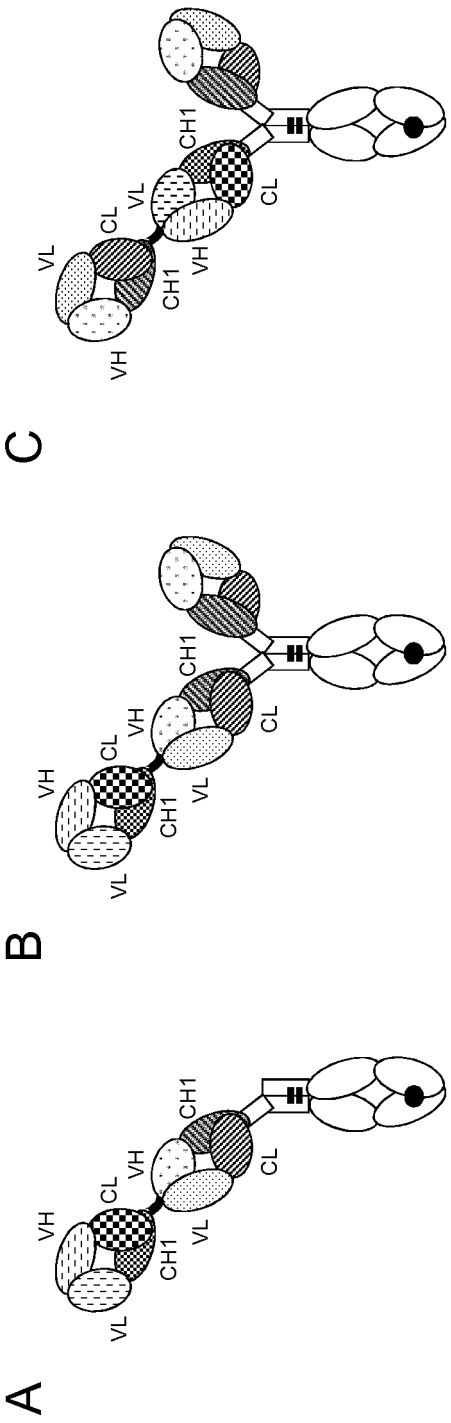

A
VH
CL
VH
CH1
VL
CH1
CL
VL
B
VH
CL
VH
CH1
VL
CH1
CL
VL
C
VL
CL
VL
CH1
VH
CH1
CL
VH
D
VL
CH1
CL
VH

Fig. 1

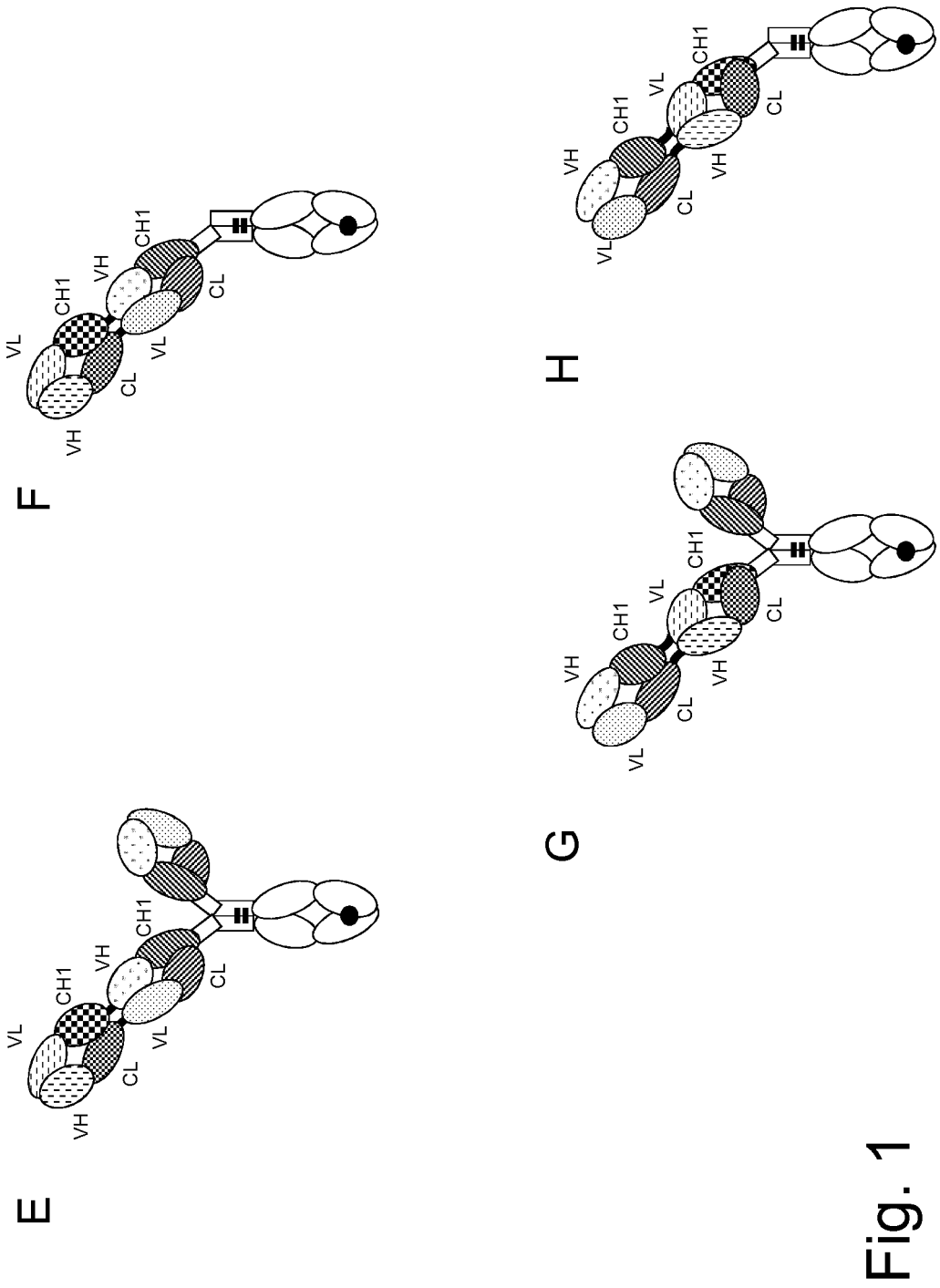

E
VL
CH1
VH
CL
VL
VH
F
VL
CH1
VH
CL
VL
VH
G
VH
CH1
VL
CL
VH
VL
H
VH
CH1
VL
CL
VH
VL

Fig. 1

```
parental HC          1 QVQLQESGPGLVKPSQTLSLTCTVSGGSITSGYYWNWIRQHPGKGLEWIGYITYDGSNNYNPSLKSRVTISRDTSKNQFSLKLSSVTAADTAVYYCADFDYWGQGTLVTVSS
D6 (SEQ ID NO 34)    1 ..........................................F..K.....................................................................
A7 (SEQ ID NO 36)    1 ..........................D.................F..R.....................................................................
B7 (SEQ ID NO 39)    1 ..........................................F..I.....................................................................
B8 (SEQ ID NO 41)    1 ..........................................F..R.....................................................................
C1 (SEQ ID NO 13)    1 ..........................................F.......................................................................

parental LC          1 DIQMTQSPSSLSASVGDRVTITCRASQGIRNYLNWYQQKPGKAPKLLIYYTSSLHSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCQQYSKLPWTFGQGTKVEIK
G3 (SEQ ID NO 17)    1 ..........................................................Y.....................A.....................
E10 (SEQ ID NO 43)   1 ..........................Y...G.....................................................H.....................
E10-G3 (SEQ ID NO 46) 1 ..........................Y...G.....................................................H.....A.....
C5 (SEQ ID NO 47)    1 ..........................R...E.....................G.....................................E.....................
C5-G3 (SEQ ID NO 51) 1 ..........................R...E.....................G.....................................A.....................
```

