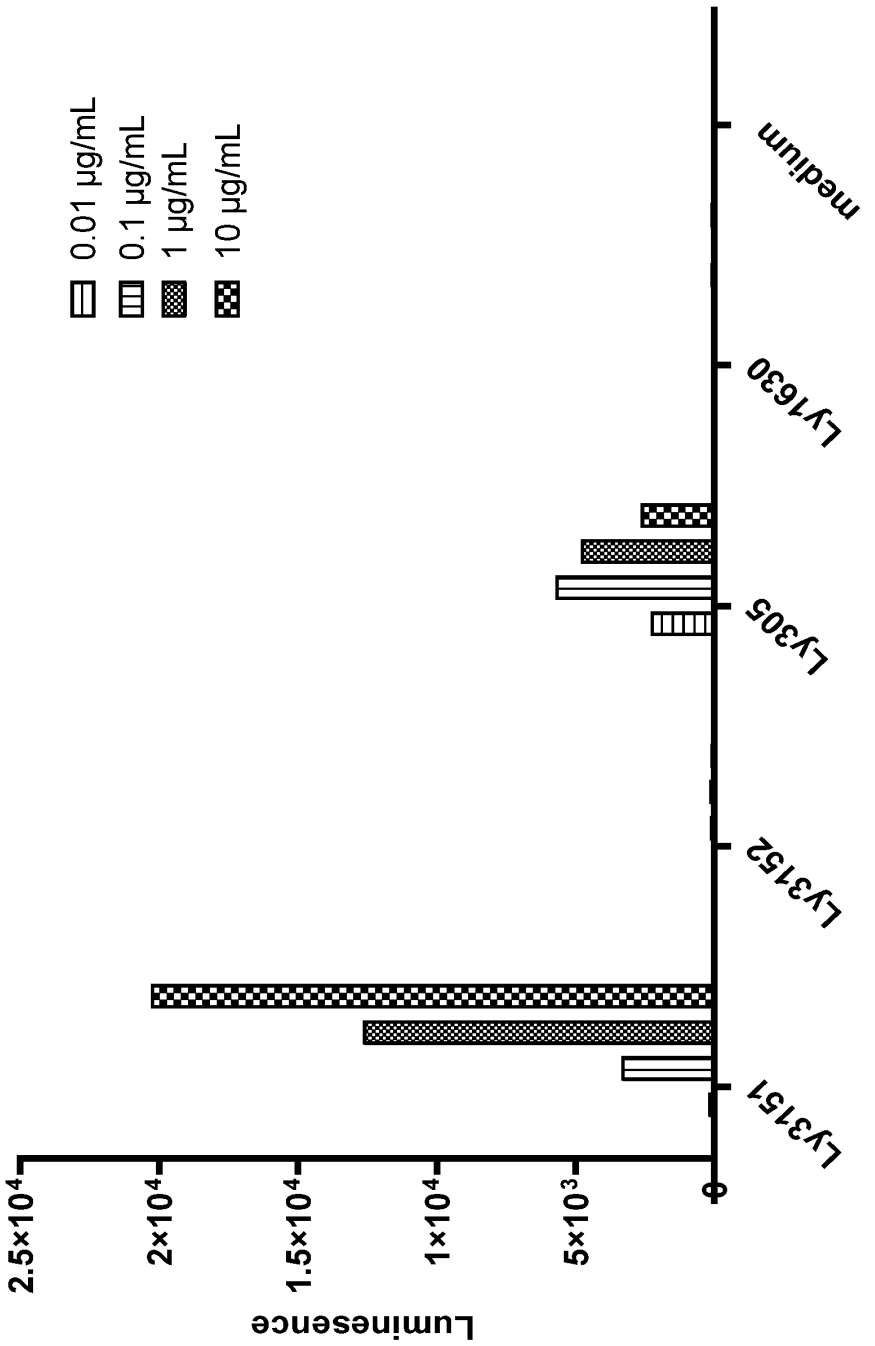

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2.5×10^4
2×10^4
1.5×10^4
1×10^4
5×10^3
0
LY3151
LY3152
LY305
LY1630
medium

FIG. 12C

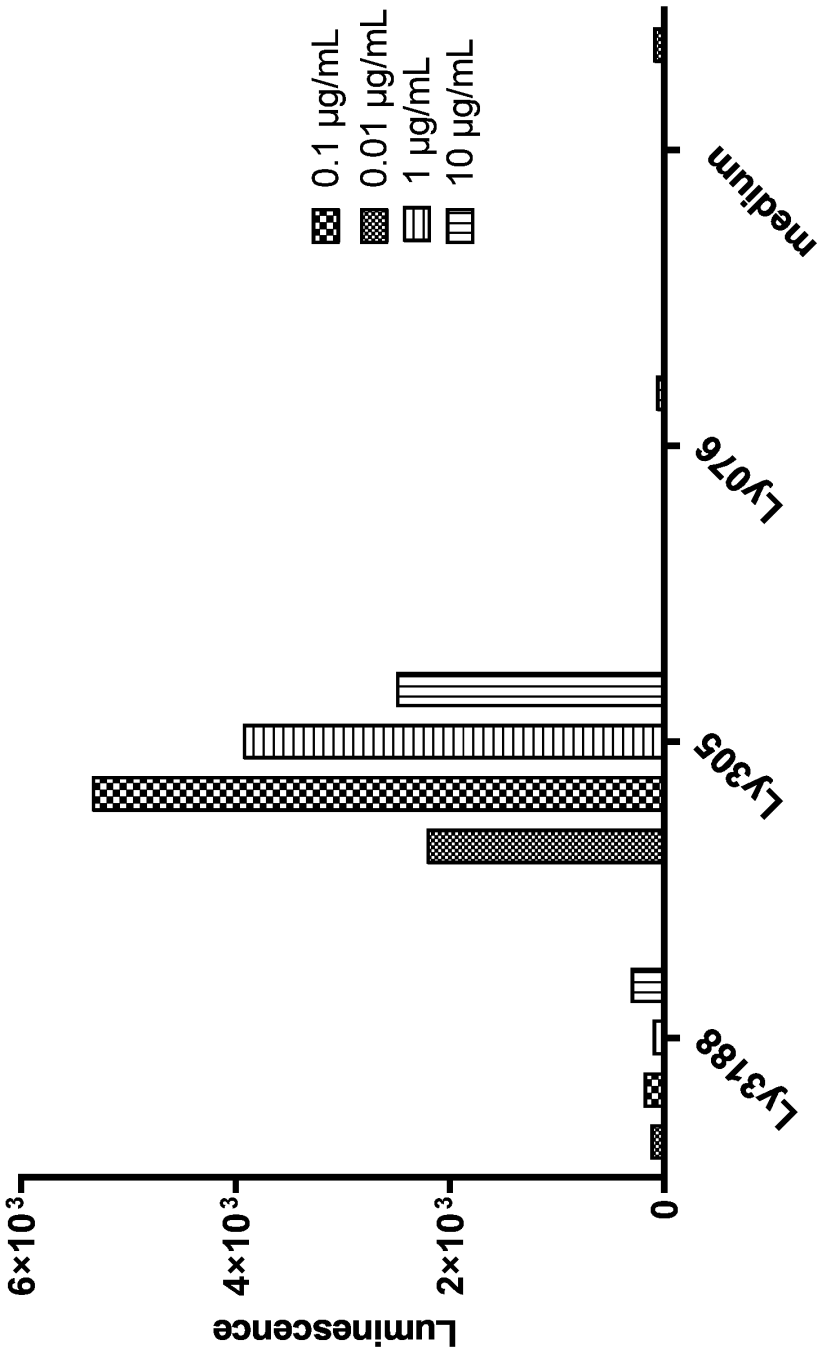

0.1 µg/mL
0.01 µg/mL
1 µg/mL
10 µg/mL
Luminescence
6×10^3
4×10^3
2×10^3
0
medium
Ly076
Ly305
Ly3188

FIG. 12D

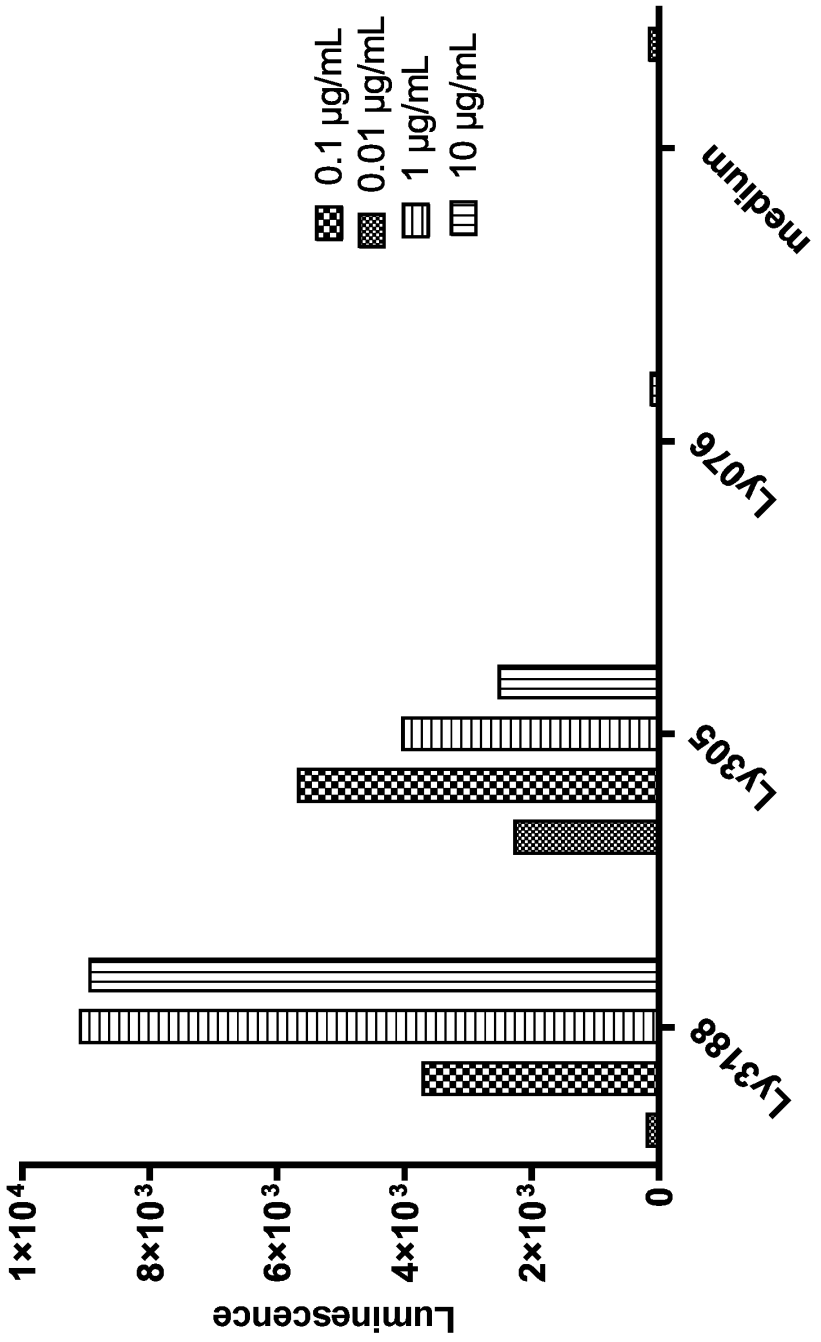

0.1 µg/mL
0.01 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1×10^4
8×10^3
6×10^3
4×10^3
2×10^3
0
Ly3188
Ly305
Ly076
medium

FIG. 12E

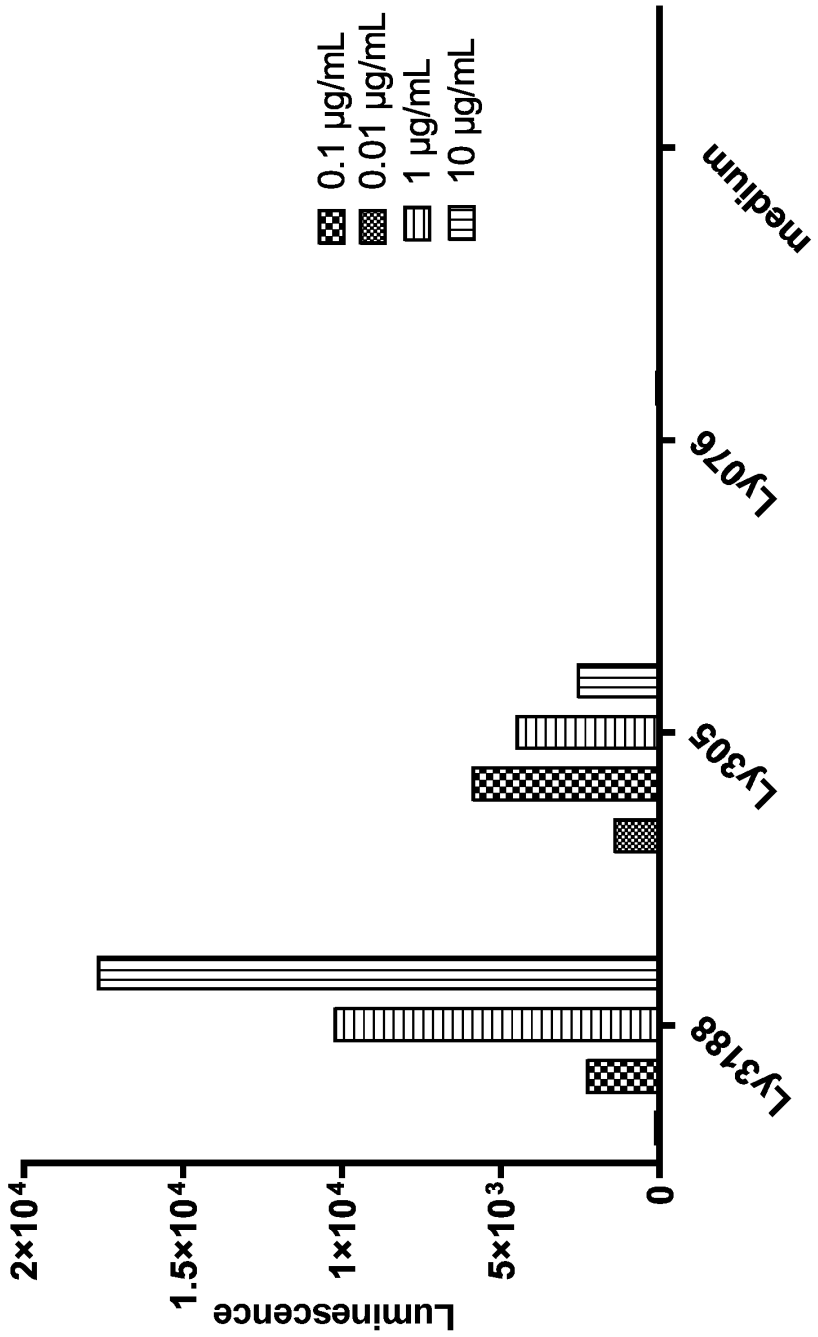

0.1 µg/mL
0.01 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2×10^4
1.5×10^4
1×10^4
5×10^3
0
Ly3188
Ly305
Ly076
medium

FIG. 12F

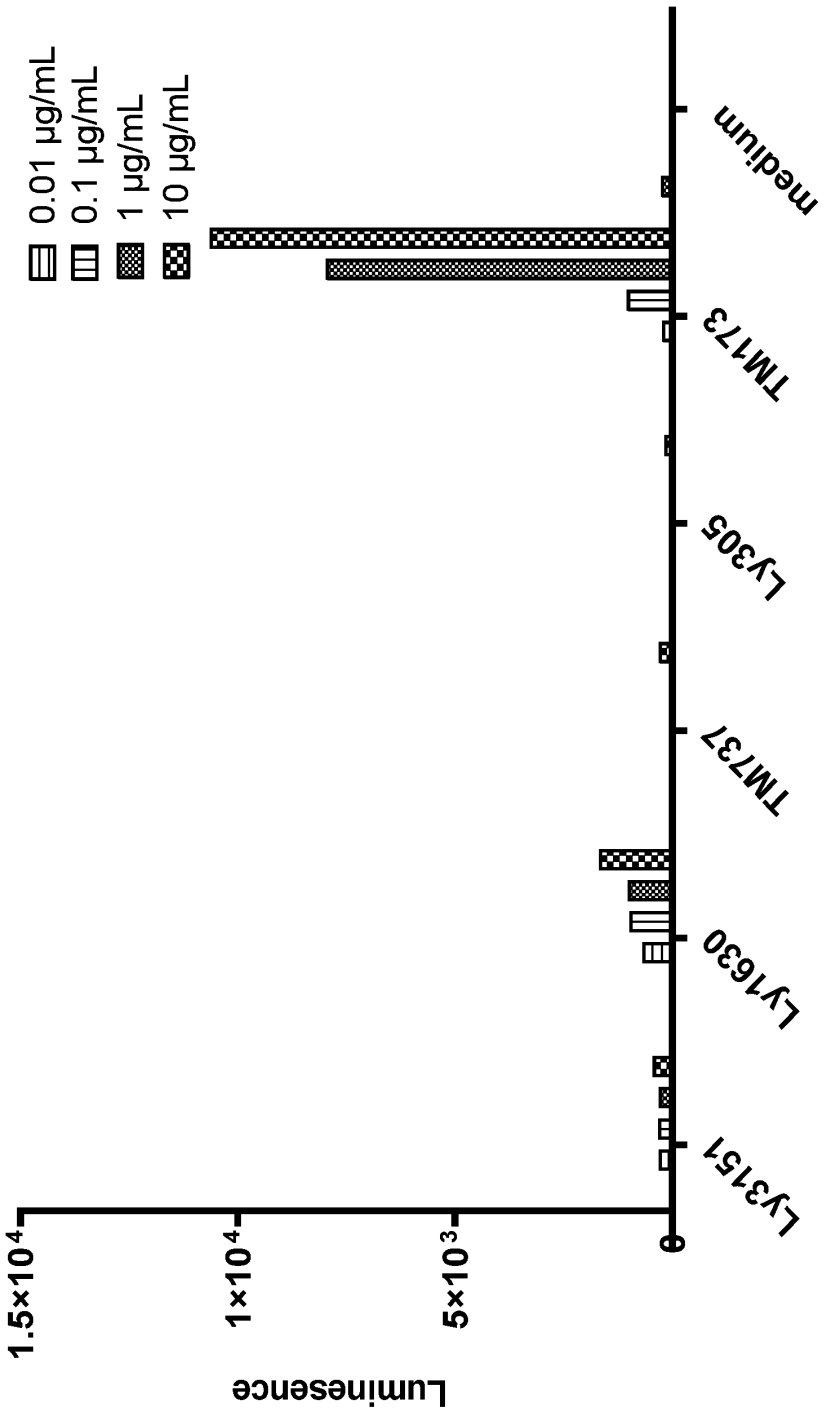

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10^4
1×10^4
5×10^3
0
medium
TM173
Ly305
TM737
Ly1630
Ly3151

FIG. 13A

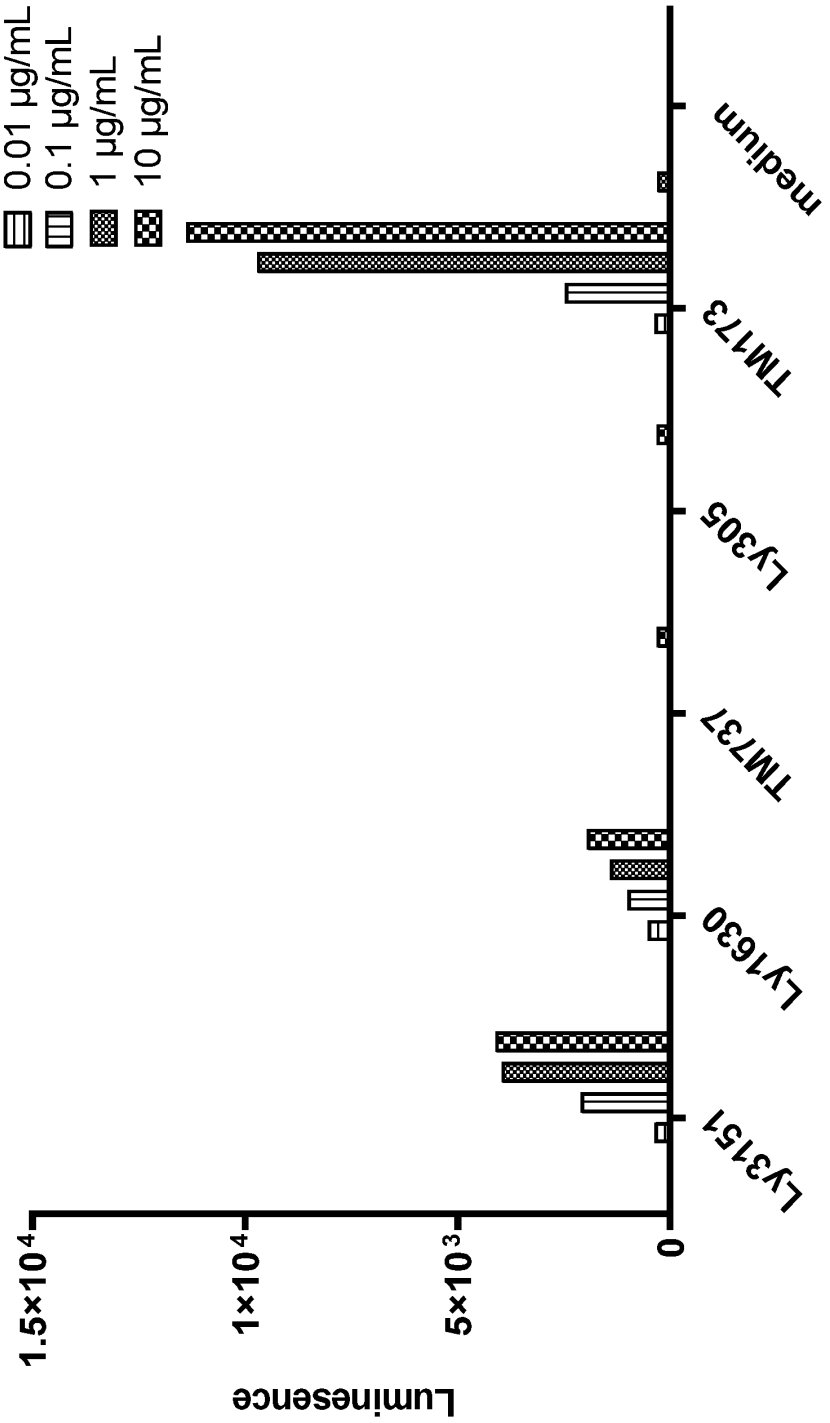

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10^4
1×10^4
5×10^3
0
medium
TM173
Ly305
TM737
Ly1630
Ly3151