Fig. 2

Fig. 3

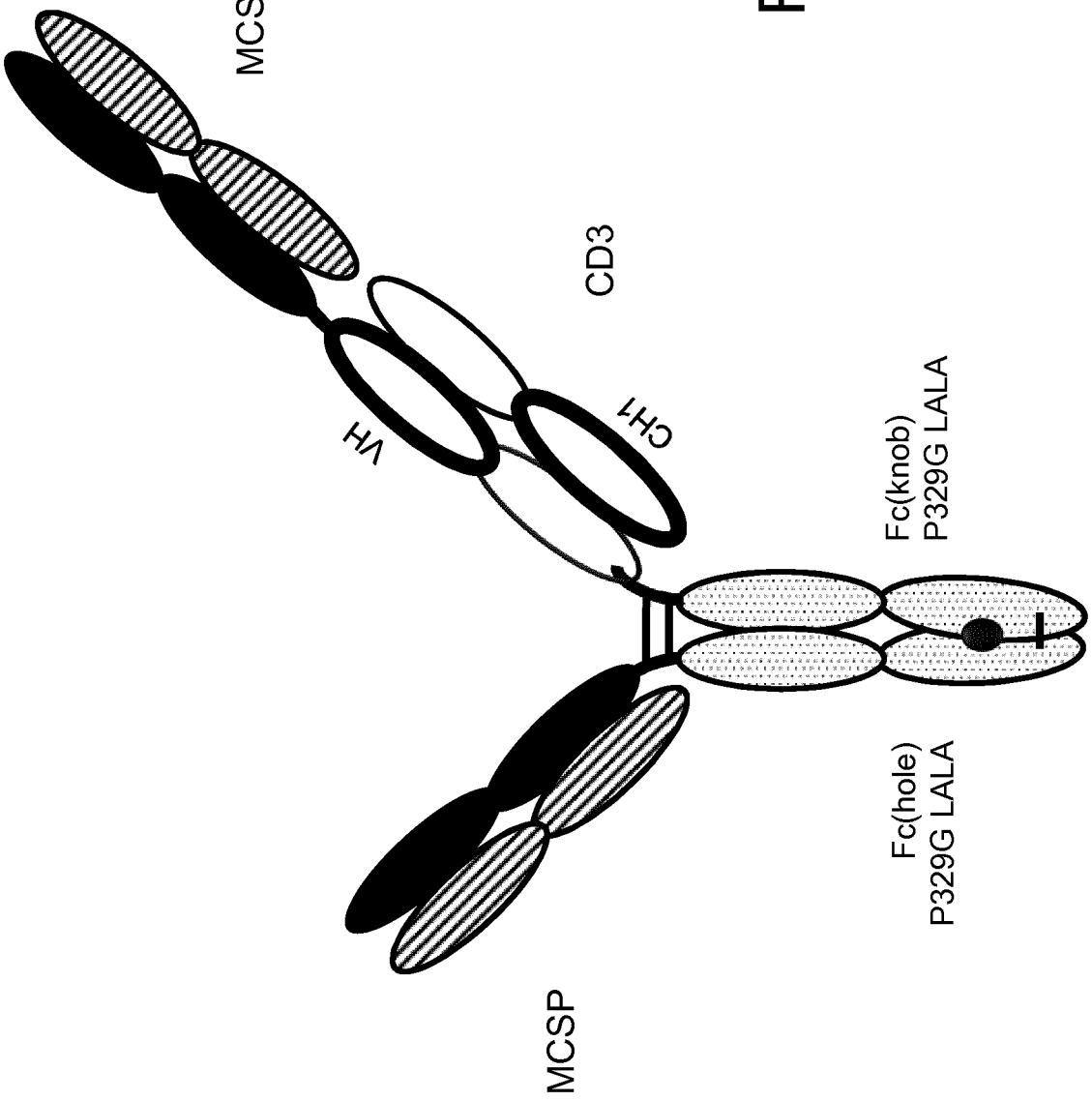
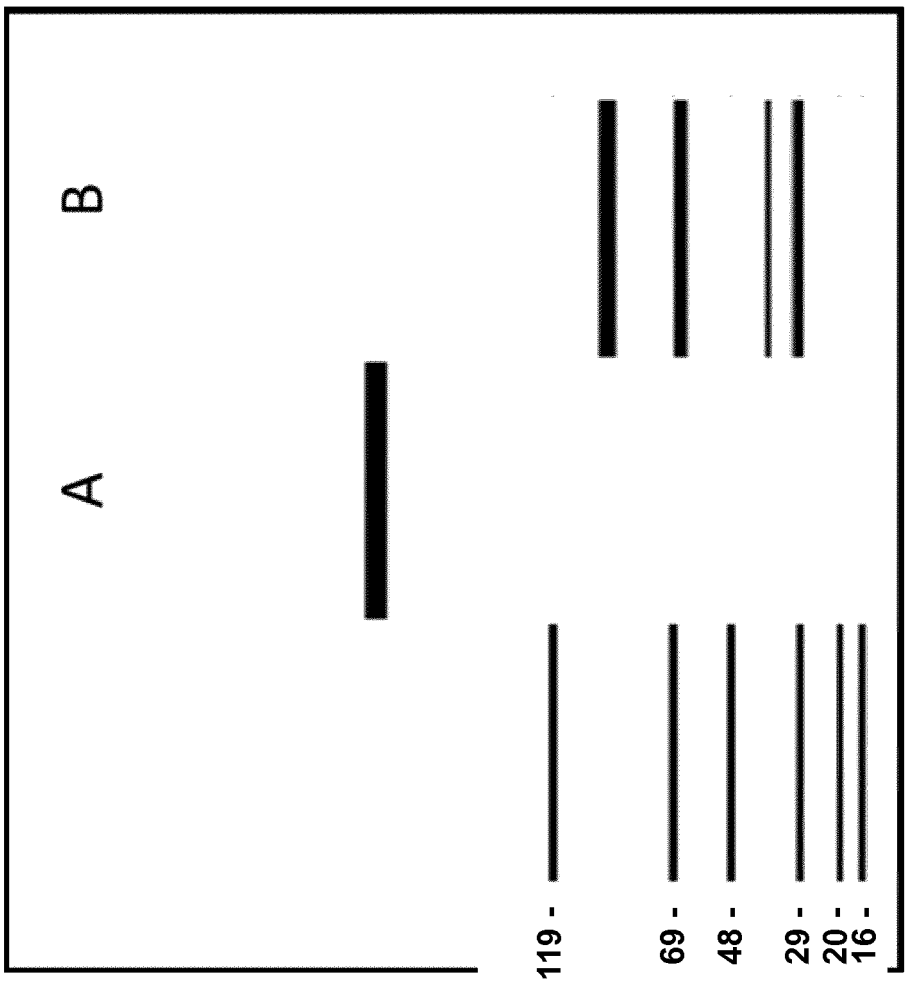