FIG. 13B

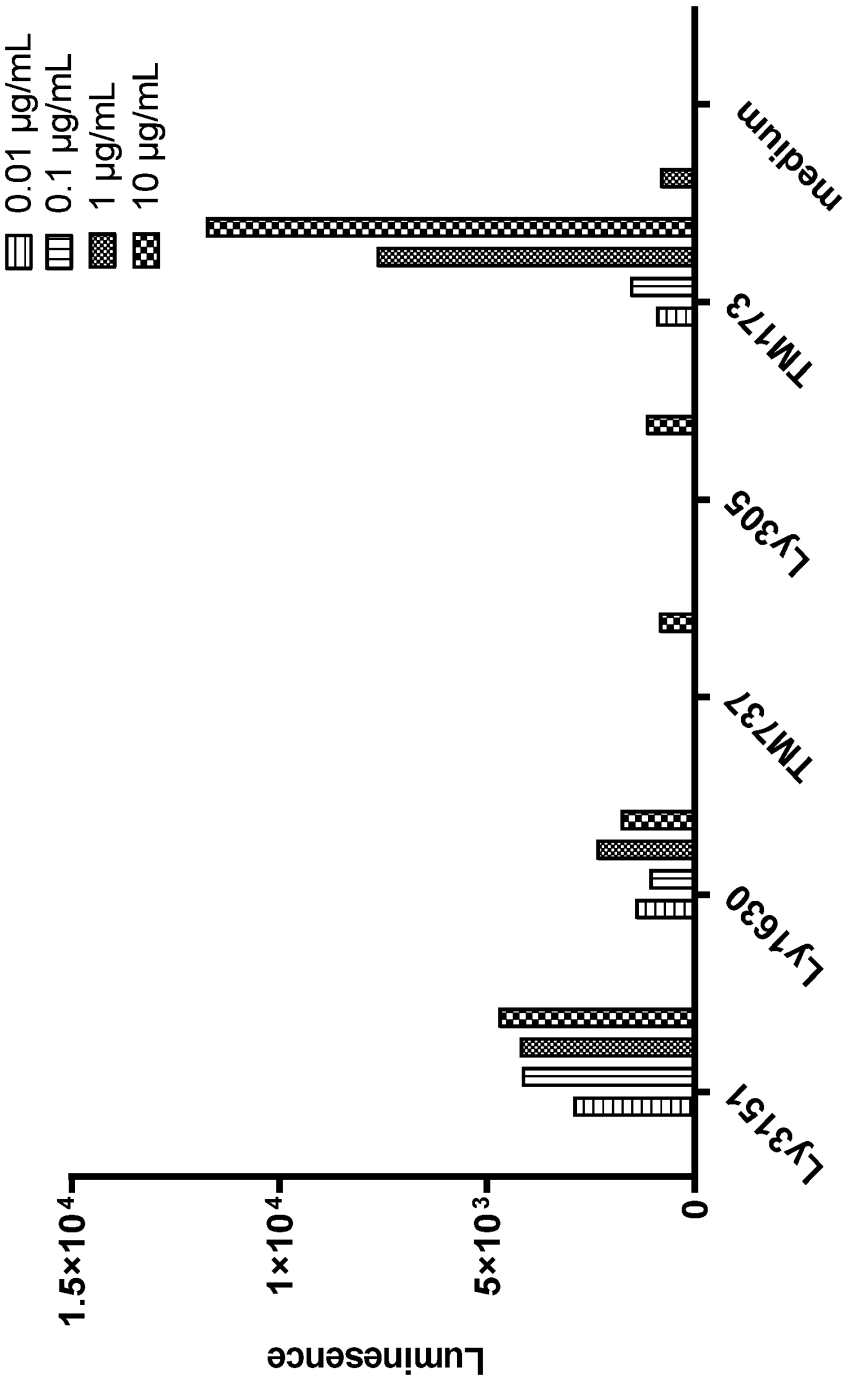

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10^4
1×10^4
5×10^3
0
Ly3151
Ly1630
TM737
Ly305
TM173
medium

FIG. 13C

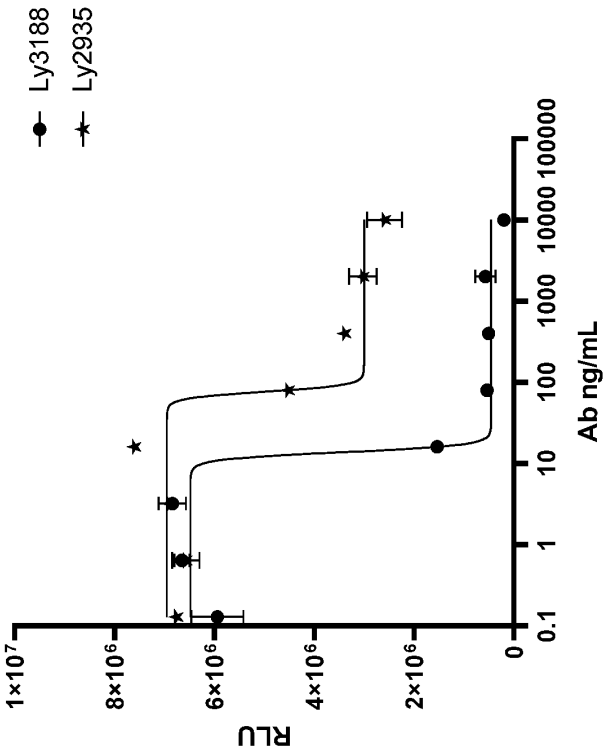


FIG. 14B

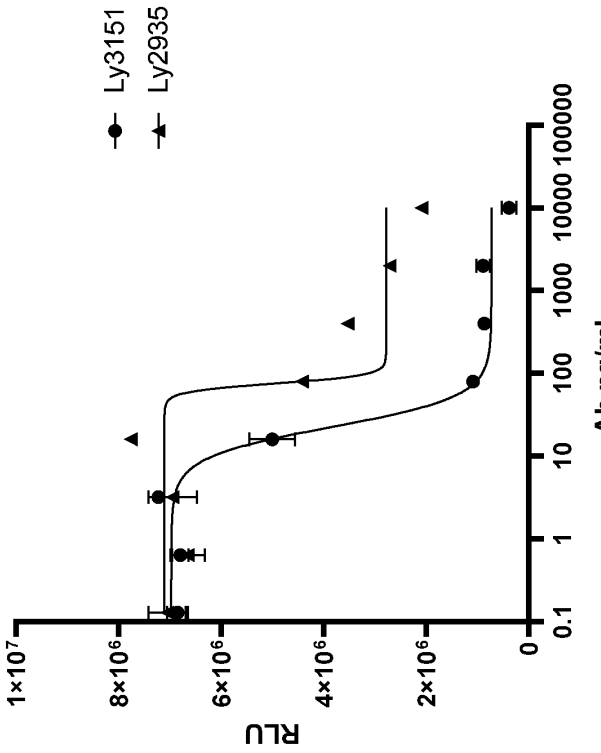


FIG. 14A

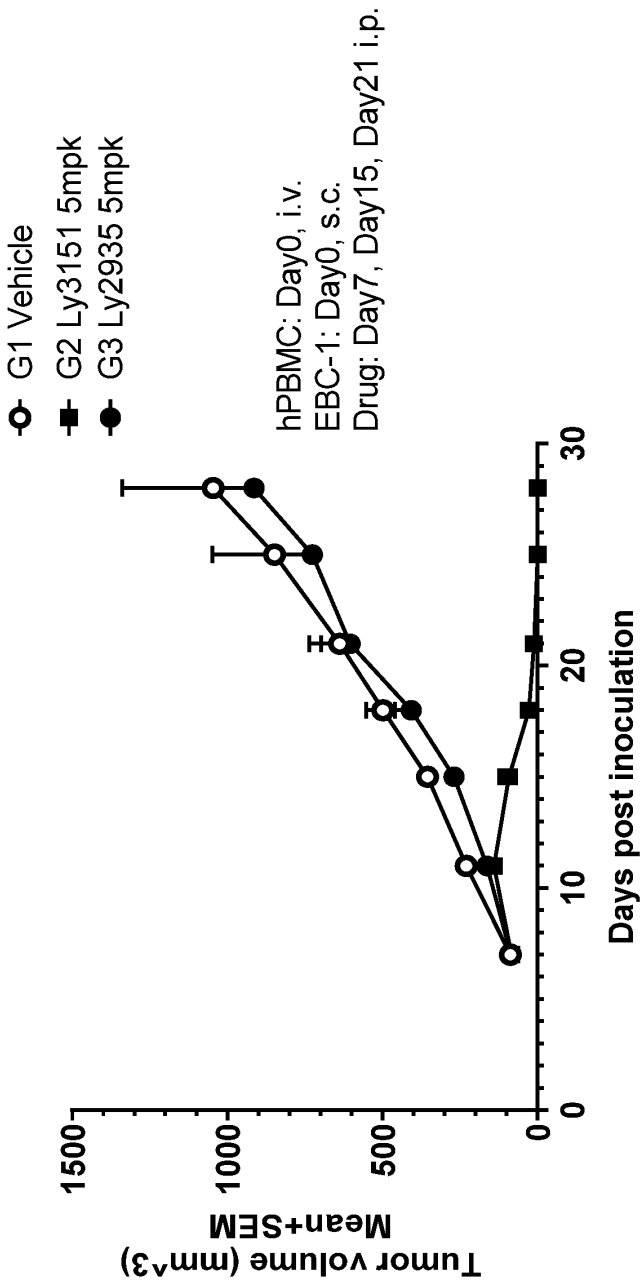

G1 Vehicle
G2 Ly3151 5mpk
G3 Ly2935 5mpk
hPBMC: Day0, i.v.
EBC-1: Day0, s.c.
Drug: Day7, Day15, Day21 i.p.
Tumor volume (mm^3)
Mean+SEM
1500
1000
500
0
0
10
20
30
Days post inoculation

FIG. 15

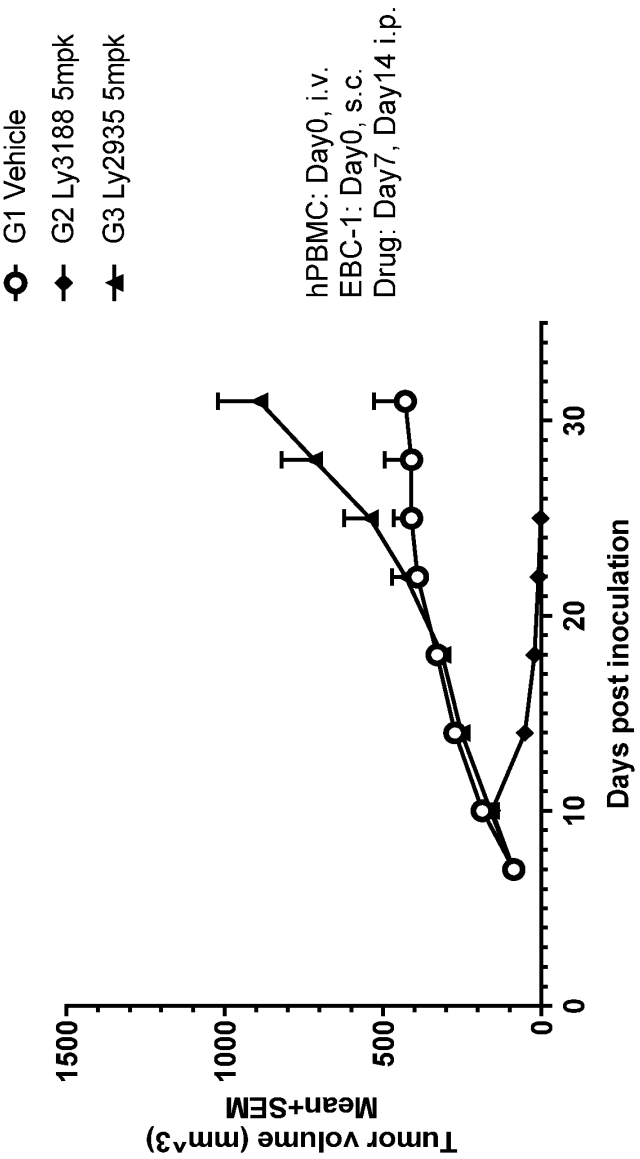

G1 Vehicle
G2 Ly3188 5mpk
G3 Ly2935 5mpk
hPBMC: Day0, i.v.
EBC-1: Day0, s.c.
Drug: Day7, Day14 i.p.
Tumor volume (mm^3)
Mean+SEM
1500
1000
500
0
0
10
20
30
Days post inoculation