Fig. 4



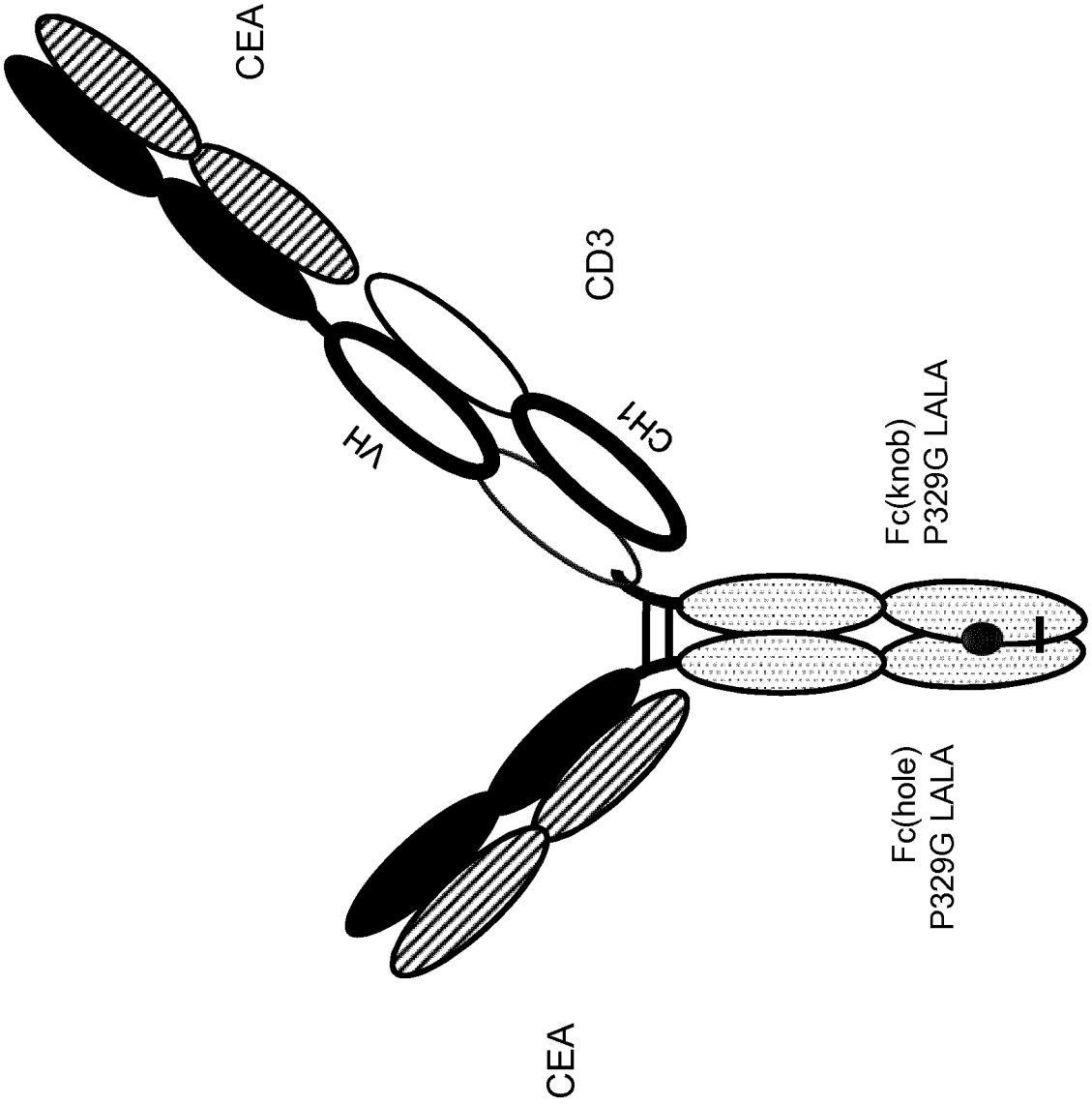
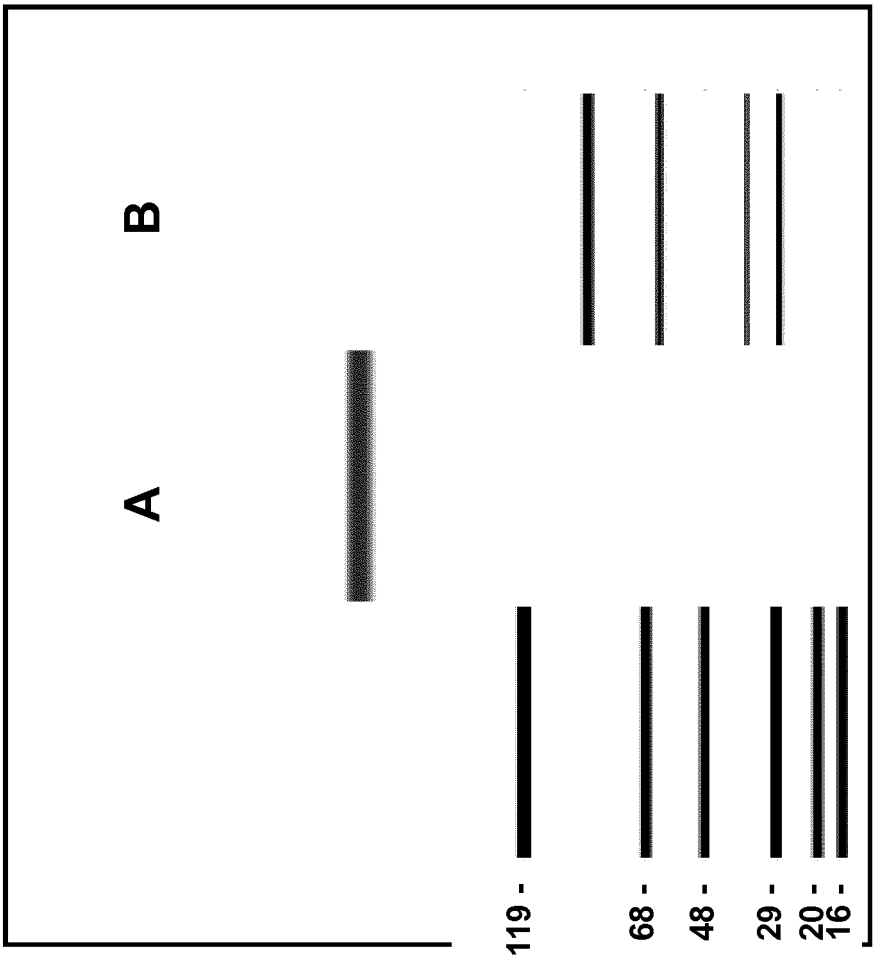