FIG. 16

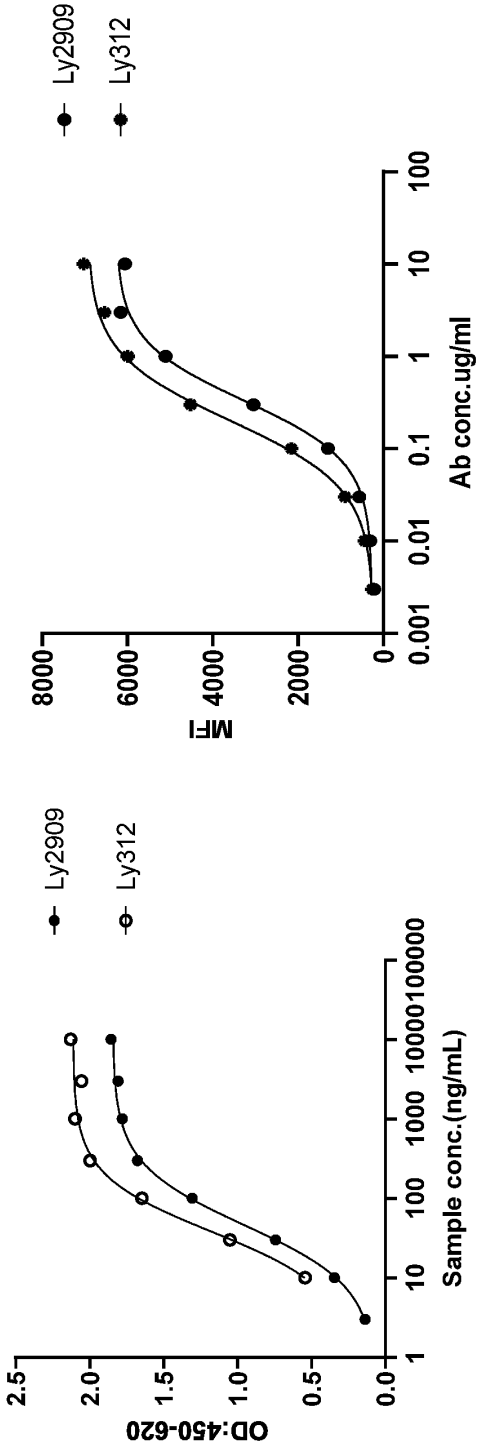


FIG. 17A

FIG. 17B

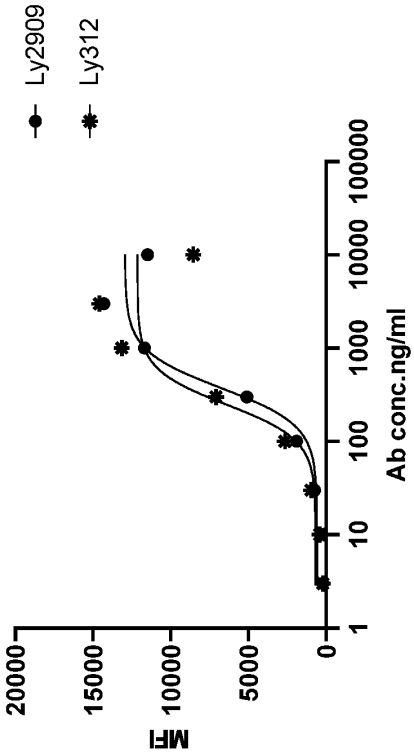


FIG. 17C

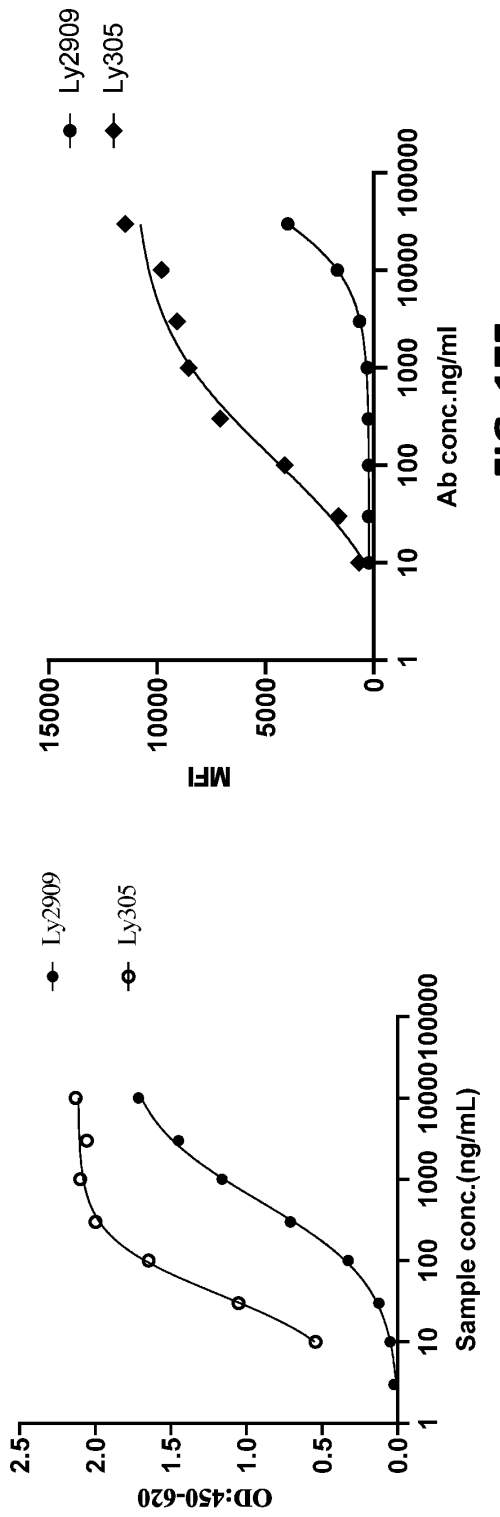


FIG. 17D

FIG. 17E

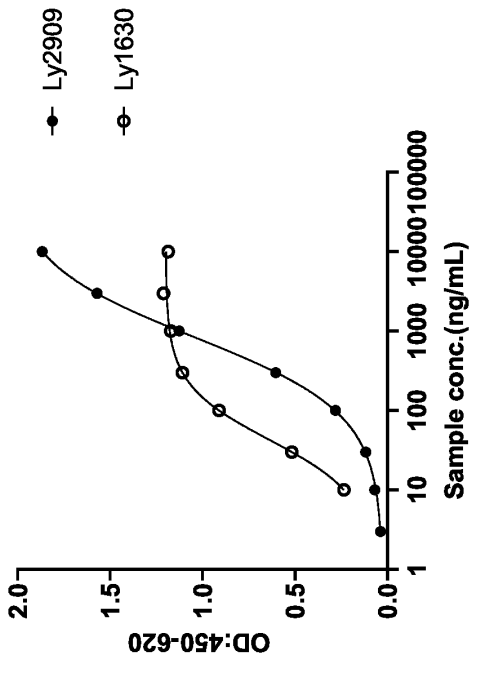


FIG. 17F

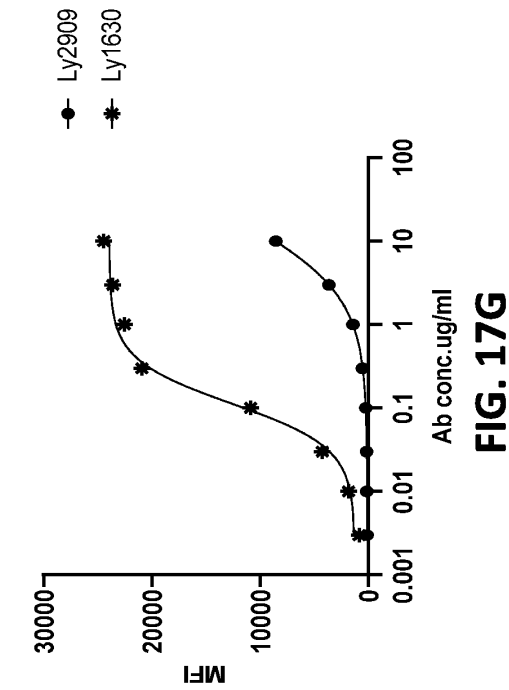


FIG. 17G

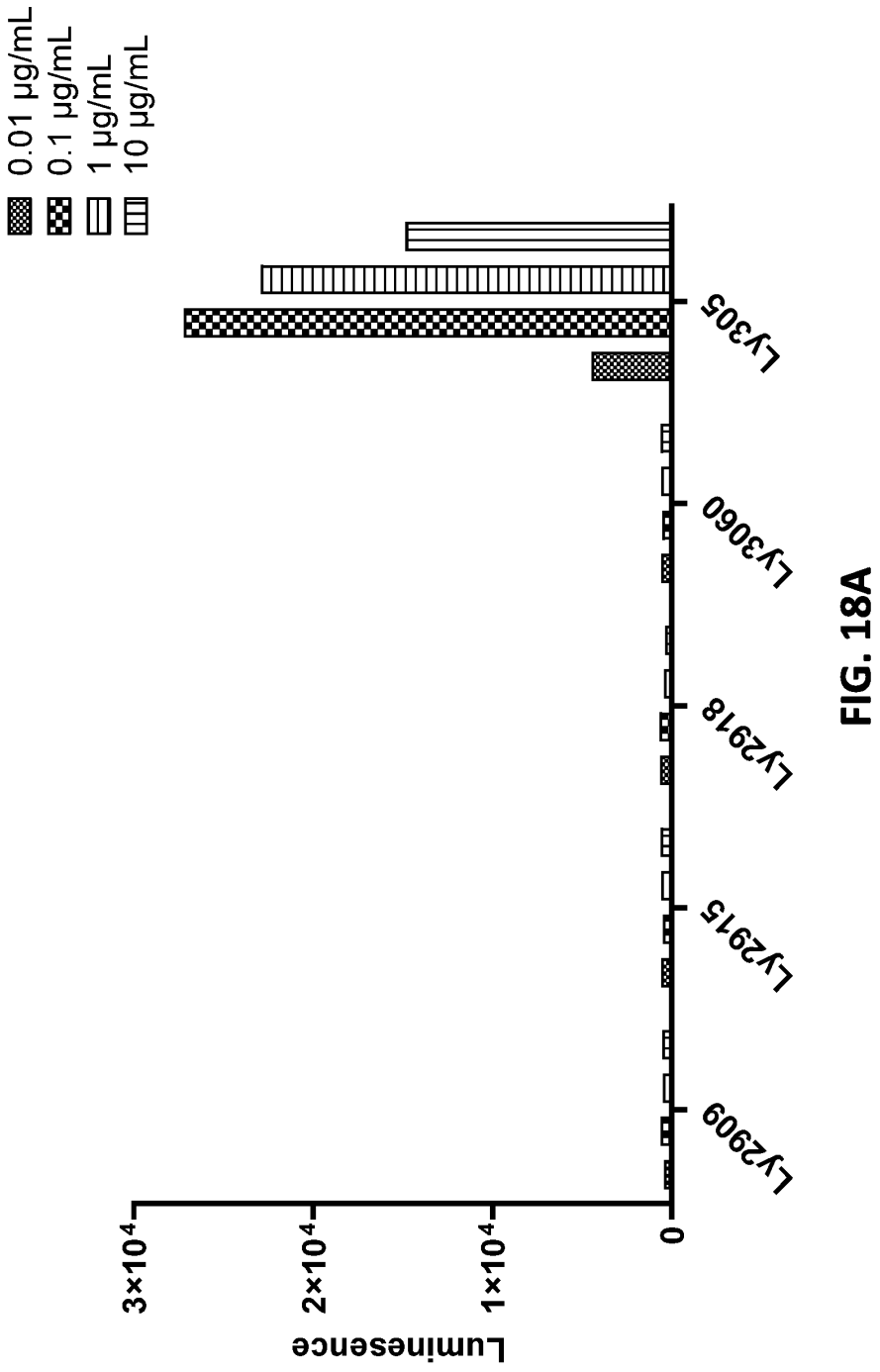

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
3×10^4
2×10^4
1×10^4
0
LY2909
LY2915
LY2918
LY3060
LY305

FIG. 18A

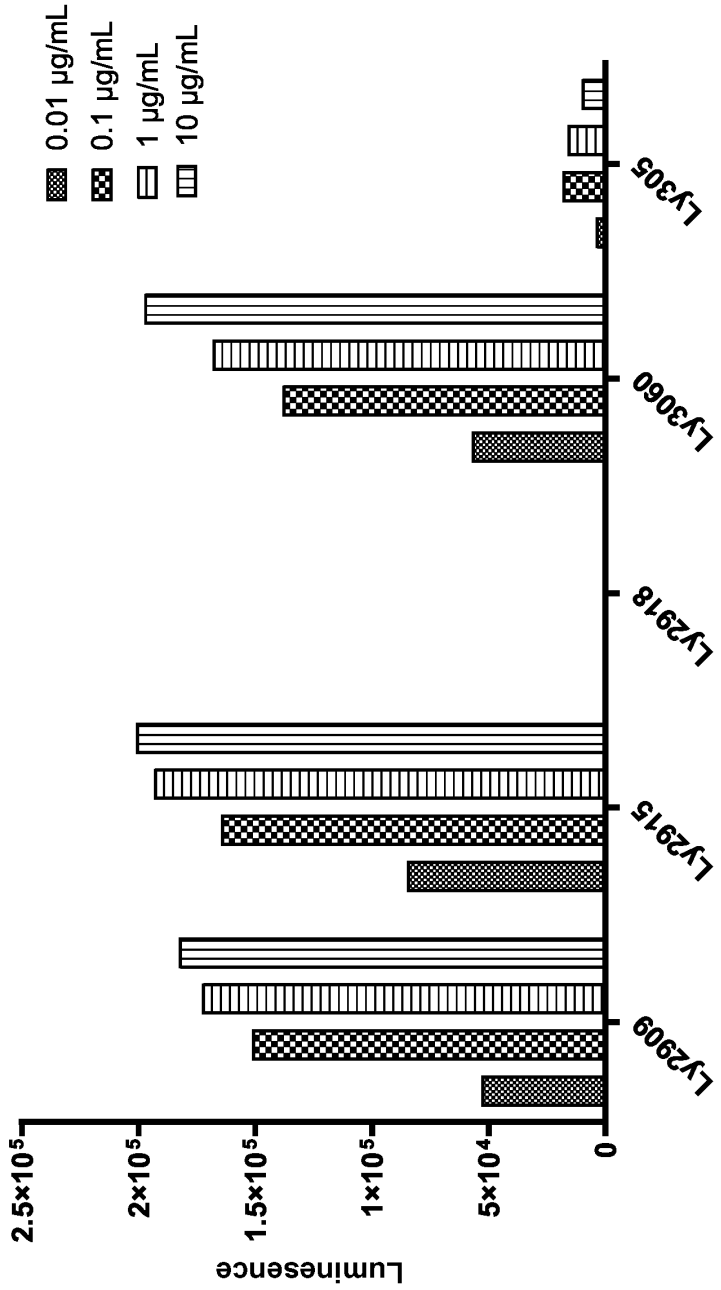

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2.5×10^5
2×10^5
1.5×10^5
1×10^5
5×10^4
0
LY2909
LY2915
LY2918
LY3060
LY305

FIG. 18B

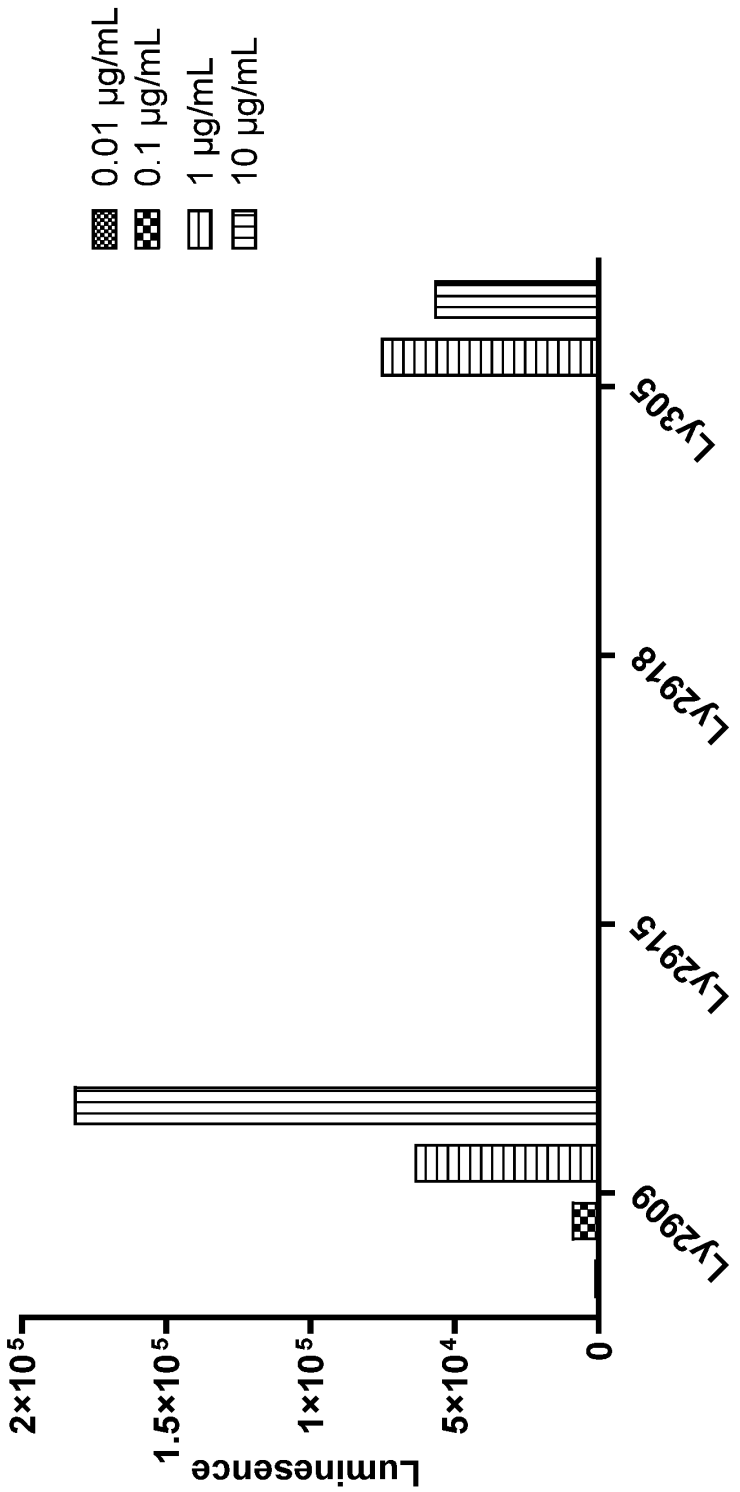

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2×10^5
1.5×10^5
1×10^5
5×10^4
0
LY2909
LY2915
LY2918
LY305

FIG. 18C

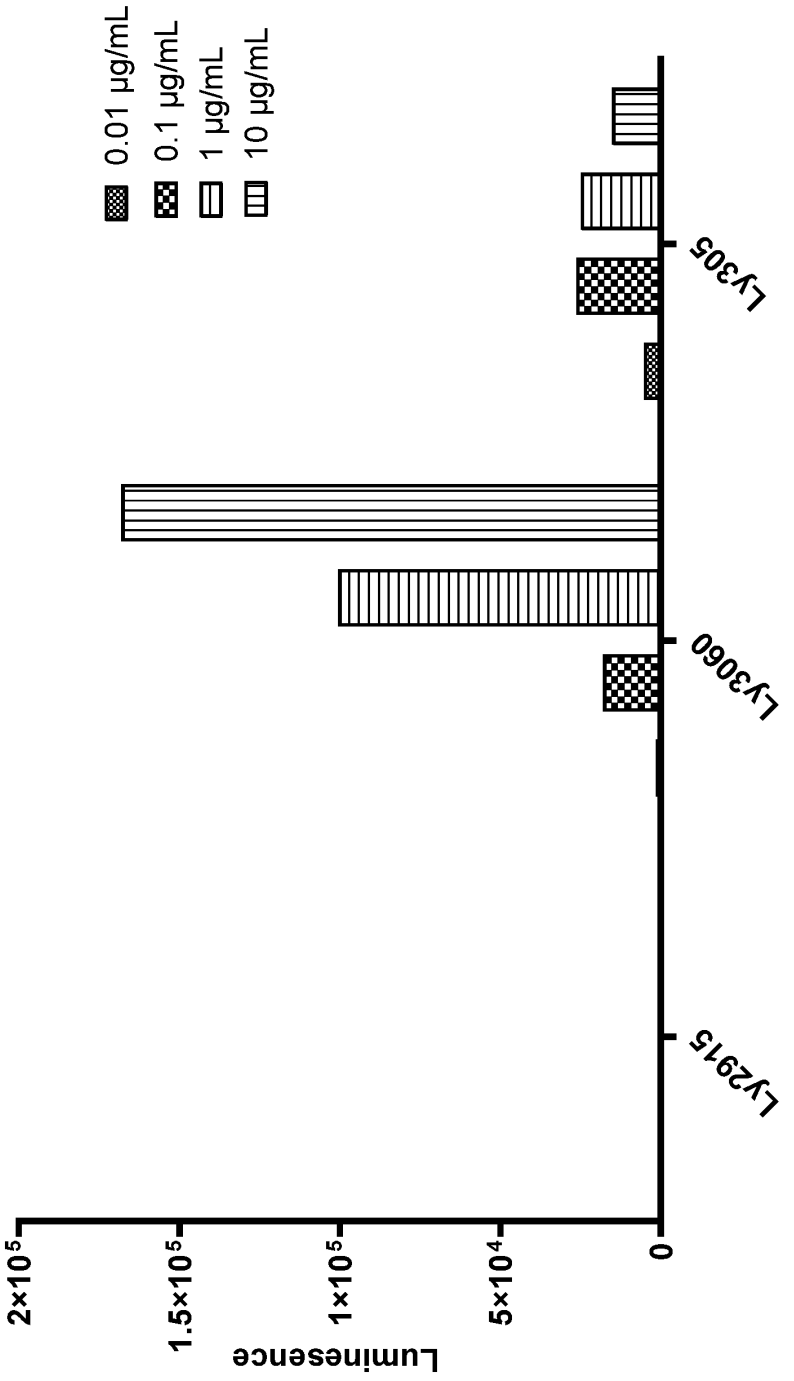

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2×10^5
1.5×10^5
1×10^5
5×10^4
0
Ly2915
Ly3060
Ly305

FIG. 18D

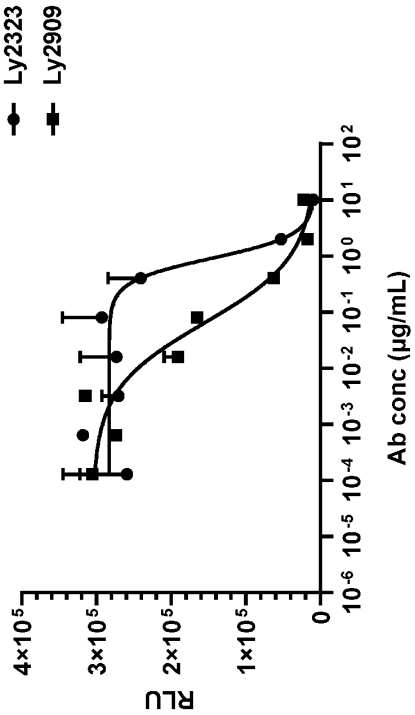


FIG. 19B

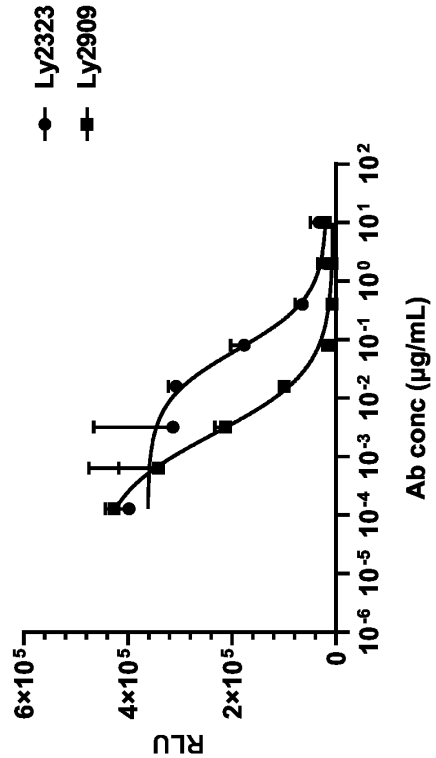


FIG. 19A

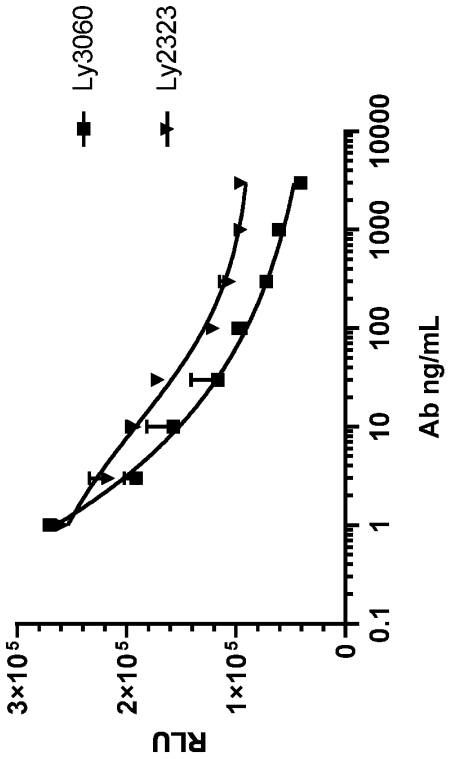


FIG. 19D

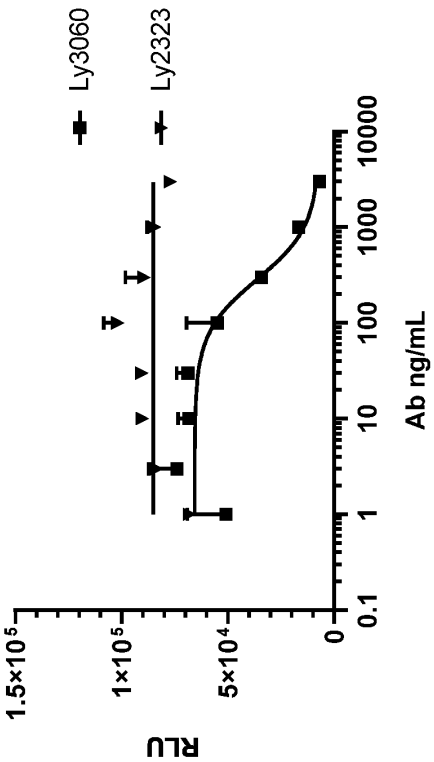


FIG. 19C

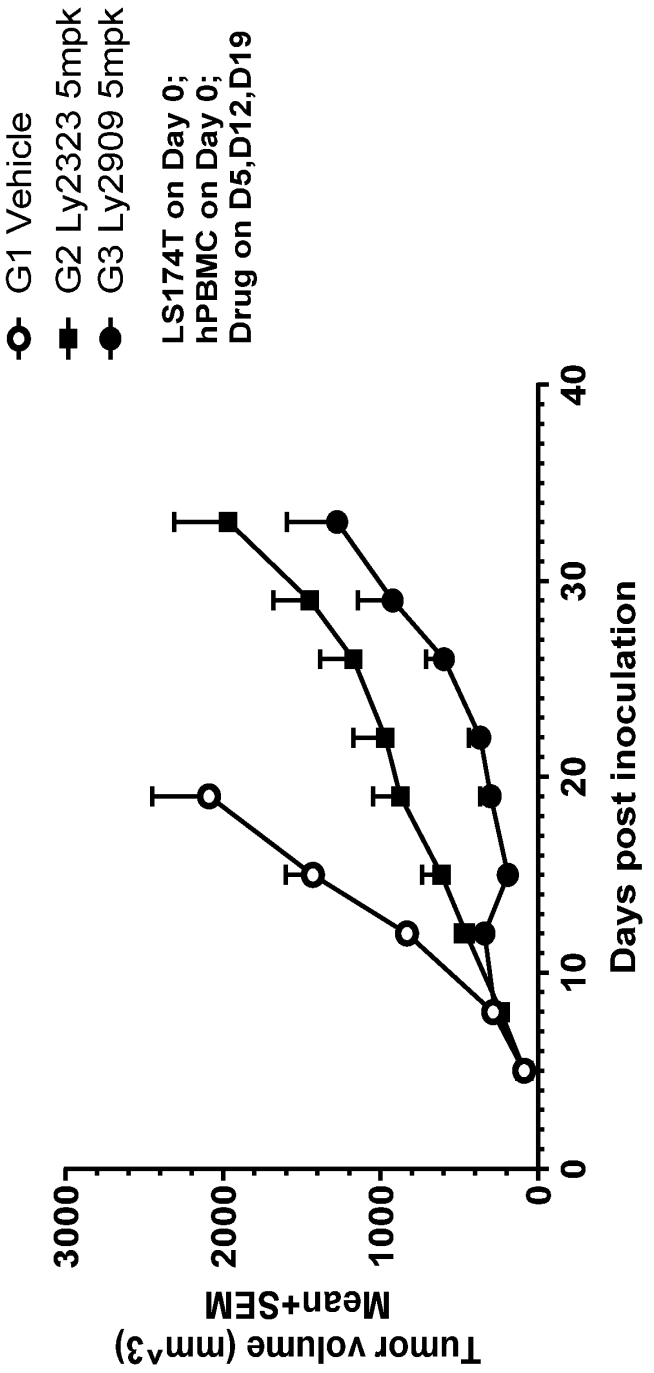

G1 Vehicle
G2 Ly2323 5mpk
G3 Ly2909 5mpk
LS174T on Day 0;
hPBMC on Day 0;
Drug on D5,D12,D19
Tumor volume (mm^3)
Mean+SEM
3000
2000
1000
0
0
10
20
30
40
Days post inoculation