Fig. 5

Fig. 6



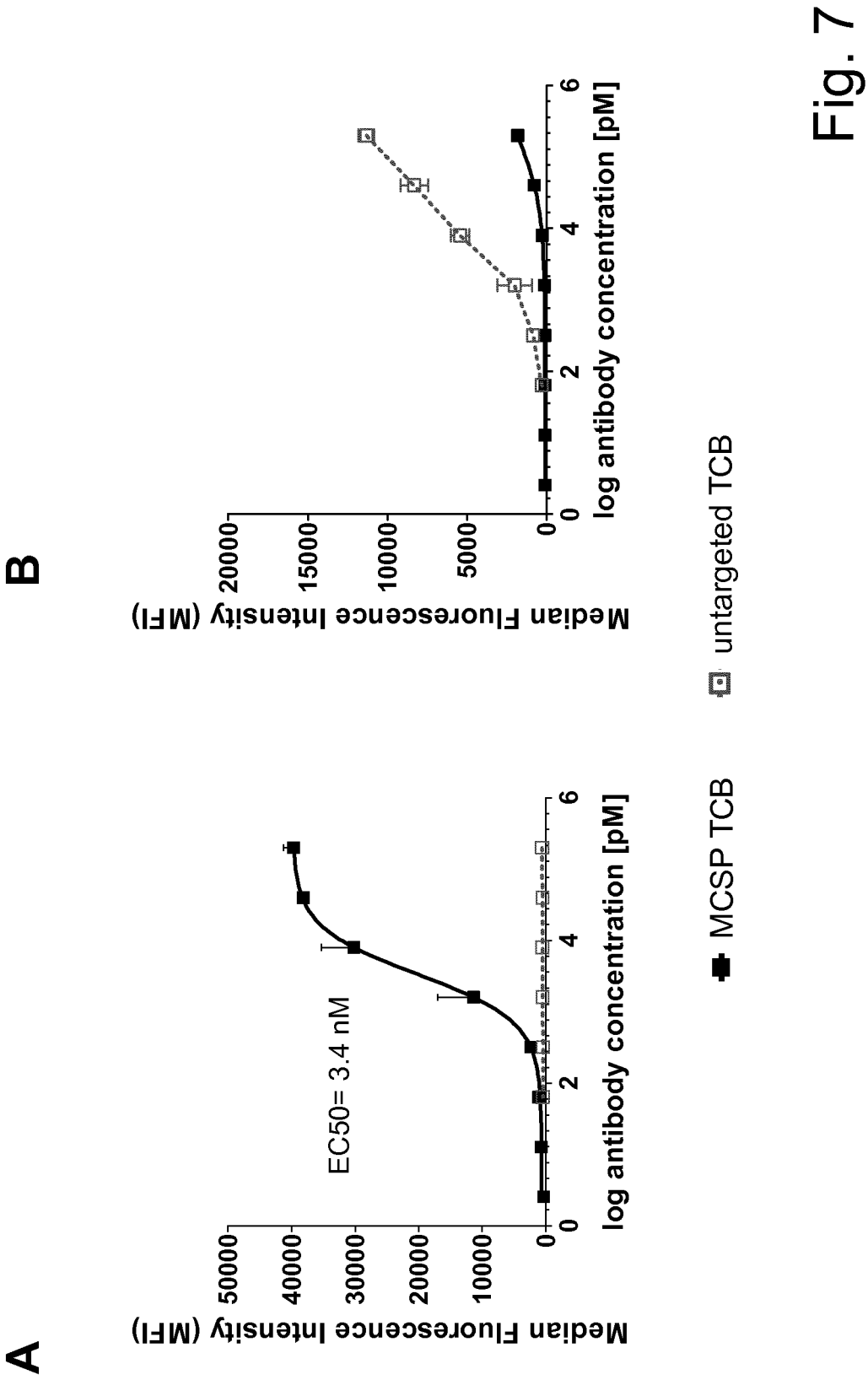

A
Median Fluorescence Intensity (MFI)
50000
40000
30000
20000
10000
0
EC50= 3.4 nM
0
2
4
6
log antibody concentration [pM]
MCSP TCB
B
Median Fluorescence Intensity (MFI)
20000
15000
10000
5000
0
0
2
4
6
log antibody concentration [pM]
untargeted TCB

Fig. 7

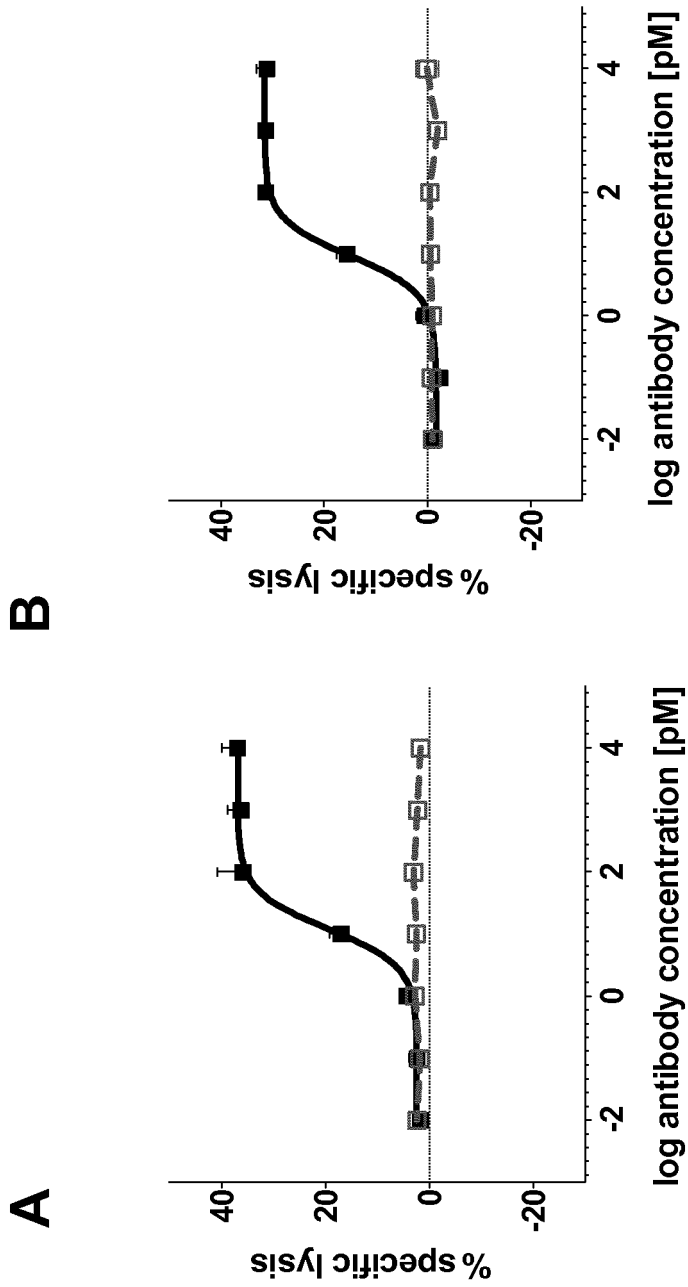

A
B
% specific lysis
40
20
0
-20
-2
0
2
4
log antibody concentration [pM]
MCSP TCB
untargeted TCB

Fig. 8

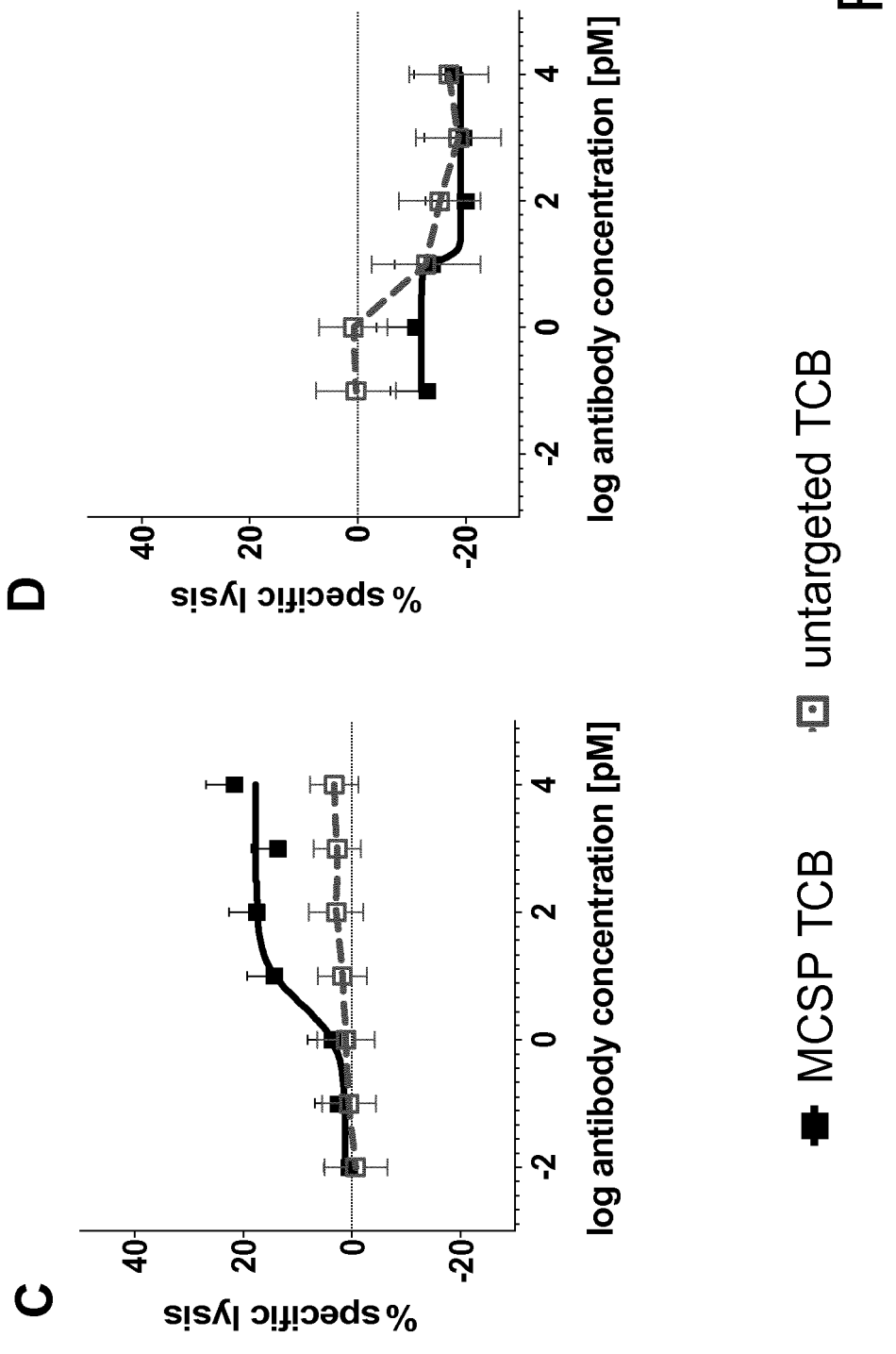

C
D
% specific lysis
log antibody concentration [pM]
40
20
0
-20
-2
0
2
4
MCSP TCB
untargeted TCB

Fig. 8

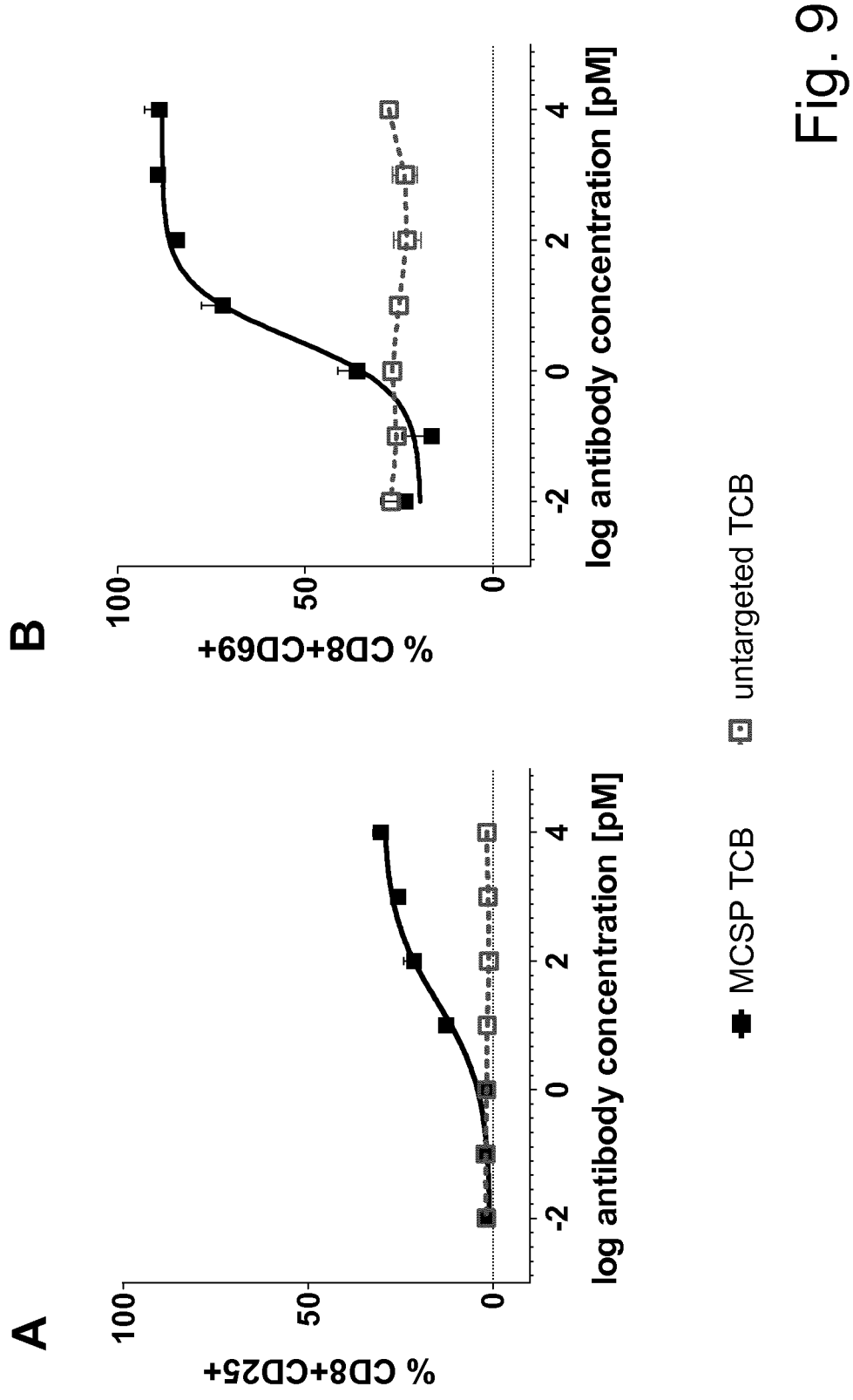

A
B
% CD8+CD25+
% CD8+CD69+
100
50
0
-2
0
2
4
log antibody concentration [pM]
MCSP TCB
untargeted TCB