FIG. 20

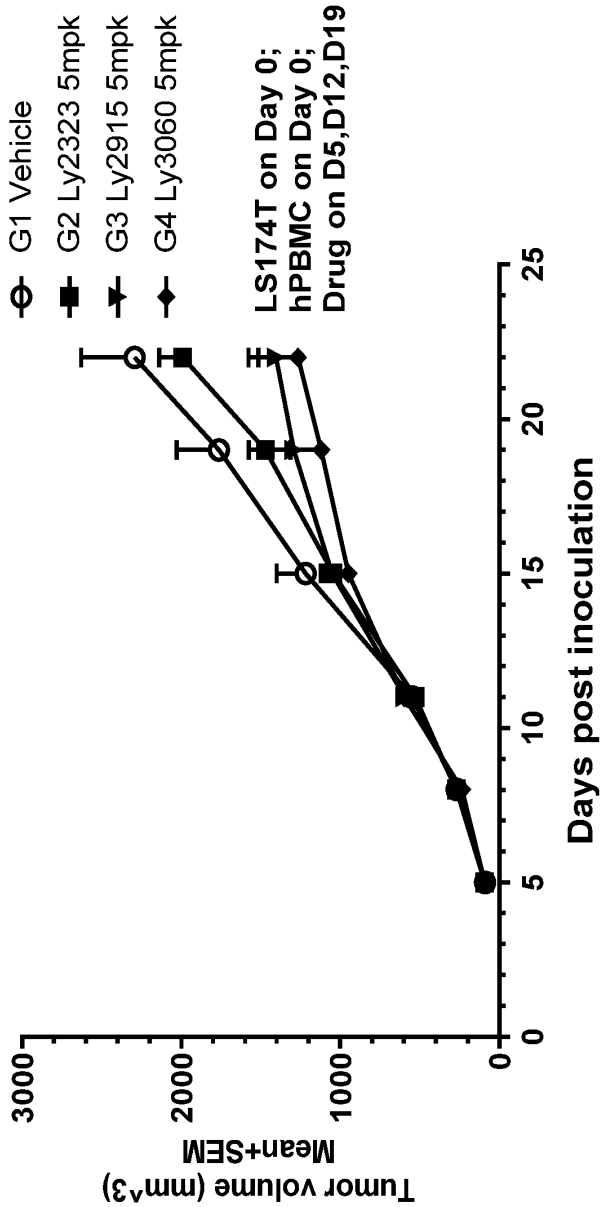

G1 Vehicle
G2 Ly2323 5mpk
G3 Ly2915 5mpk
G4 Ly3060 5mpk
LS174T on Day 0;
hPBMC on Day 0;
Drug on D5,D12,D19
Tumor volume (mm^3)
Mean+SEM
3000
2000
1000
0
0
5
10
15
20
25
Days post inoculation