Fig. 9

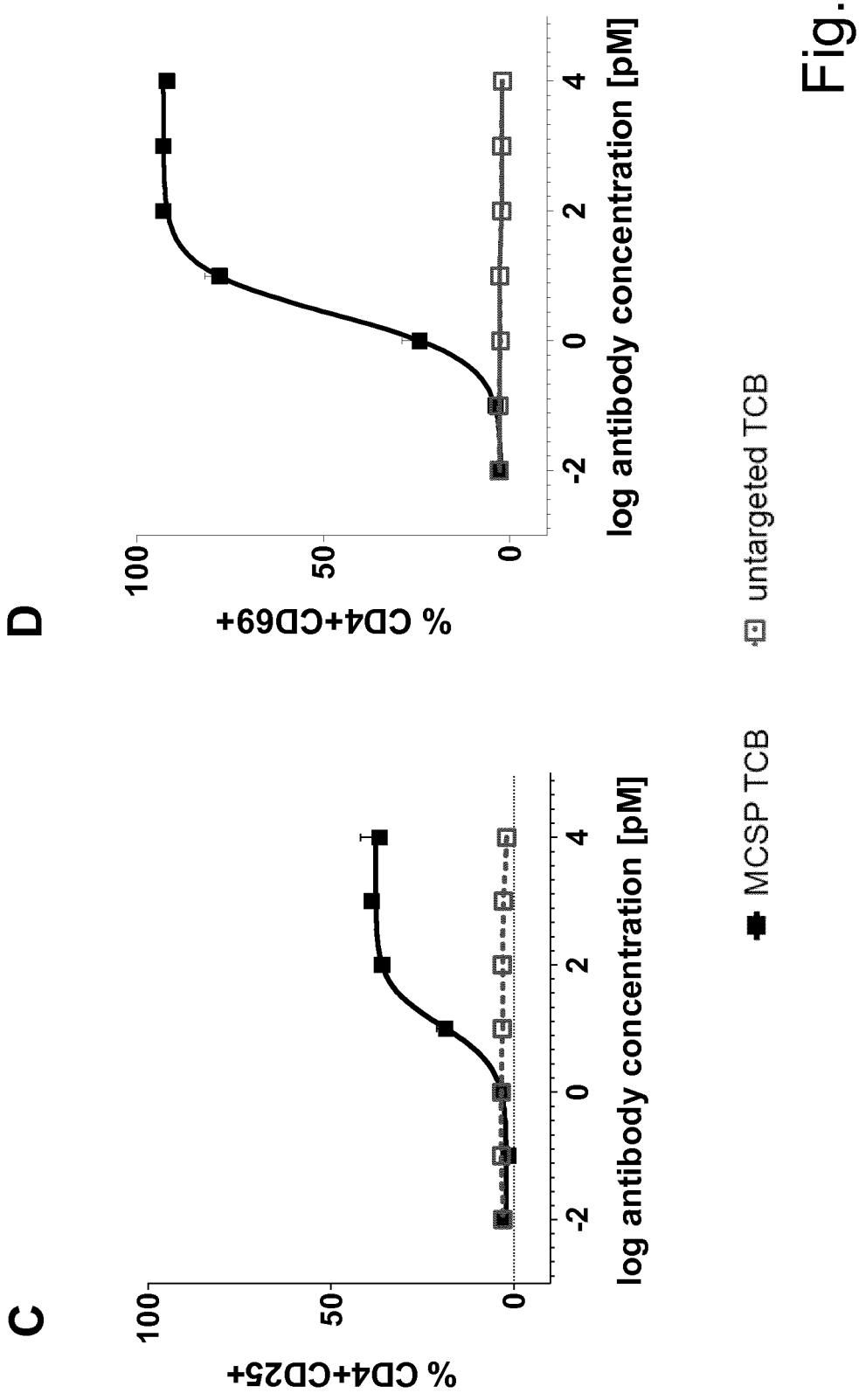

C
% CD4+CD25+
100
50
0
-2
0
2
4
log antibody concentration [pM]
D
% CD4+CD69+
100
50
0
-2
0
2
4
log antibody concentration [pM]
MCSP TCB
untargeted TCB

Fig. 9

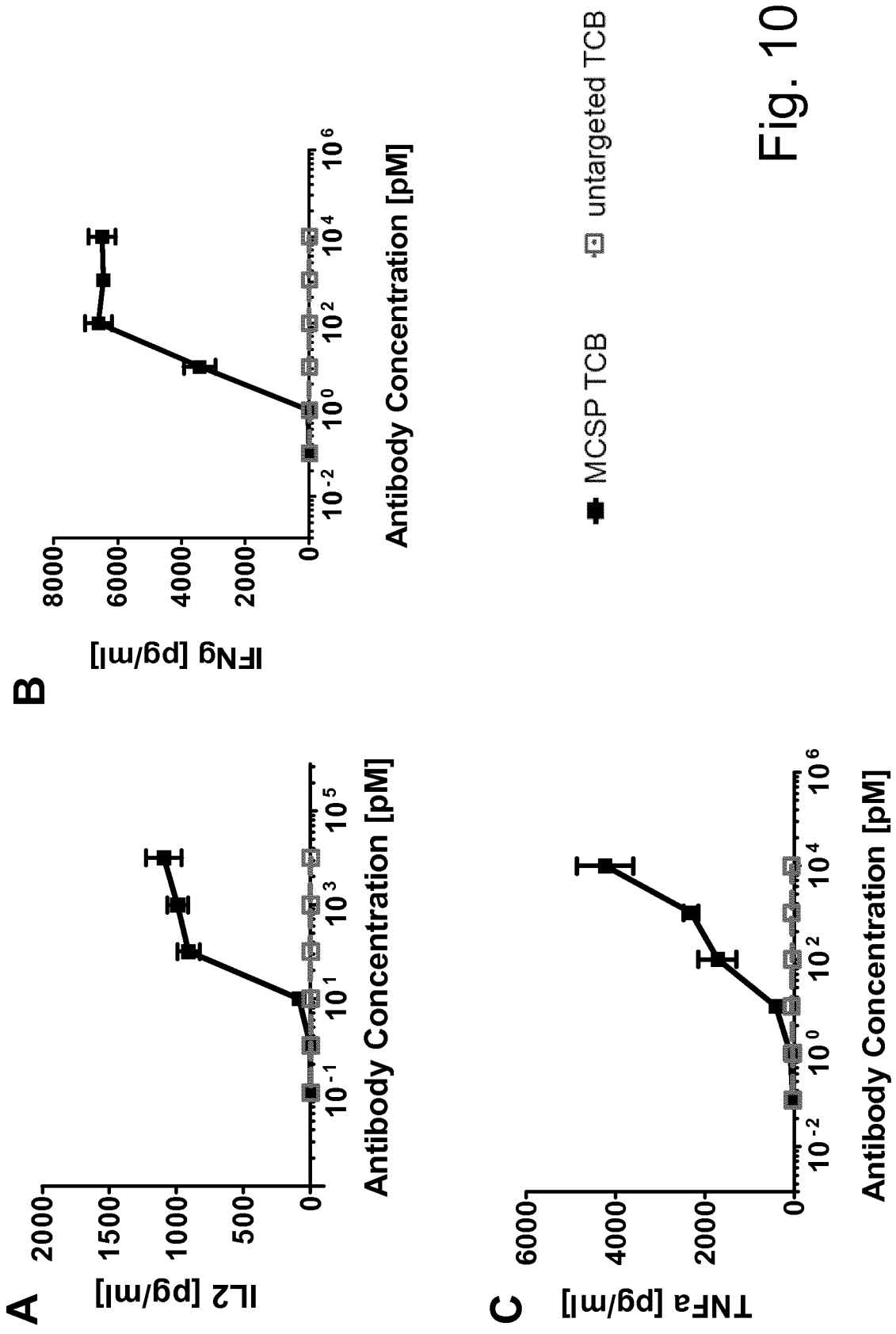

A
IL2 [pg/ml]
2000
1500
1000
500
0
10^{-1}
10^{1}
10^{3}
10^{5}
Antibody Concentration [pM]
B
IFNg [pg/ml]
8000
6000
4000
2000
0
10^{-2}
10^{0}
10^{2}
10^{4}
10^{6}
Antibody Concentration [pM]
MCSP TCB
untargeted TCB
C
TNFa [pg/ml]
6000
4000
2000
0
10^{-2}
10^{0}
10^{2}
10^{4}
10^{6}
Antibody Concentration [pM]

Fig. 10

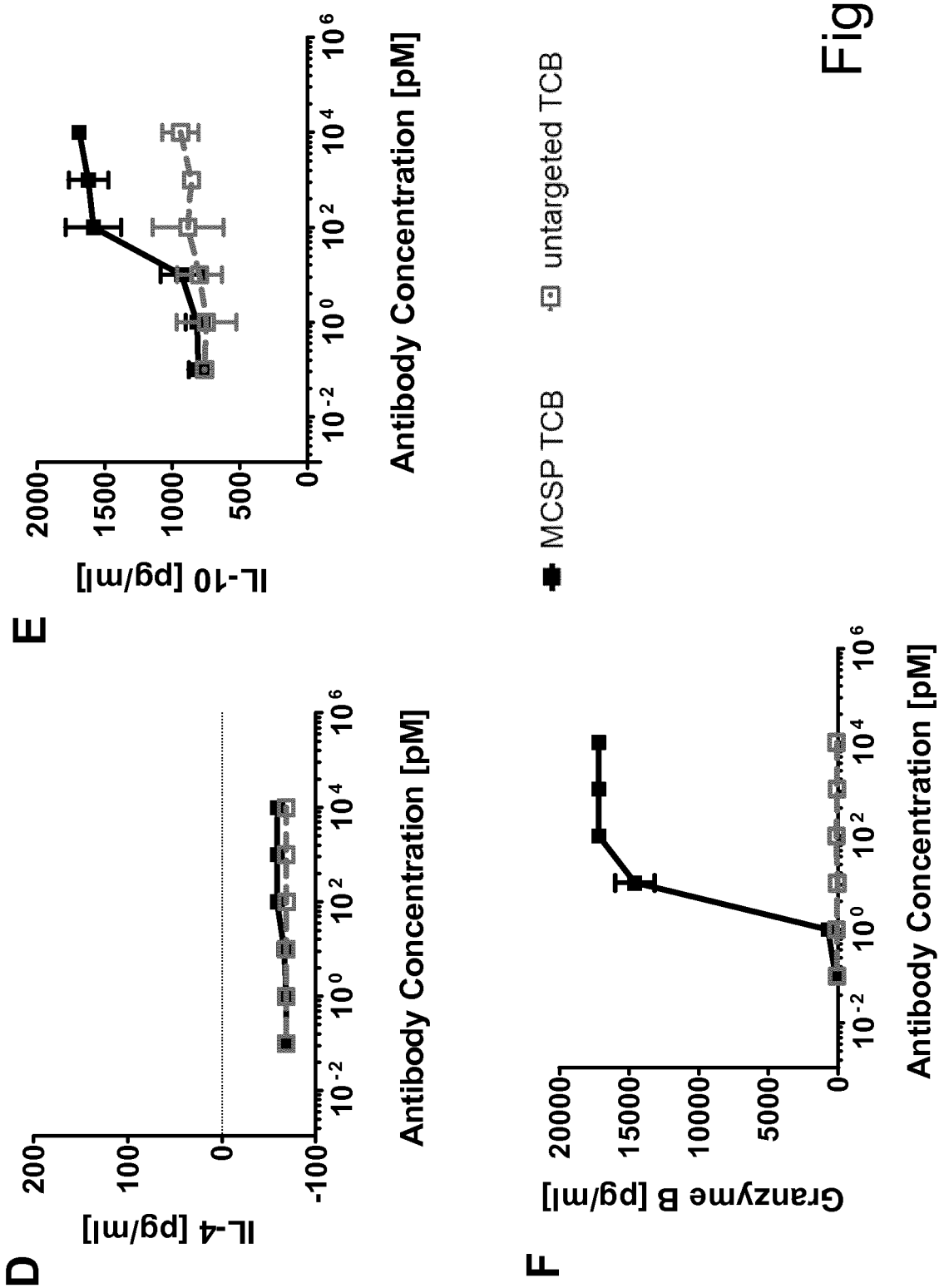

D
IL-4 [pg/ml]
200
100
0
-100
10-2
100
102
104
106
Antibody Concentration [pM]
E
IL-10 [pg/ml]
2000
1500
1000
500
0
10-2
100
102
104
106
Antibody Concentration [pM]
MCSP TCB
untargeted TCB
F
Granzyme B [pg/ml]
20000
15000
10000
5000
0
10-2
100
102
104
106
Antibody Concentration [pM]