FIG. 21

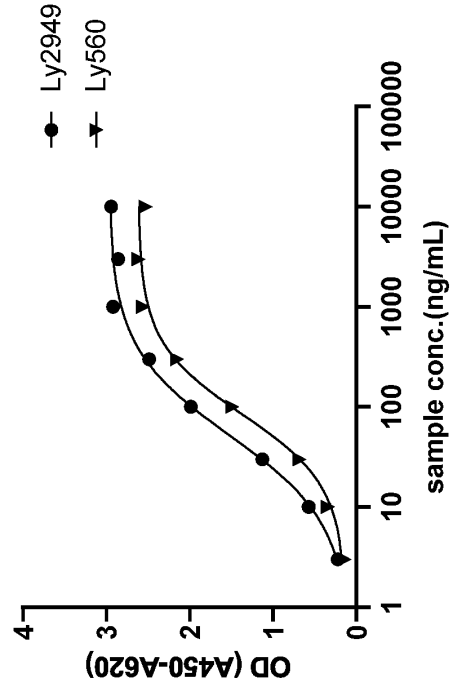


FIG. 22A

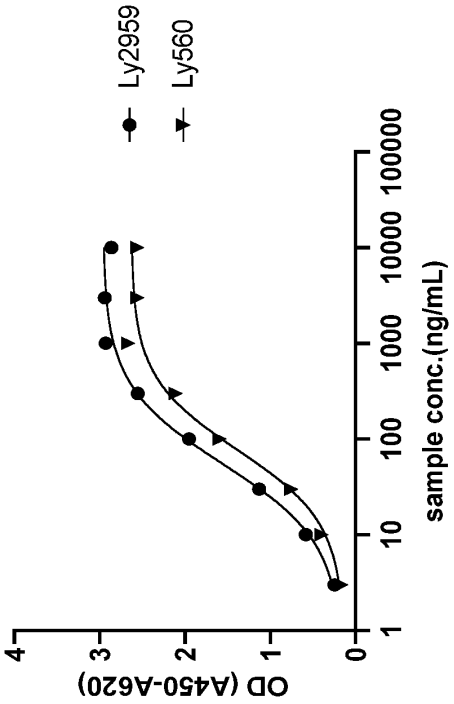


FIG. 22B

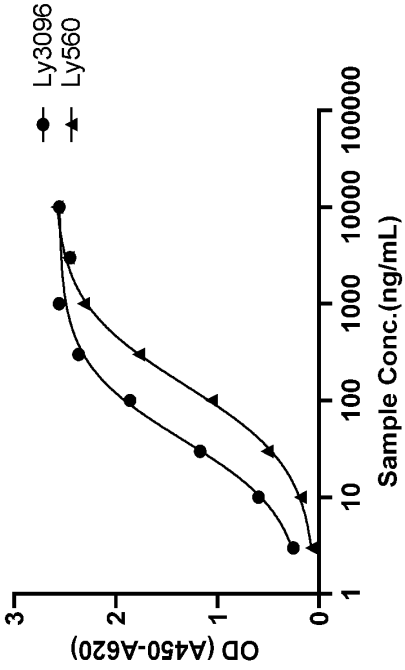


FIG. 22C

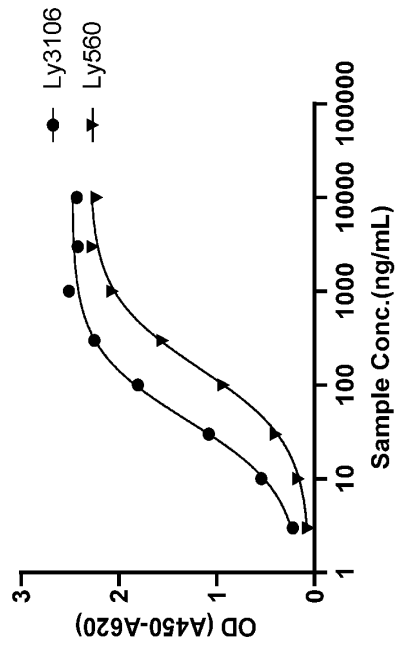


FIG. 22D

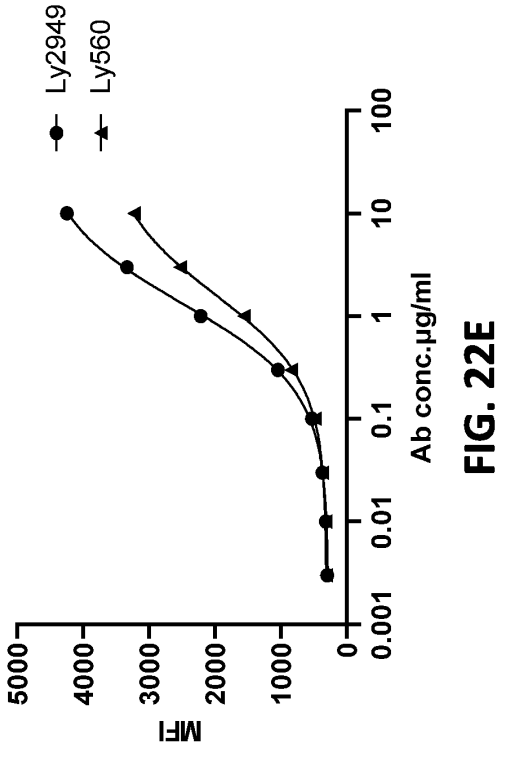


FIG. 22E

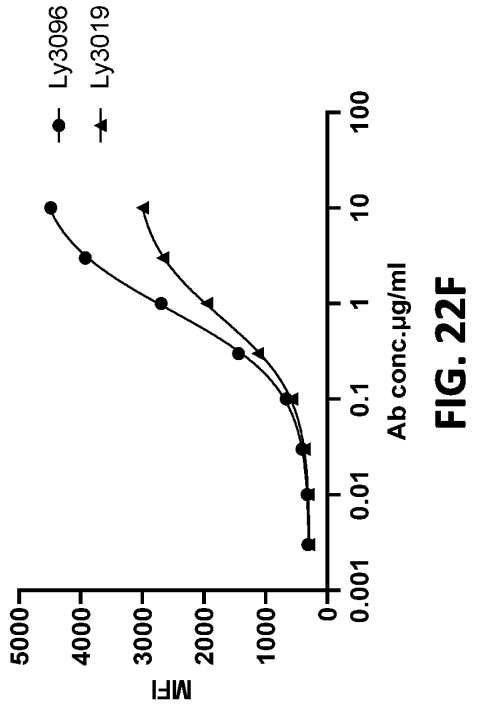


FIG. 22F

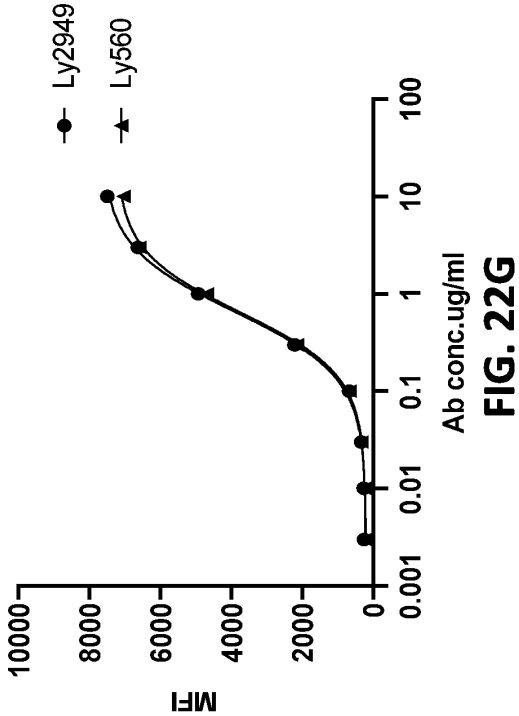


FIG. 22G

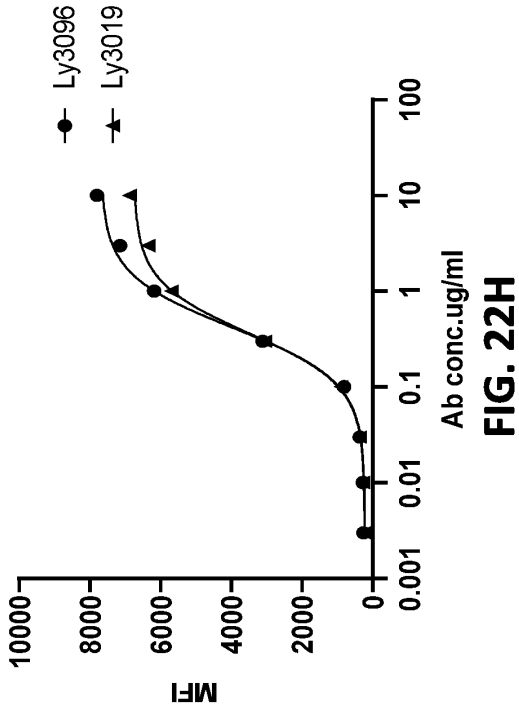


FIG. 22H

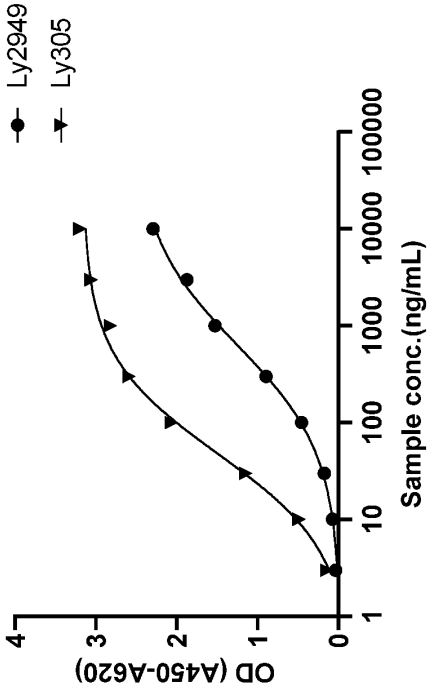


FIG. 22I

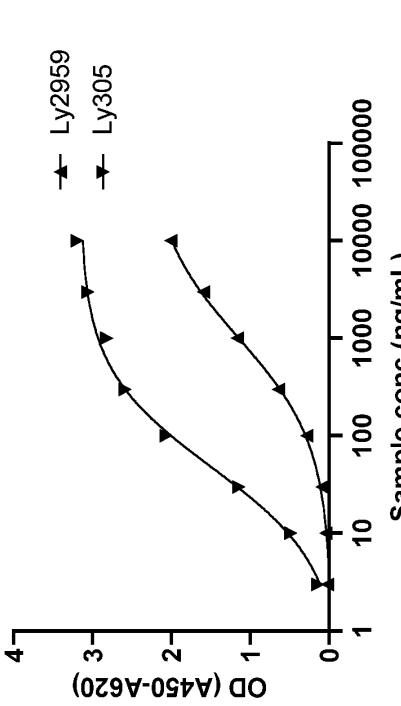


FIG. 22J

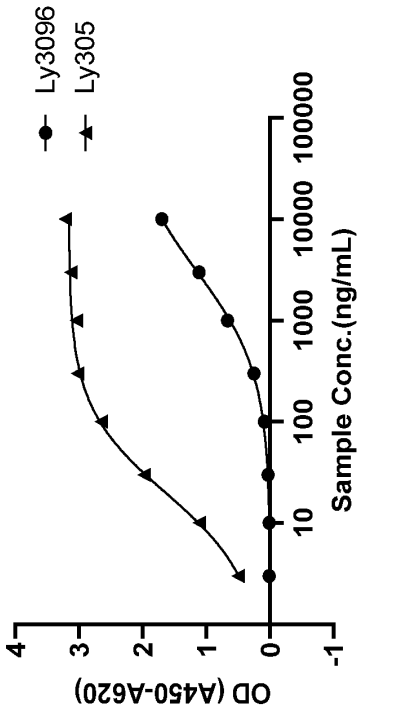


FIG. 22K

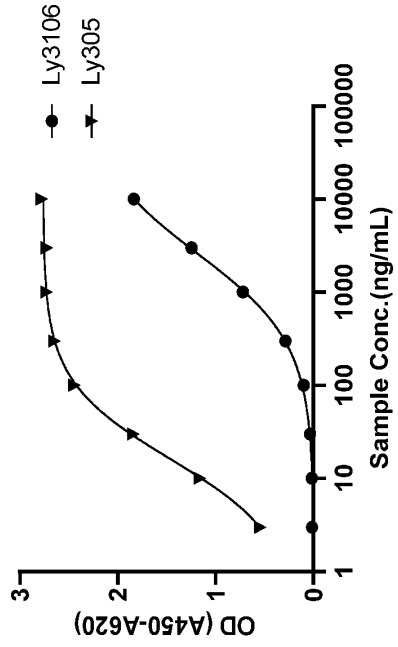


FIG. 22L

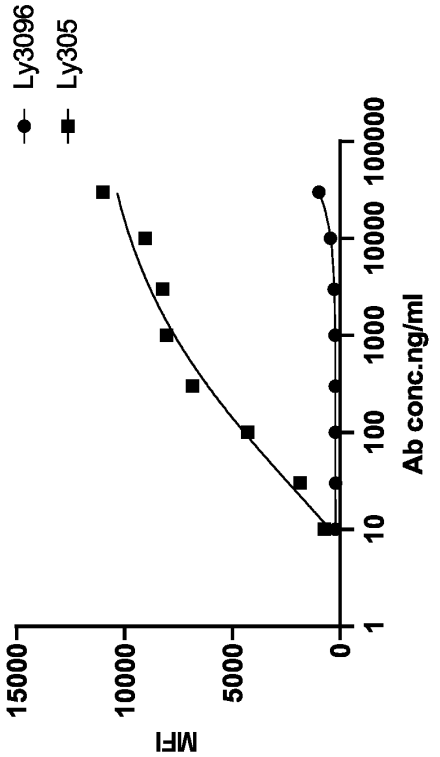


FIG. 22N

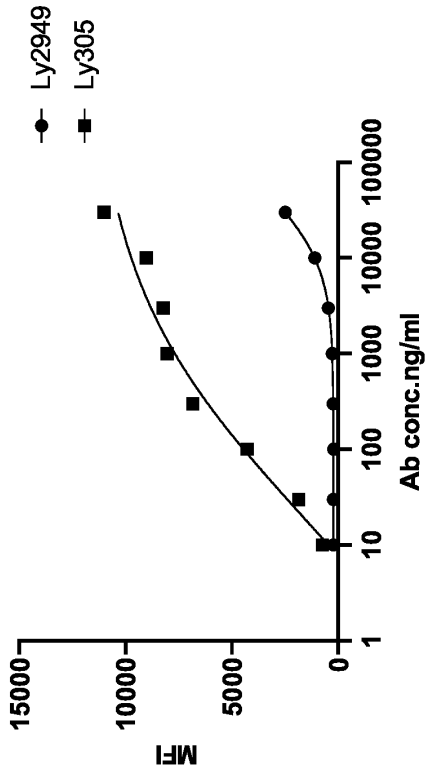


FIG. 22M

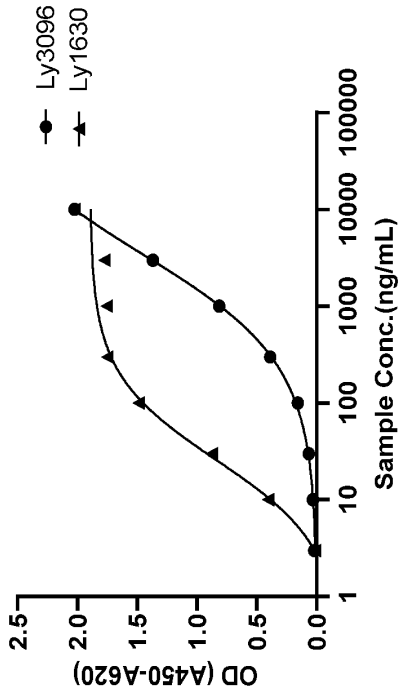


FIG. 22P

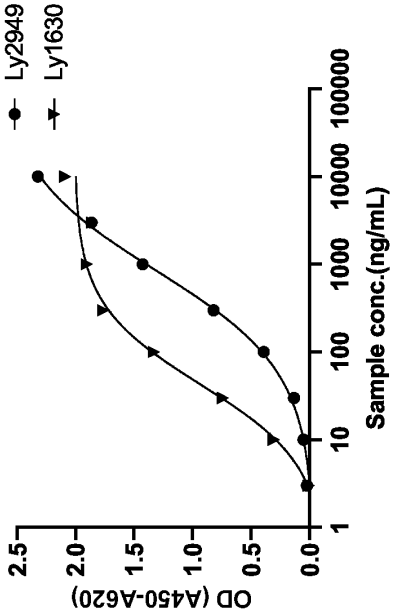


FIG. 22O

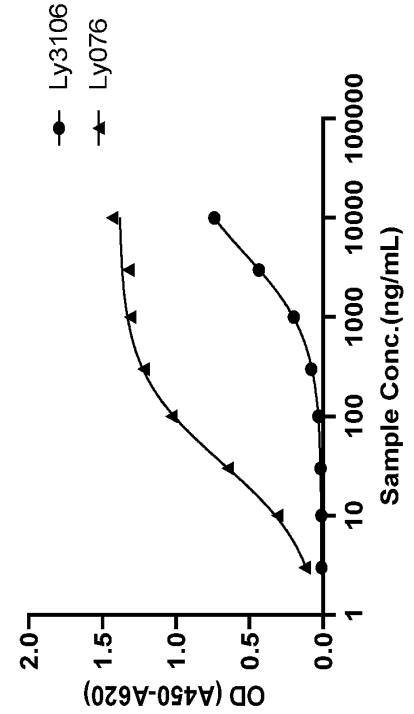


FIG. 22R

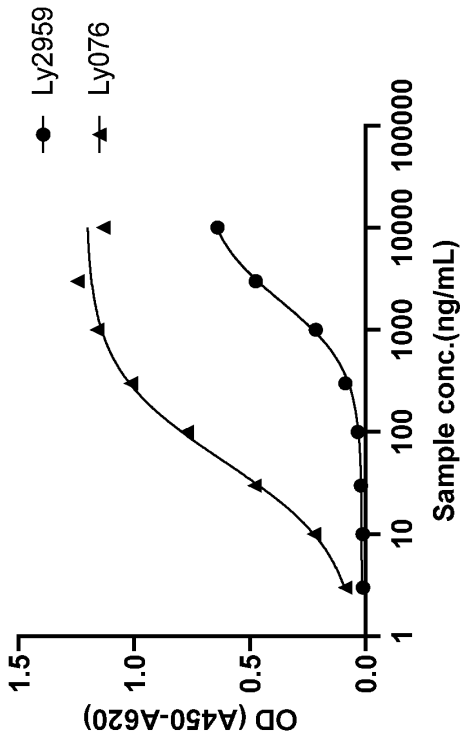


FIG. 22Q

FIG. 23A

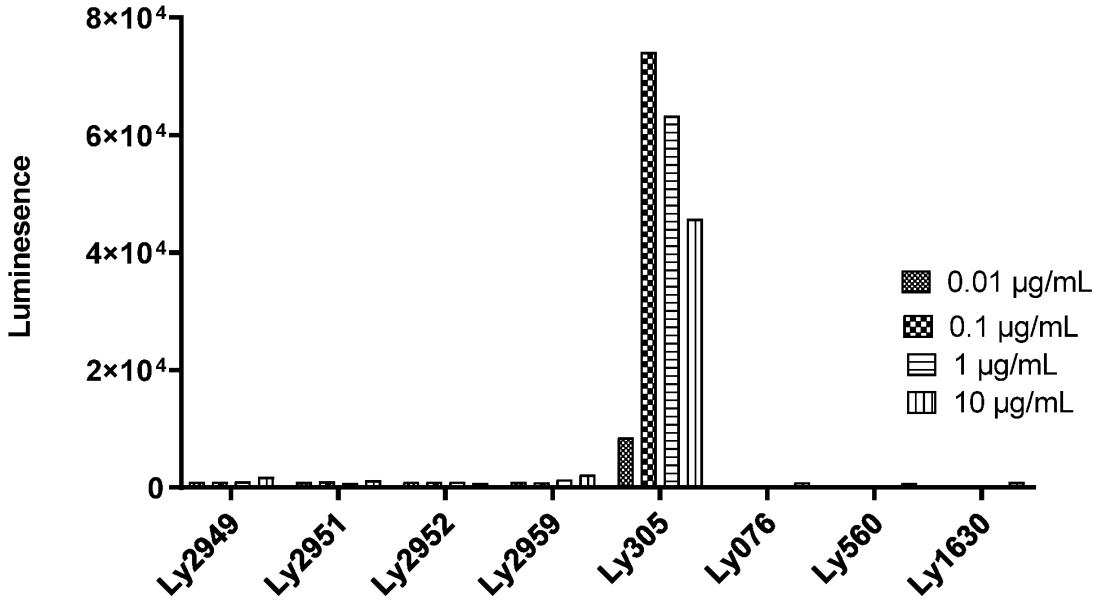


FIG. 23B

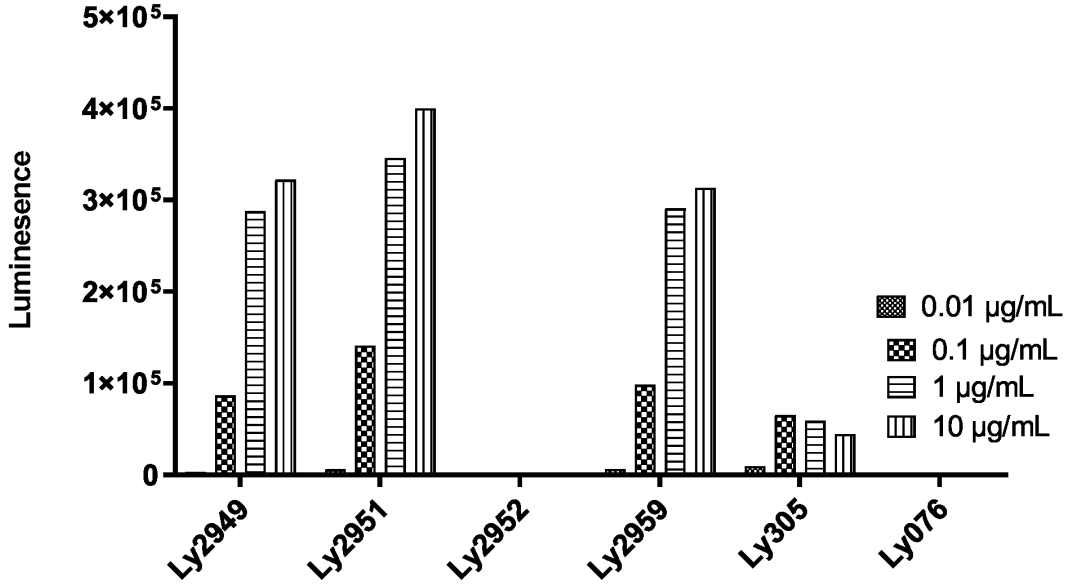


FIG. 23C

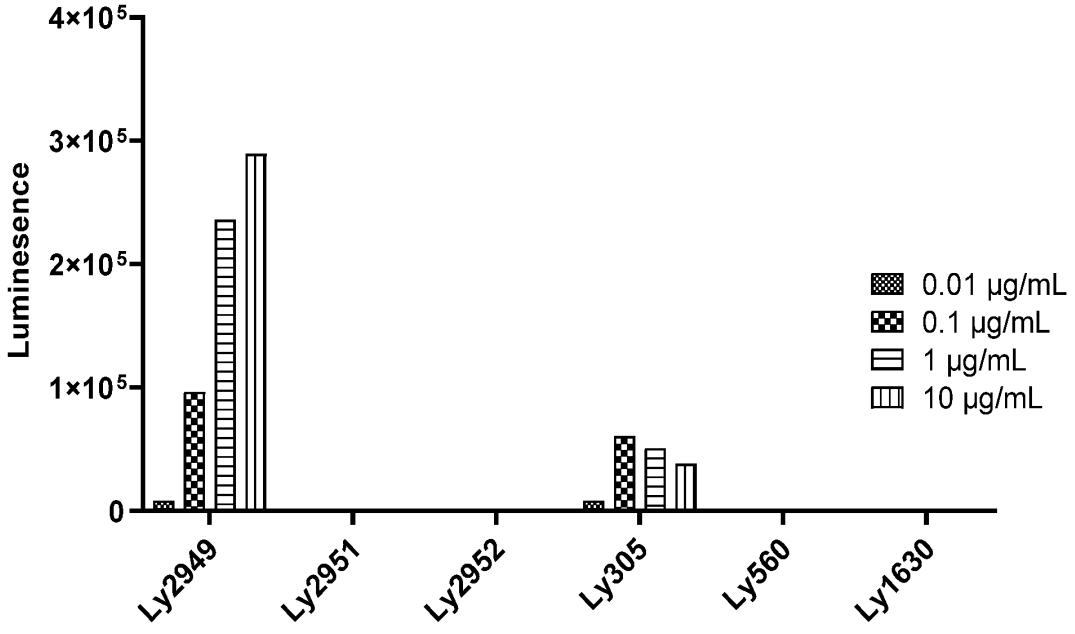
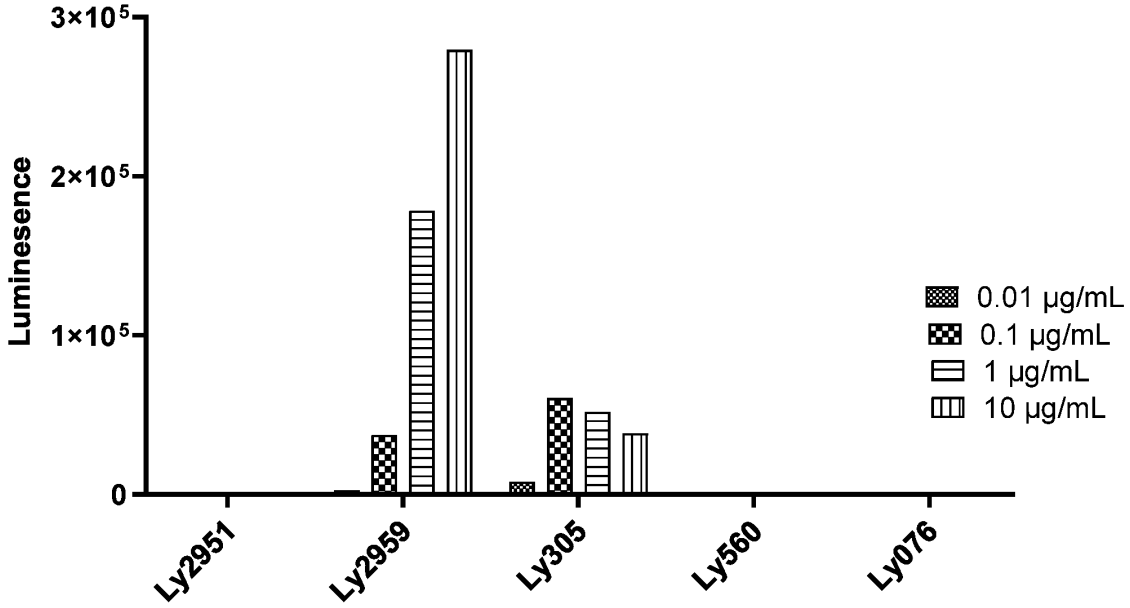


FIG. 23D



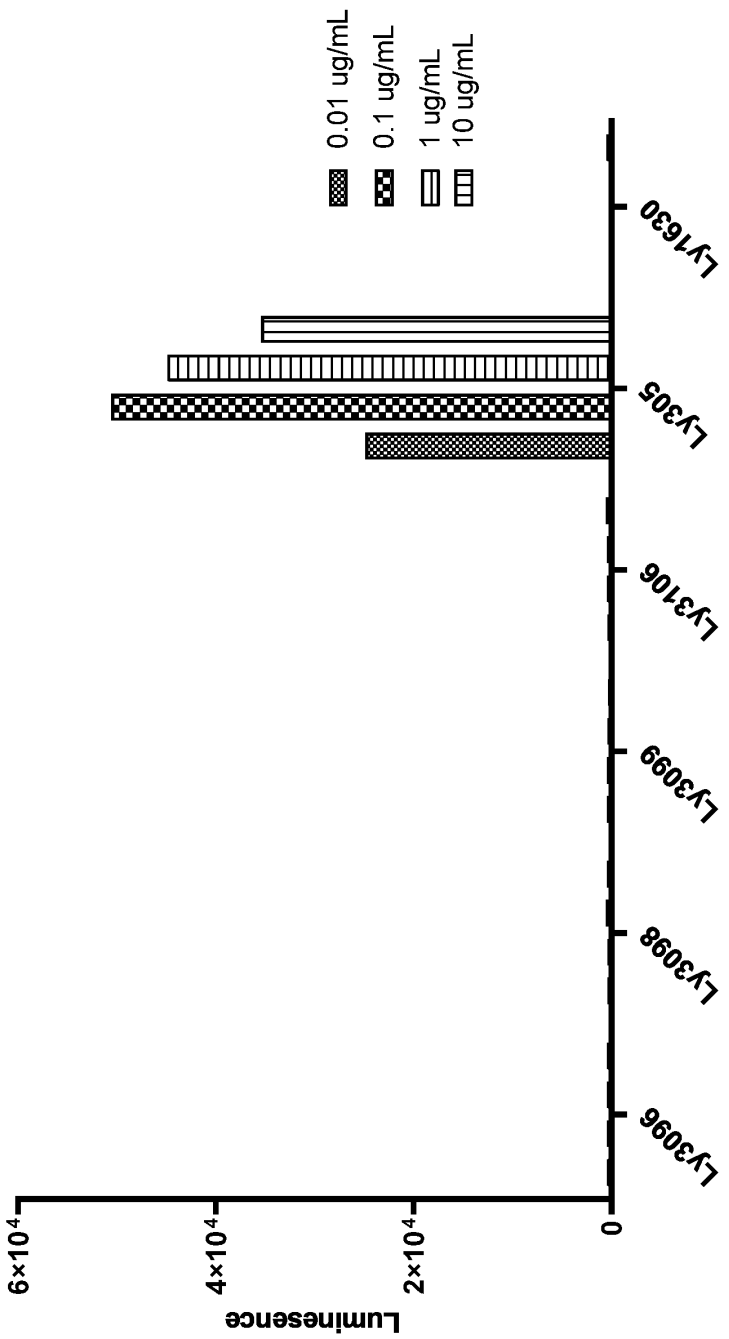

0.01 ug/mL
0.1 ug/mL
1 ug/mL
10 ug/mL
Luminescence
6×10^4
4×10^4
2×10^4
0
Ly3096
Ly3098
Ly3099
Ly3106
Ly305
Ly1630

FIG. 23E

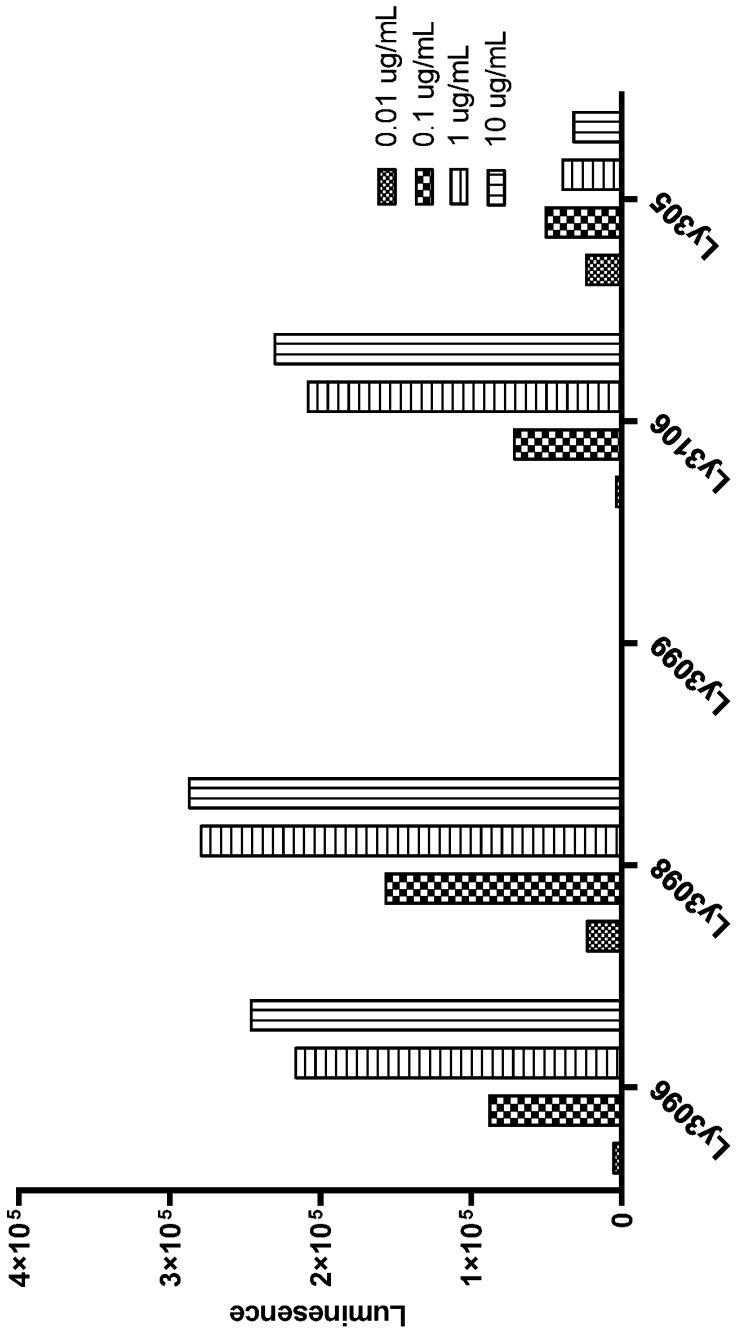

0.01 ug/mL
0.1 ug/mL
1 ug/mL
10 ug/mL
Ly305
Ly3106
Ly3099
Ly3098
Ly3096
Luminescence
0
1×10^5
2×10^5
3×10^5
4×10^5

FIG. 23F

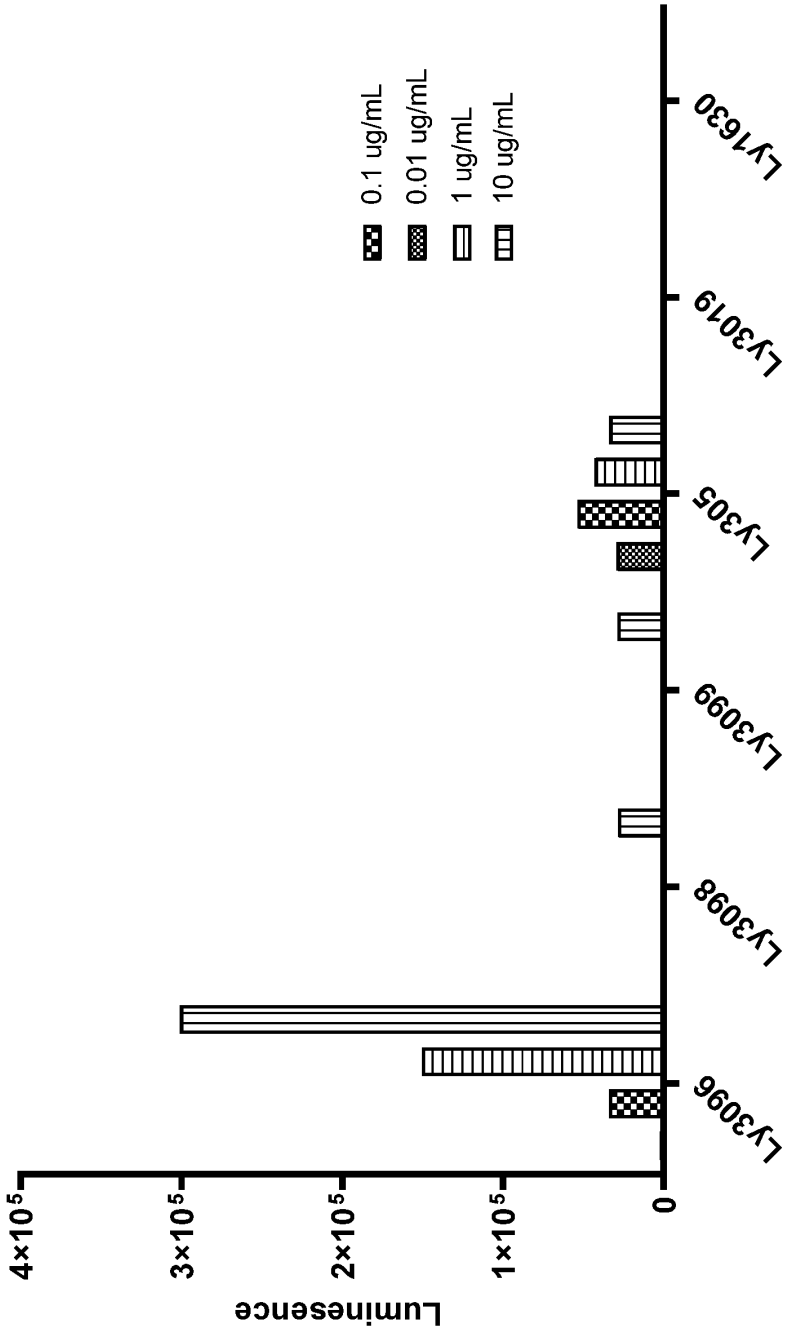

0.1 ug/mL
0.01 ug/mL
1 ug/mL
10 ug/mL
Luminescence
4×10^5
3×10^5
2×10^5
1×10^5
0
LY3096
LY3098
LY3099
LY305
LY3019
LY1630

FIG. 23G

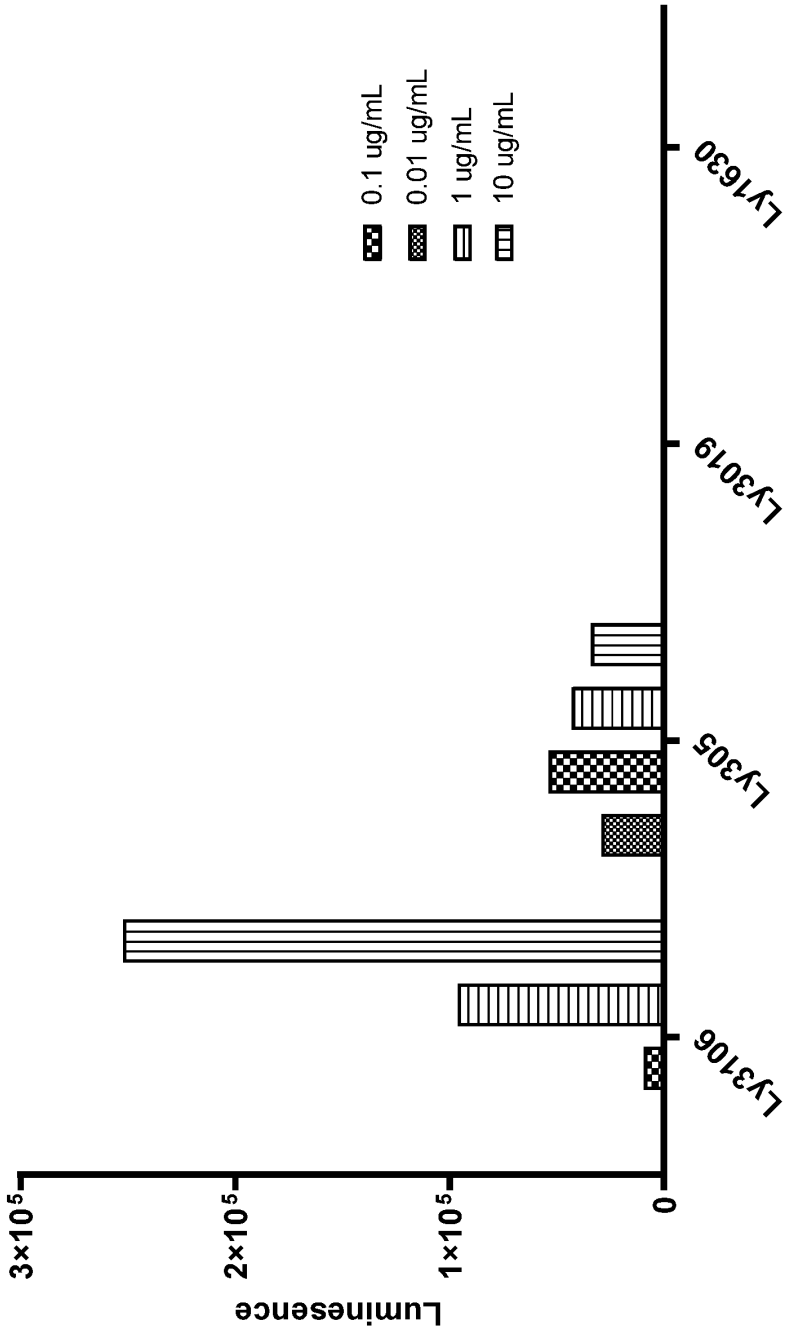

0.1 ug/mL
0.01 ug/mL
1 ug/mL
10 ug/mL
Luminescence
3×10^5
2×10^5
1×10^5
0
Ly3106
Ly305
Ly3019
Ly1630

FIG. 23H

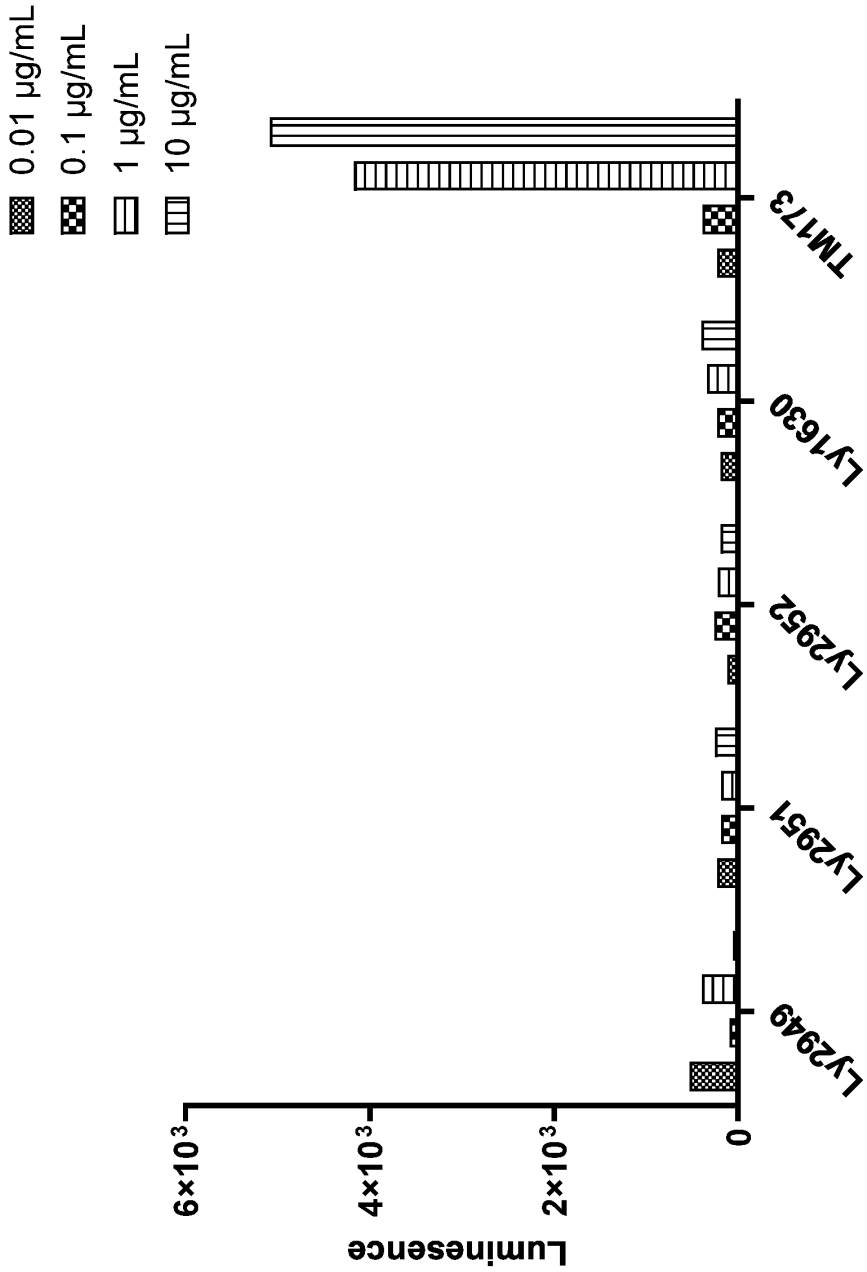

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
6×10^3
4×10^3
2×10^3
0
LY2949
LY2951
LY2952
LY1630
TM173

FIG. 24A

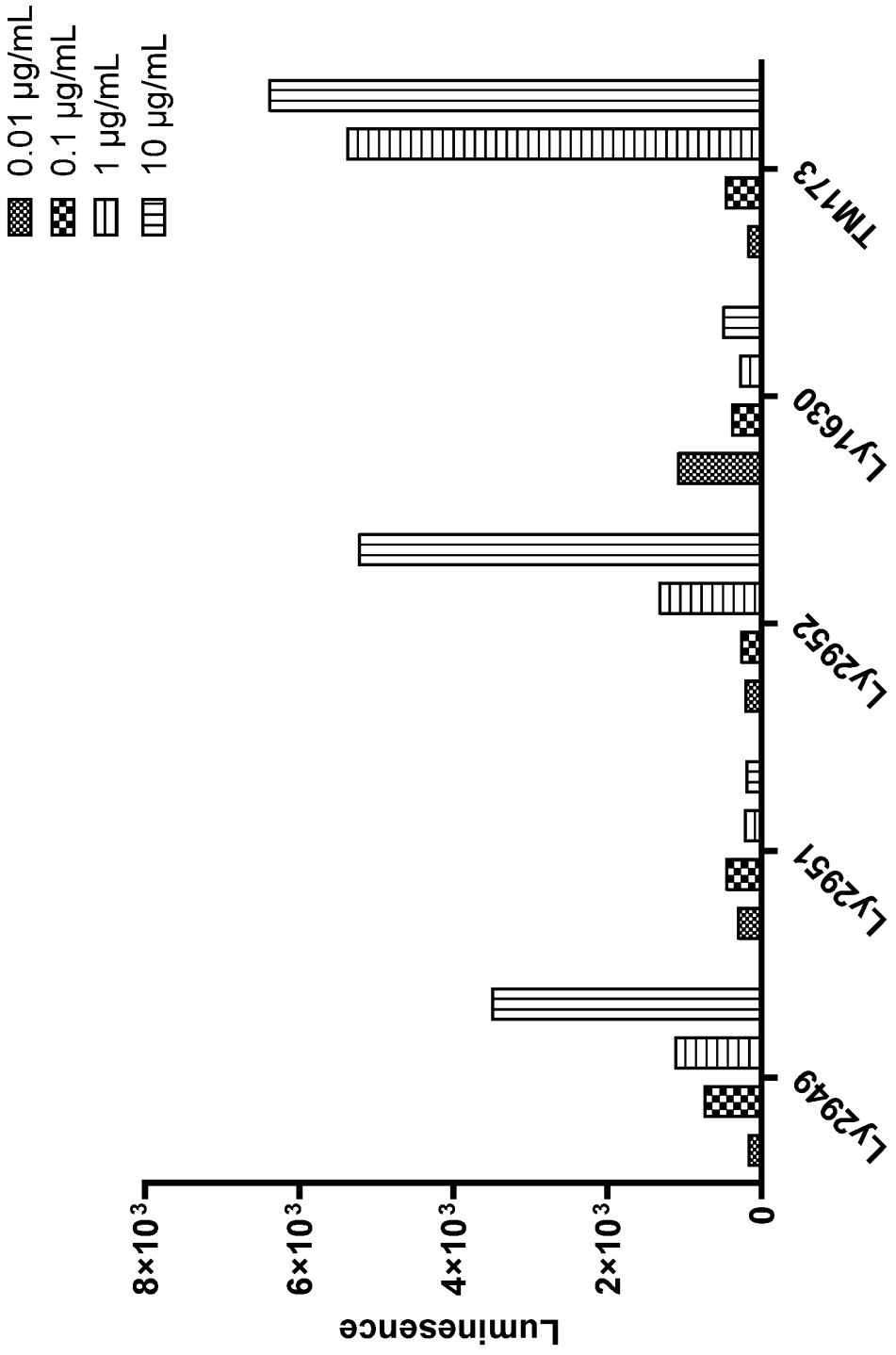

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
8×10³
6×10³
4×10³
2×10³
0
LY2949
LY2951
LY2952
LY1630
TM173

FIG. 24B

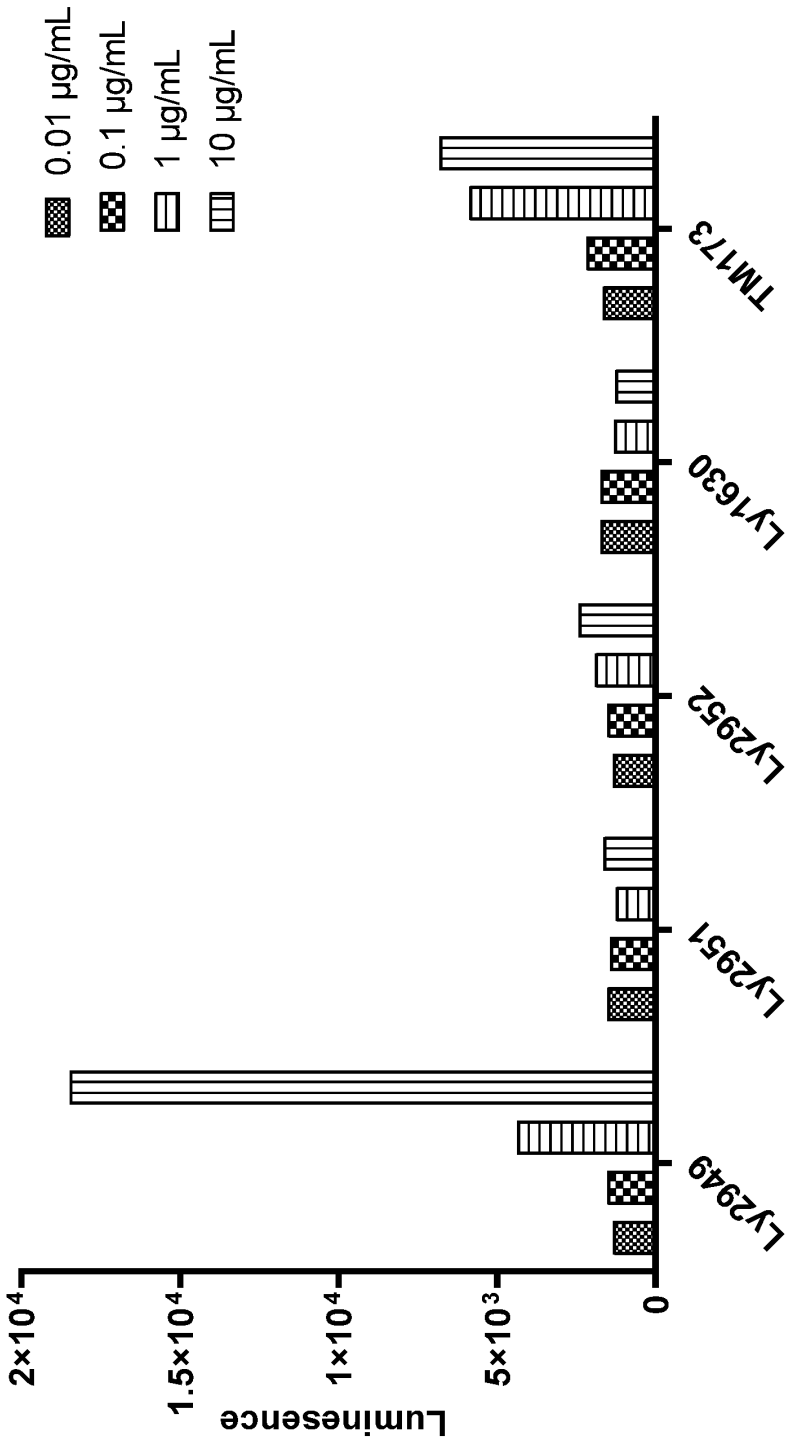

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
2×10^4
1.5×10^4
1×10^4
5×10^3
0
LY2949
LY2951
LY2952
LY1630
TM173

FIG. 24C

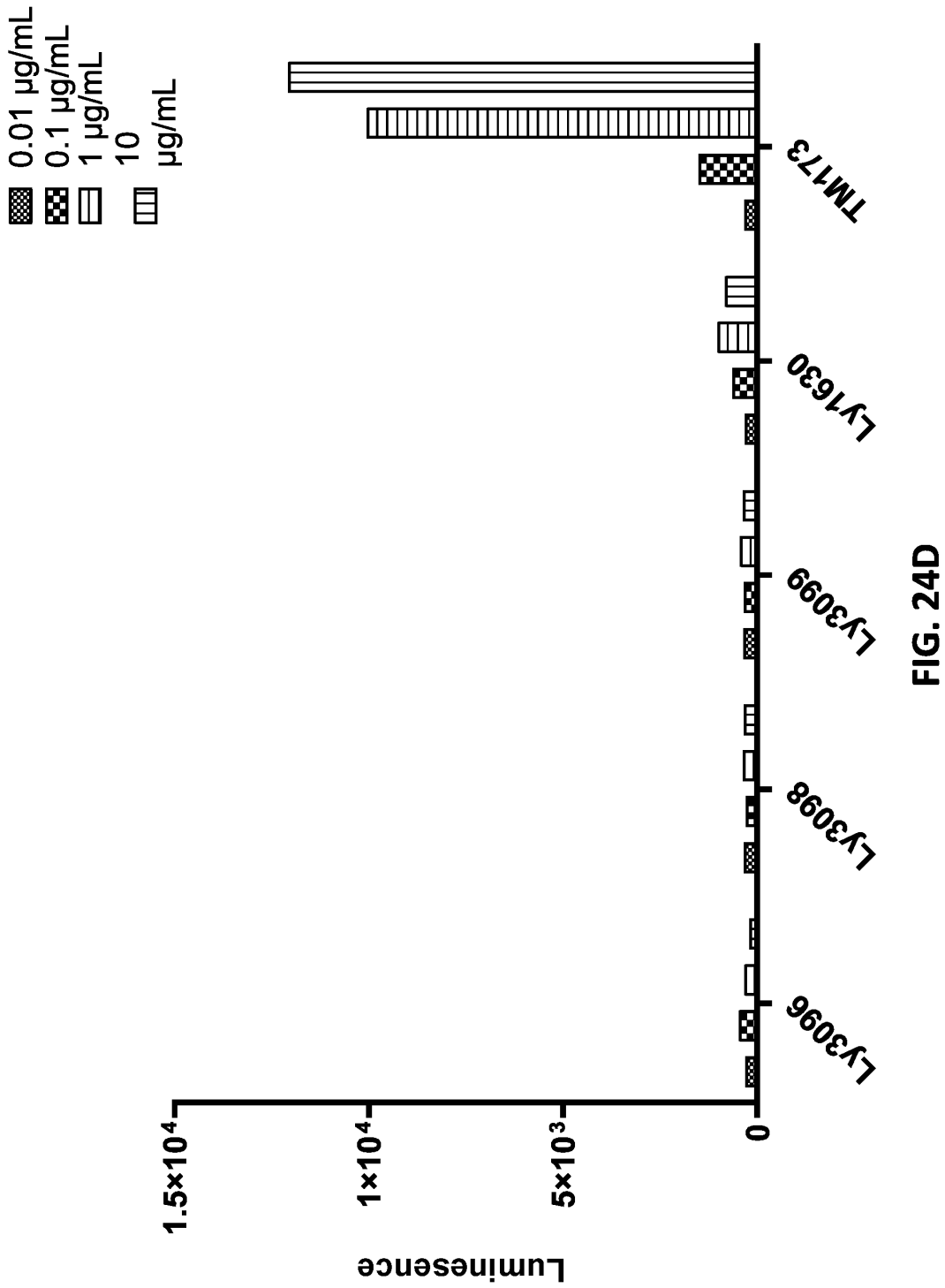

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10⁴
1×10⁴
5×10³
0
LY3096
LY3098
LY3099
LY1630
TM173

FIG. 24D

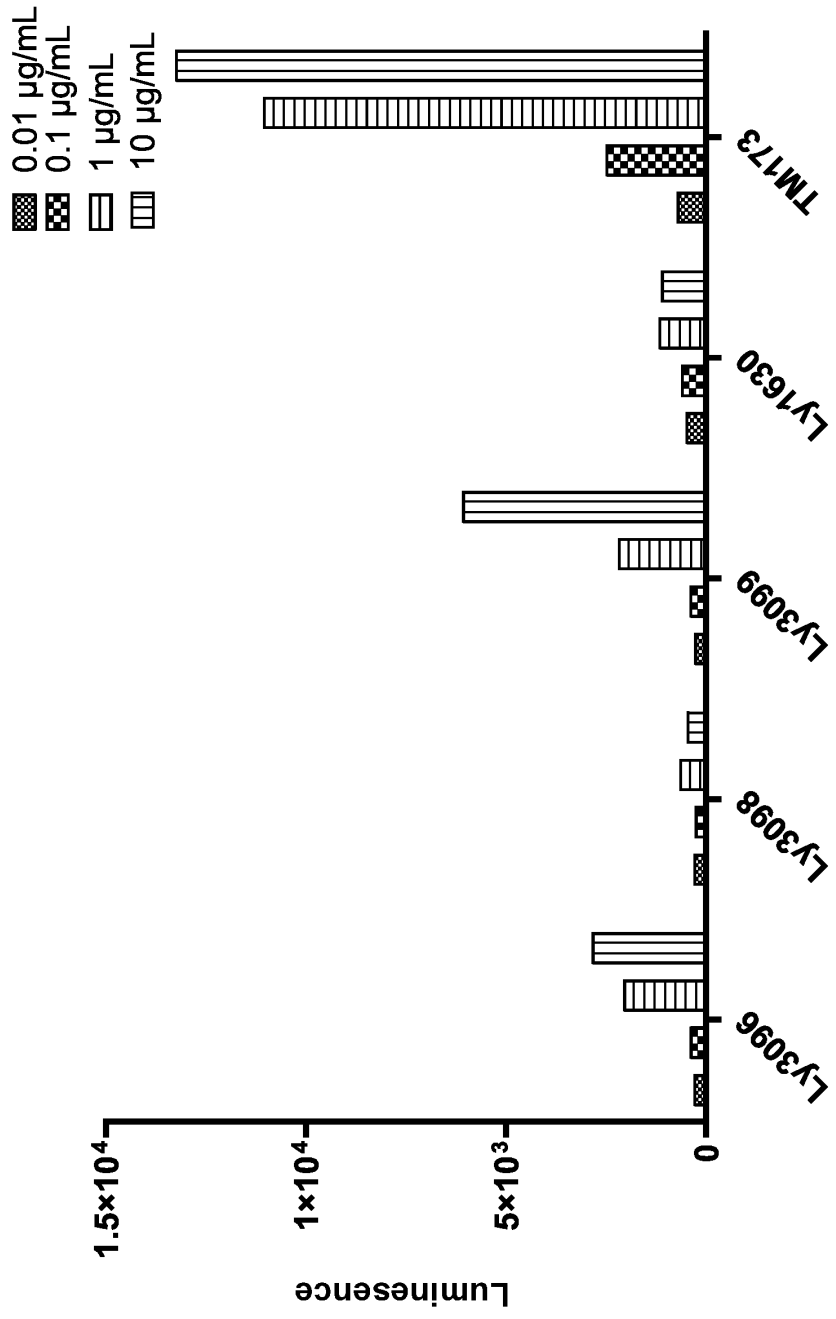

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10^4
1×10^4
5×10^3
0
LY3096
LY3098
LY3099
LY1630
TM173

FIG. 24E

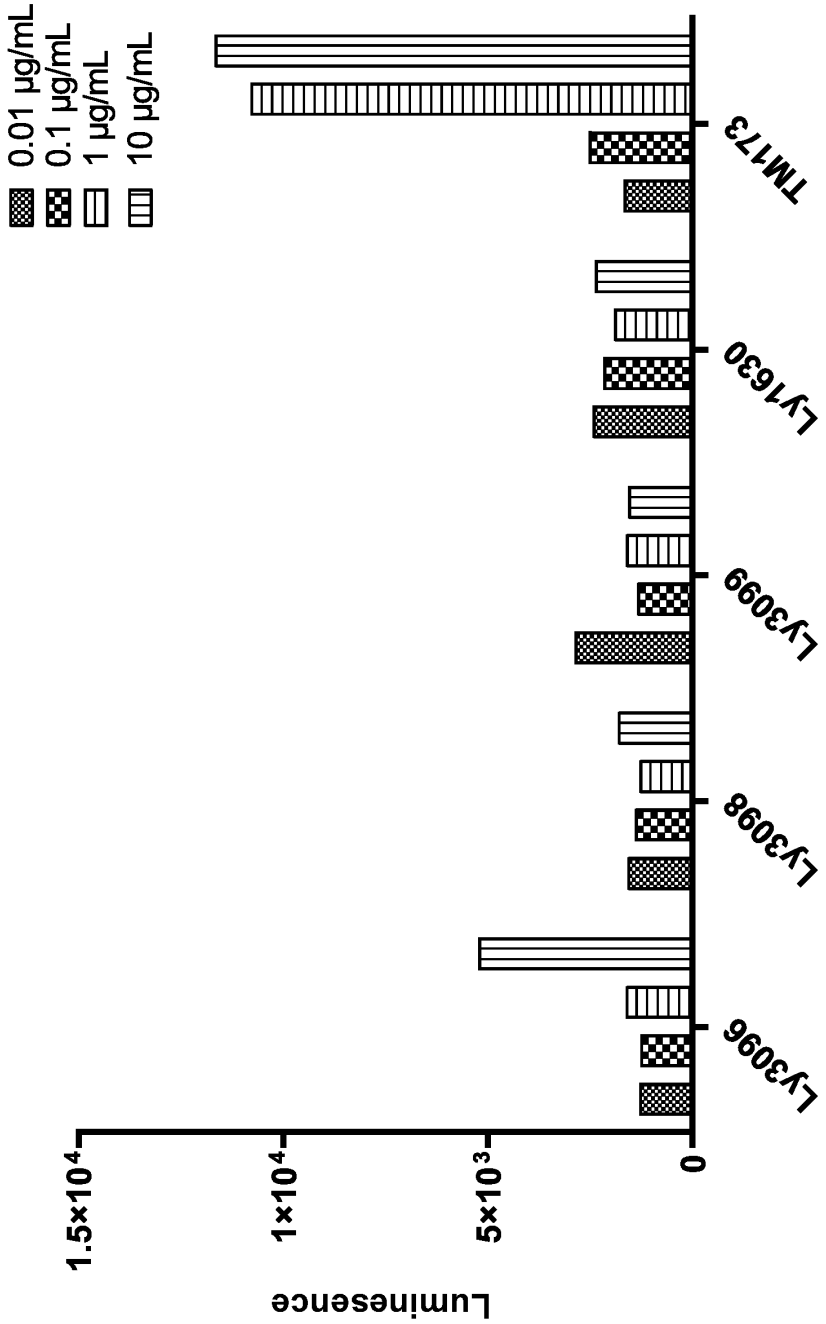

0.01 µg/mL
0.1 µg/mL
1 µg/mL
10 µg/mL
Luminescence
1.5×10^4
1×10^4
5×10^3
0
LY3096
LY3098
LY3099
LY1630
TM173

FIG. 24F

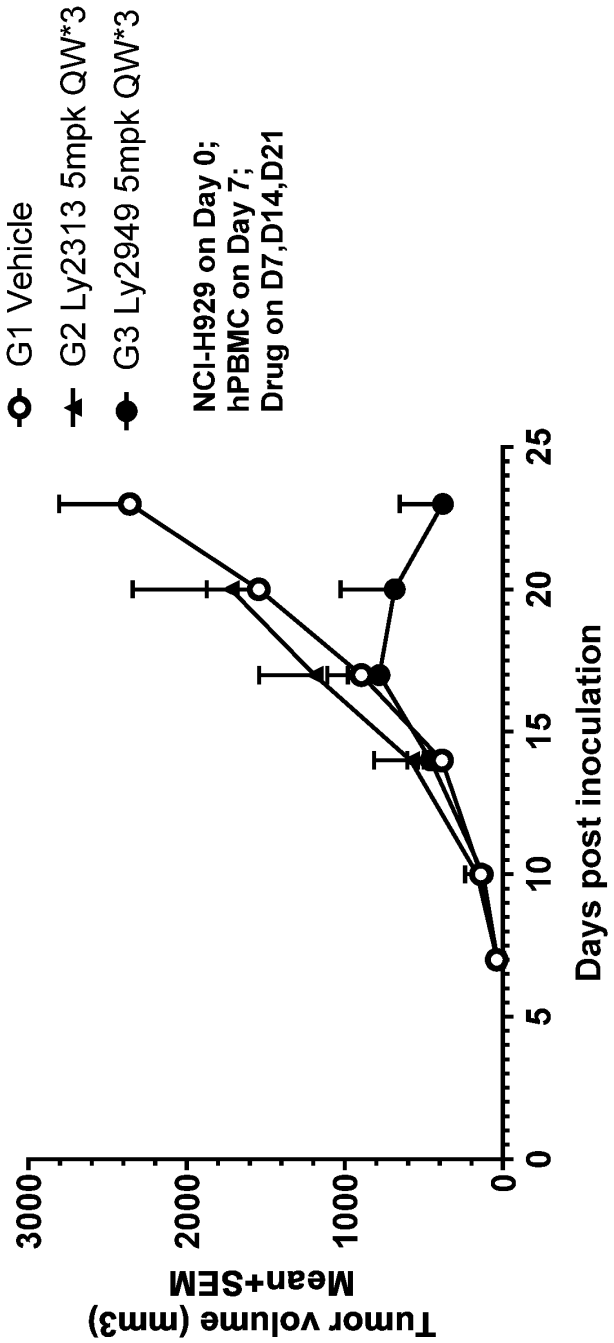

G1 Vehicle
G2 Ly2313 5mpk QW*3
G3 Ly2949 5mpk QW*3
NCI-H929 on Day 0;
hPBMC on Day 7;
Drug on D7,D14,D21
Tumor volume (mm3)
Mean+SEM
3000
2000
1000
0
0
5
10
15
20
25
Days post inoculation

FIG. 25

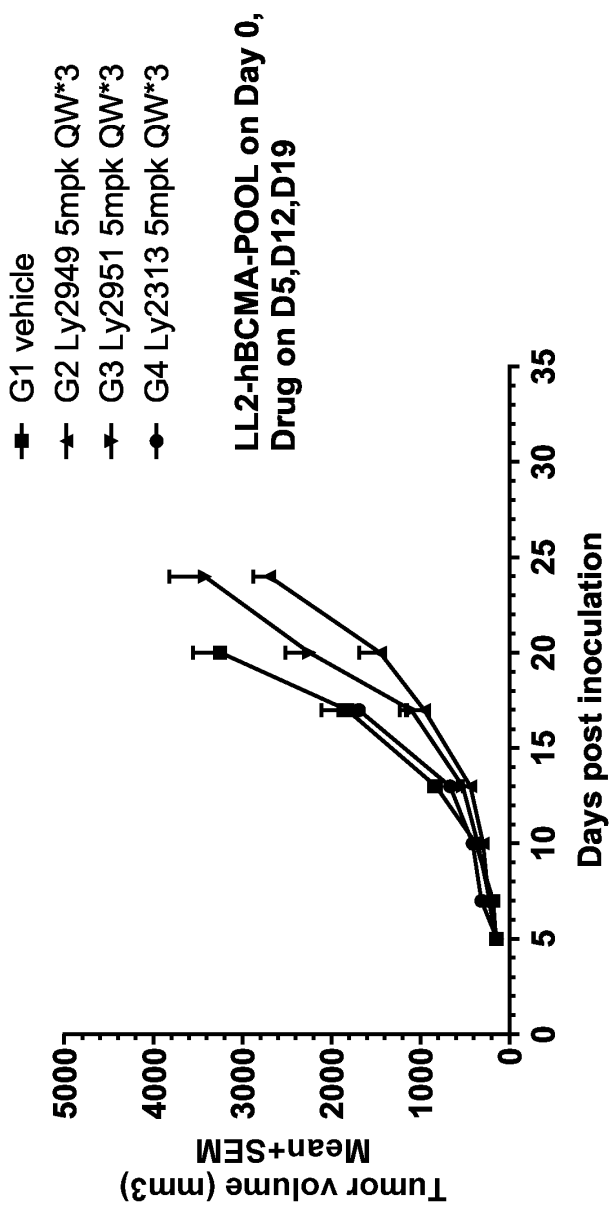

G1 vehicle
G2 Ly2949 5mpk QW*3
G3 Ly2951 5mpk QW*3
G4 Ly2313 5mpk QW*3
LL2-hBCMA-POOL on Day 0,
Drug on D5,D12,D19
Tumor volume (mm3)
Mean+SEM
5000
4000
3000
2000
1000
0
0
5
10
15
20
25
30
35
Days post inoculation

FIG. 26

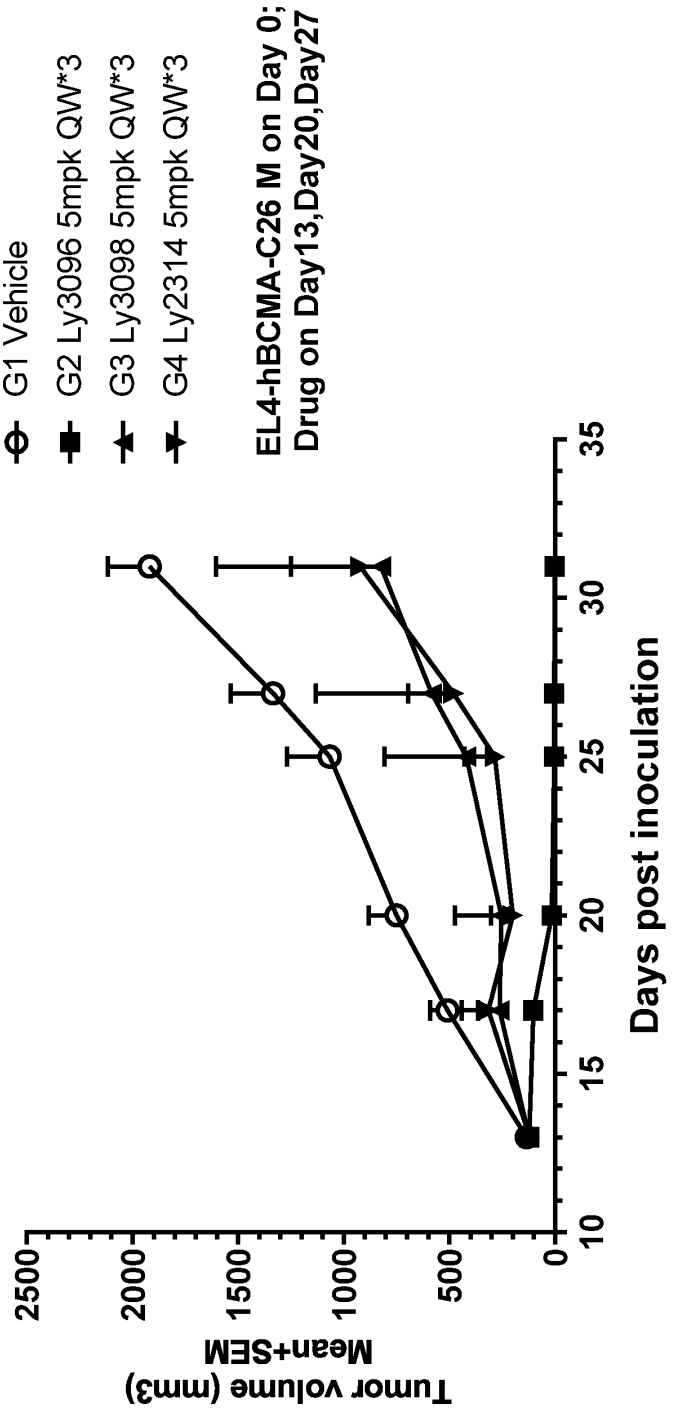

G1 Vehicle
G2 Ly3096 5mpk QW*3
G3 Ly3098 5mpk QW*3
G4 Ly2314 5mpk QW*3
EL4-hBCMA-C26 M on Day 0;
Drug on Day13,Day20,Day27
Tumor volume (mm3)
Mean+SEM
2500
2000
1500
1000
500
0
10
15
20
25
30
35
Days post inoculation

FIG. 27

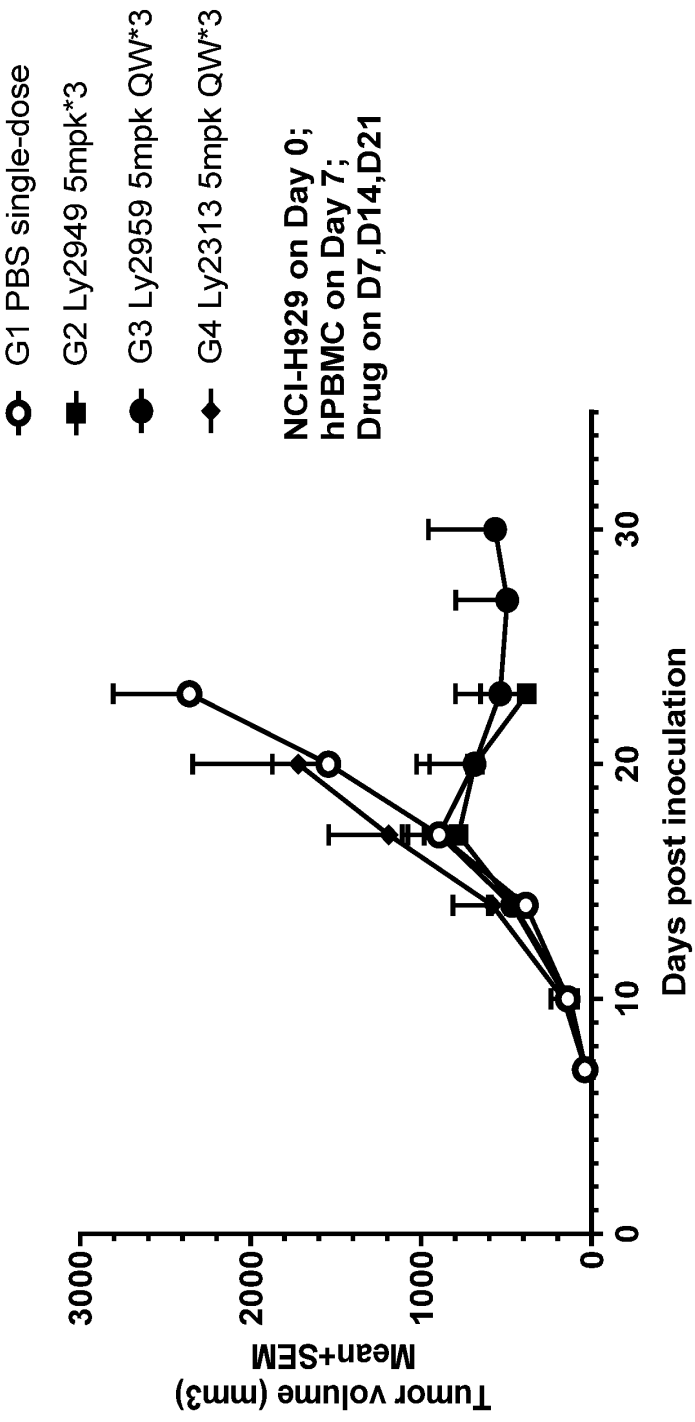

G1 PBS single-dose
G2 Ly2949 5mpk*3
G3 Ly2959 5mpk QW*3
G4 Ly2313 5mpk QW*3
NCI-H929 on Day 0;
hPBMC on Day 7;
Drug on D7,D14,D21
Tumor volume (mm3)
Mean+SEM
3000
2000
1000
0
0
10
20
30
Days post inoculation

FIG. 28

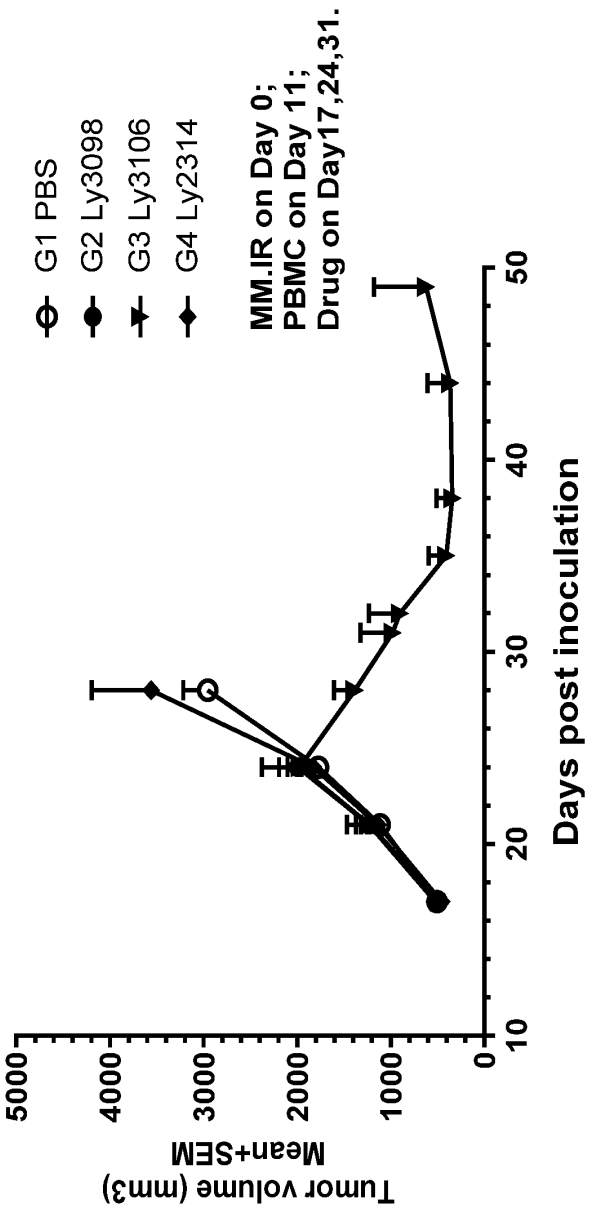

G1 PBS
G2 Ly3098
G3 Ly3106
G4 Ly2314
MM.IR on Day 0;
PBMC on Day 11;
Drug on Day17,24,31.
Tumor volume (mm3)
Mean+SEM
5000
4000
3000
2000
1000
0
10
20
30
40
50
Days post inoculation

FIG. 29

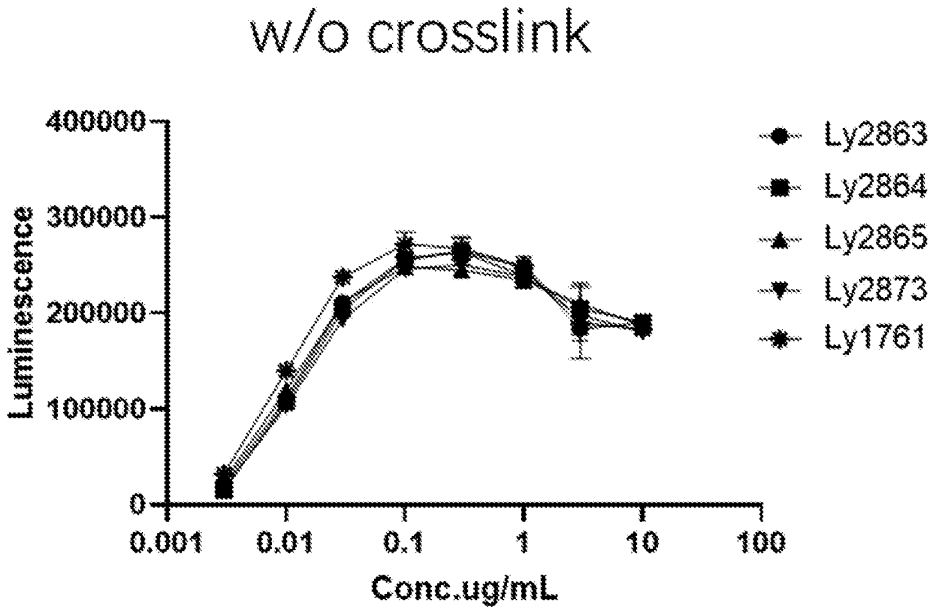


FIG. 30A

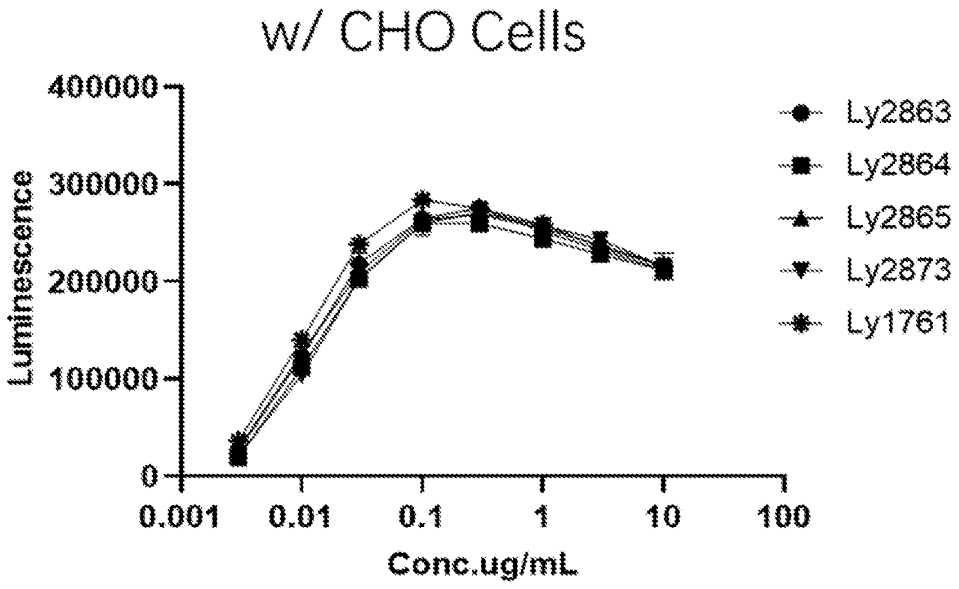


FIG. 30B

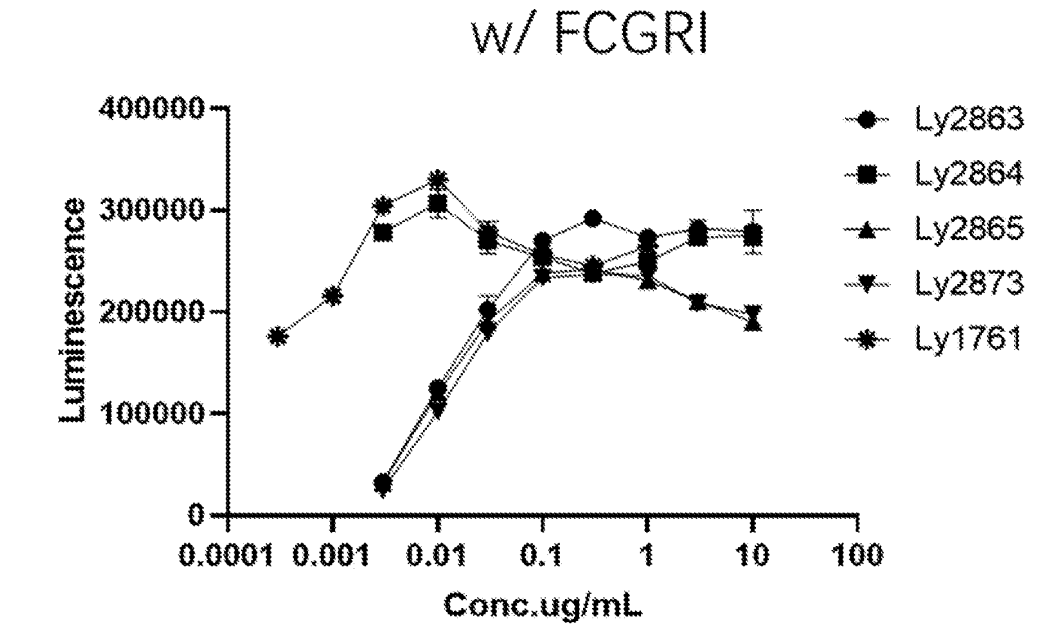


FIG. 30C

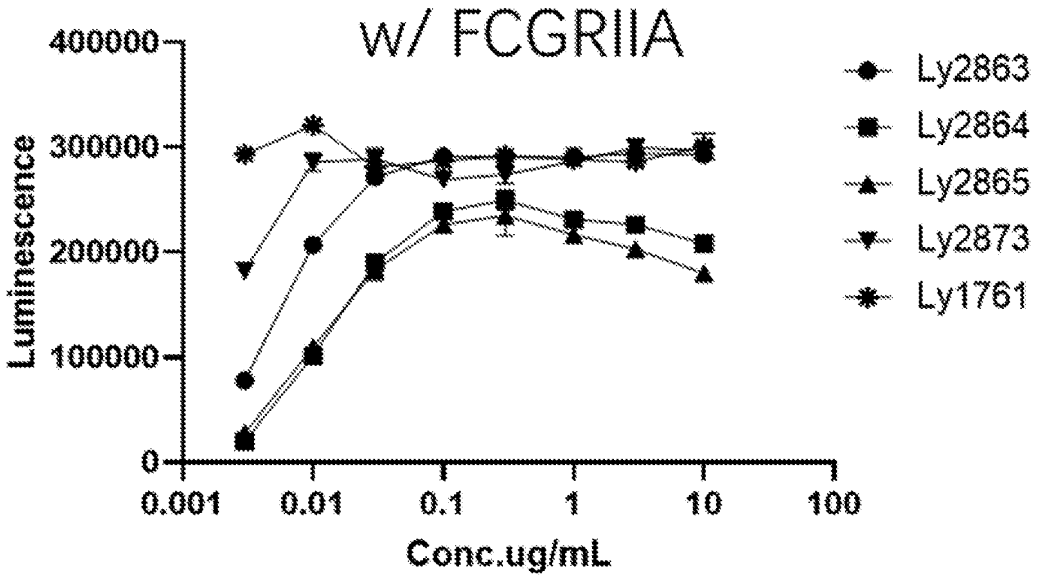


FIG. 30D

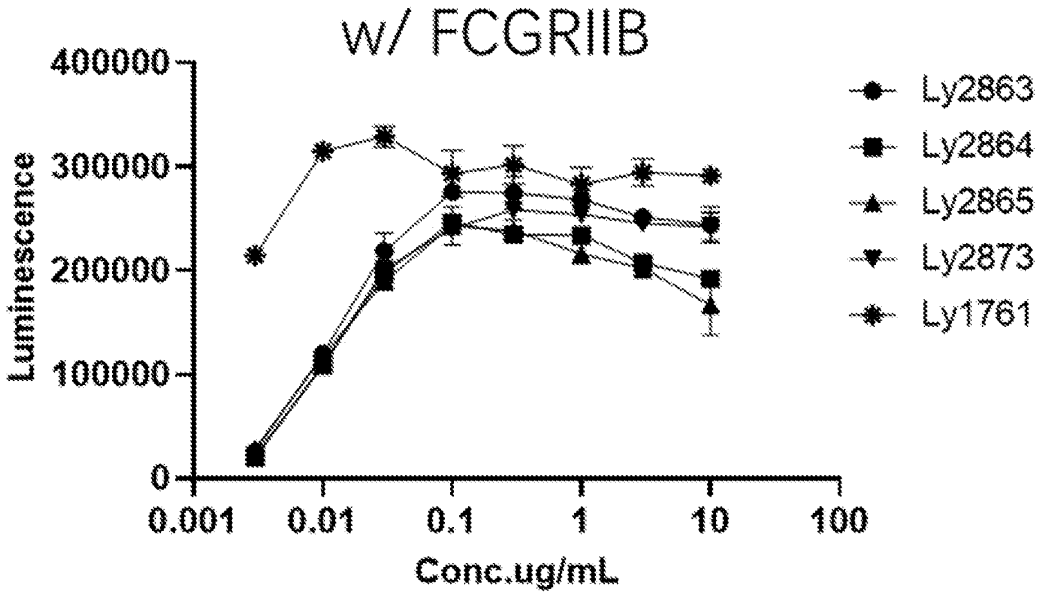


FIG. 30E

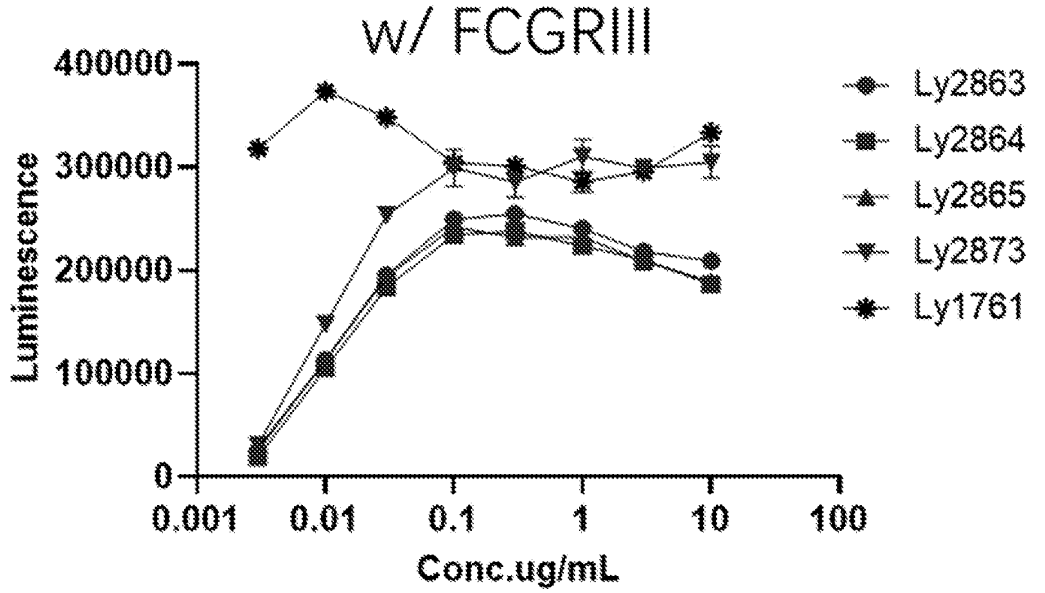


FIG. 30F

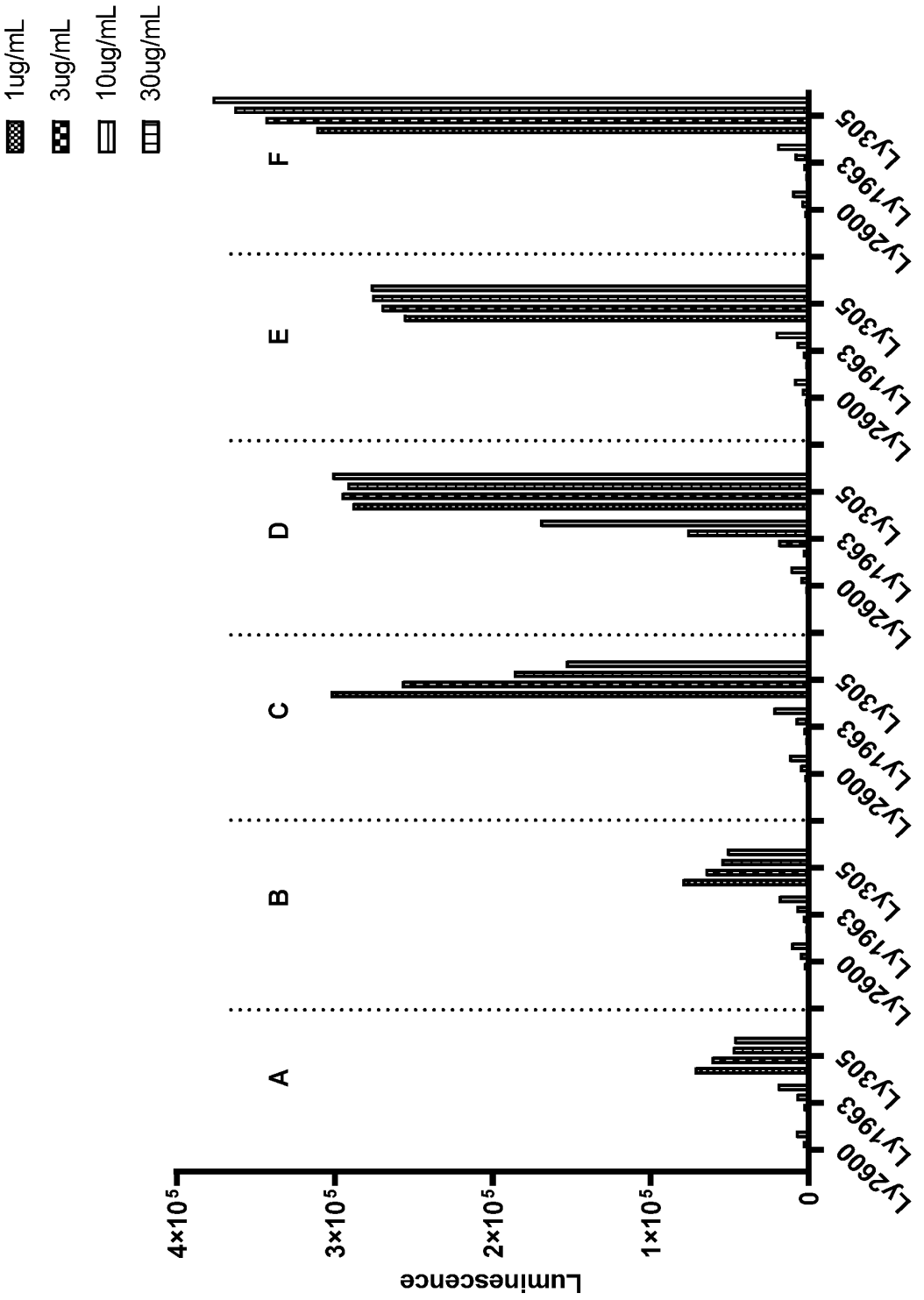

1ug/mL
3ug/mL
10ug/mL
30ug/mL
Luminescence
4×10^5
3×10^5
2×10^5
1×10^5
0
A
B
C
D
E
F
LY2600
LY1963
LY305

FIG. 31

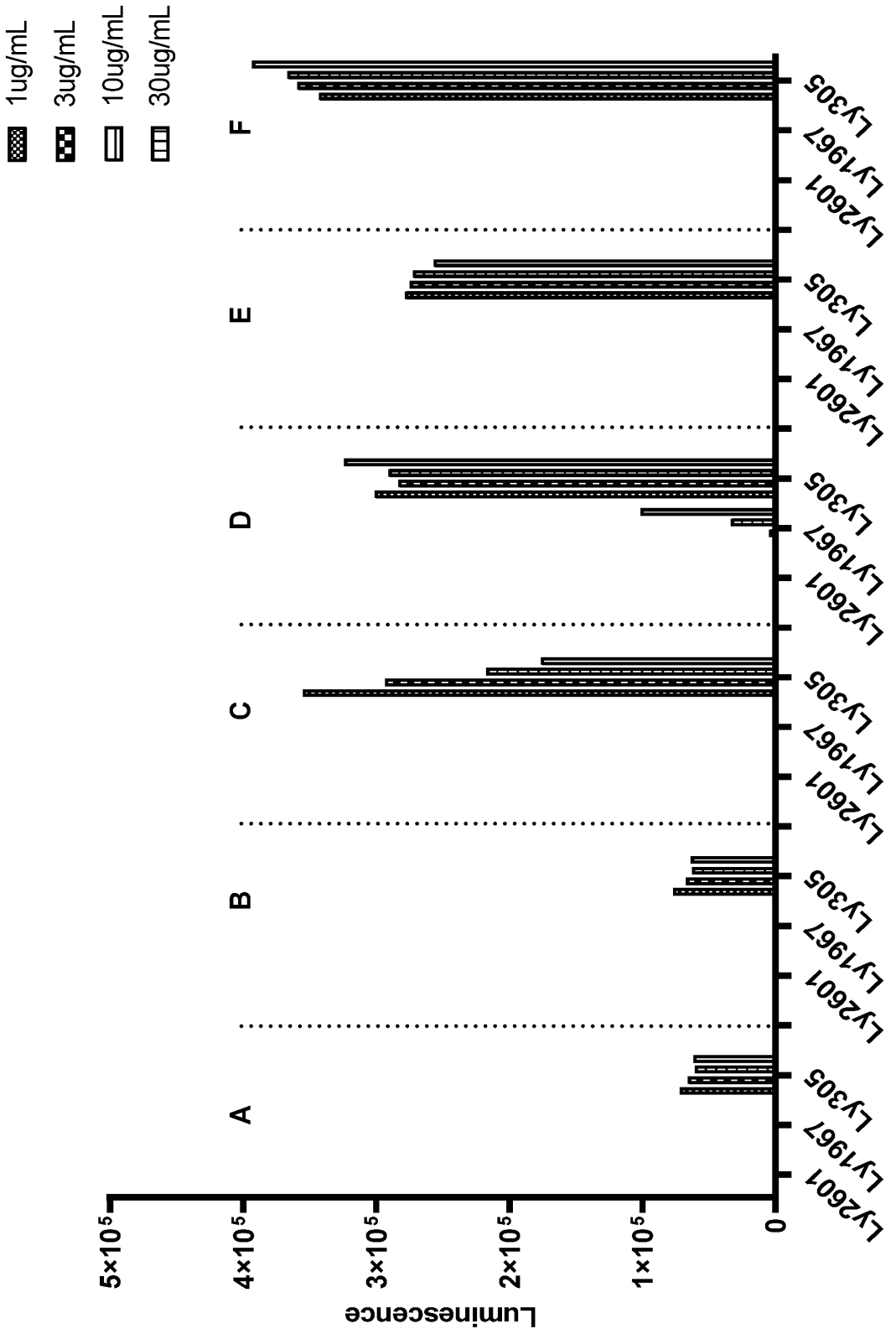

1ug/mL
3ug/mL
10ug/mL
30ug/mL
Luminescence
5×10^5
4×10^5
3×10^5
2×10^5
1×10^5
0
A
B
C
D
E
F
Ly2601
Ly1967
Ly305

FIG. 32