Fig. 10

Fig. 11

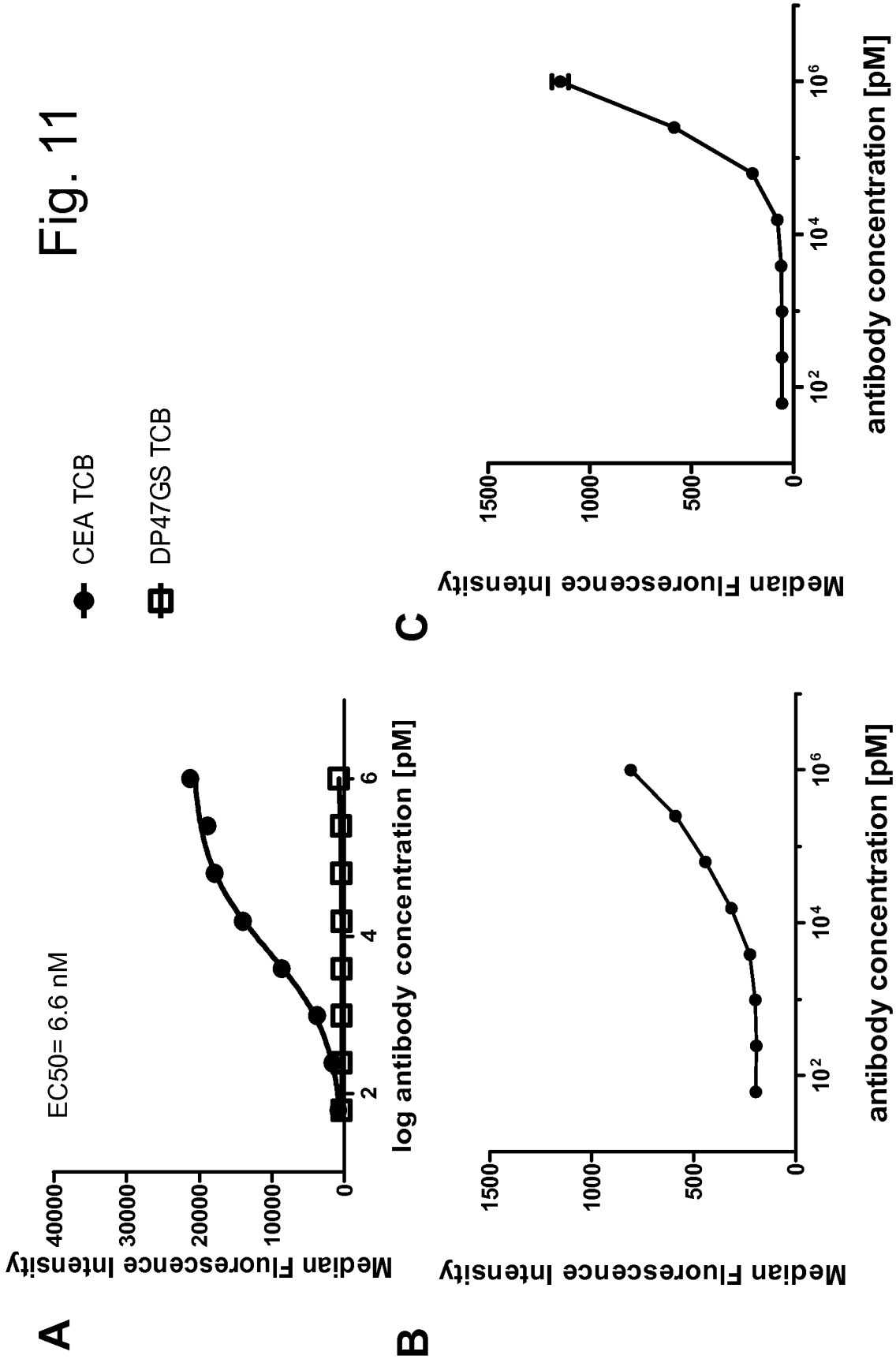

A
EC50= 6.6 nM
CEA TCB
DP47GS TCB
Median Fluorescence Intensity
40000
30000
20000
10000
0
2
4
6
log antibody concentration [pM]
B
Median Fluorescence Intensity
1500
1000
500
0
10^2
10^4
10^6
antibody concentration [pM]
C
Median Fluorescence Intensity
1500
1000
500
0
10^2
10^4
10^6
antibody concentration [pM]

Fig. 12

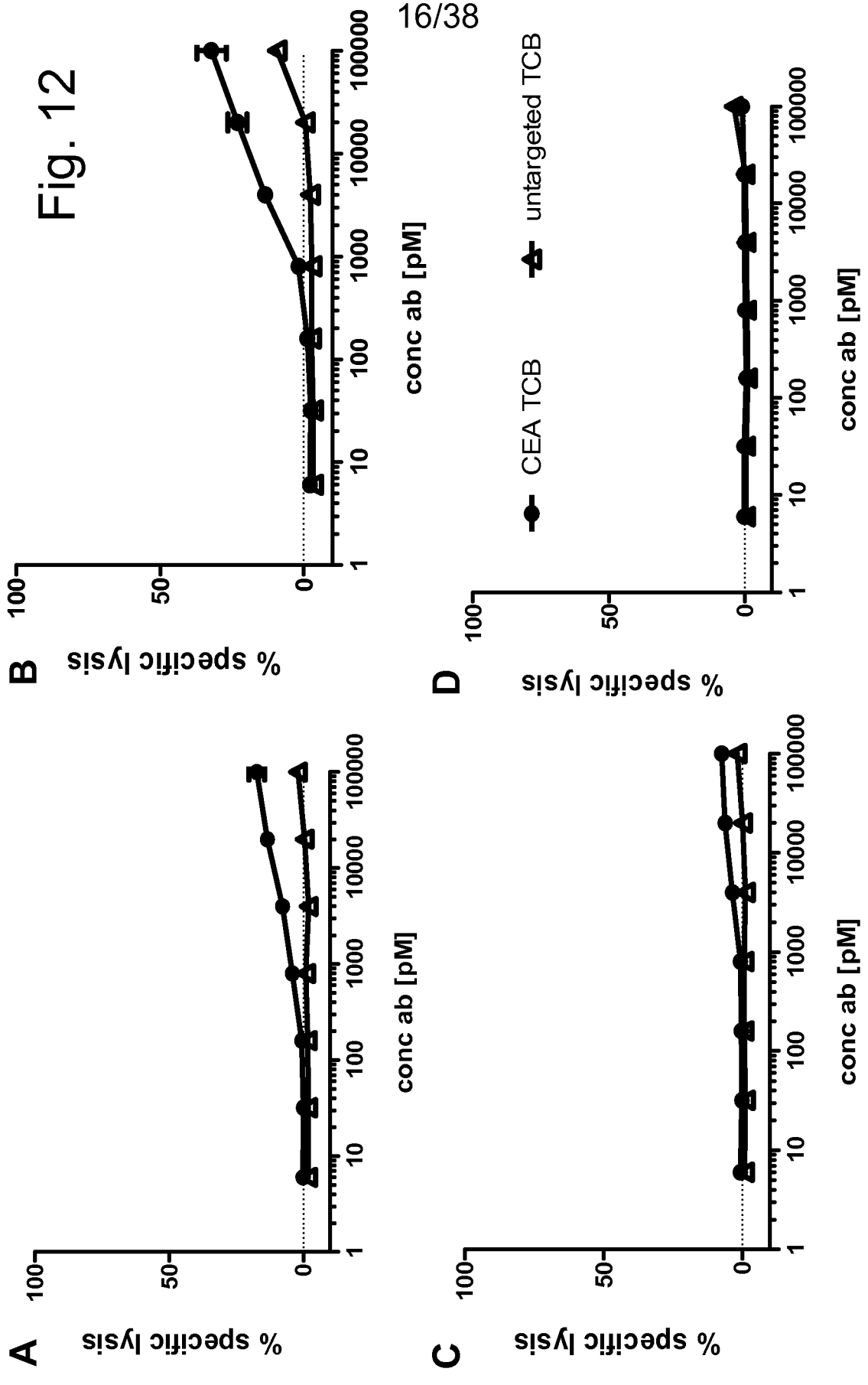
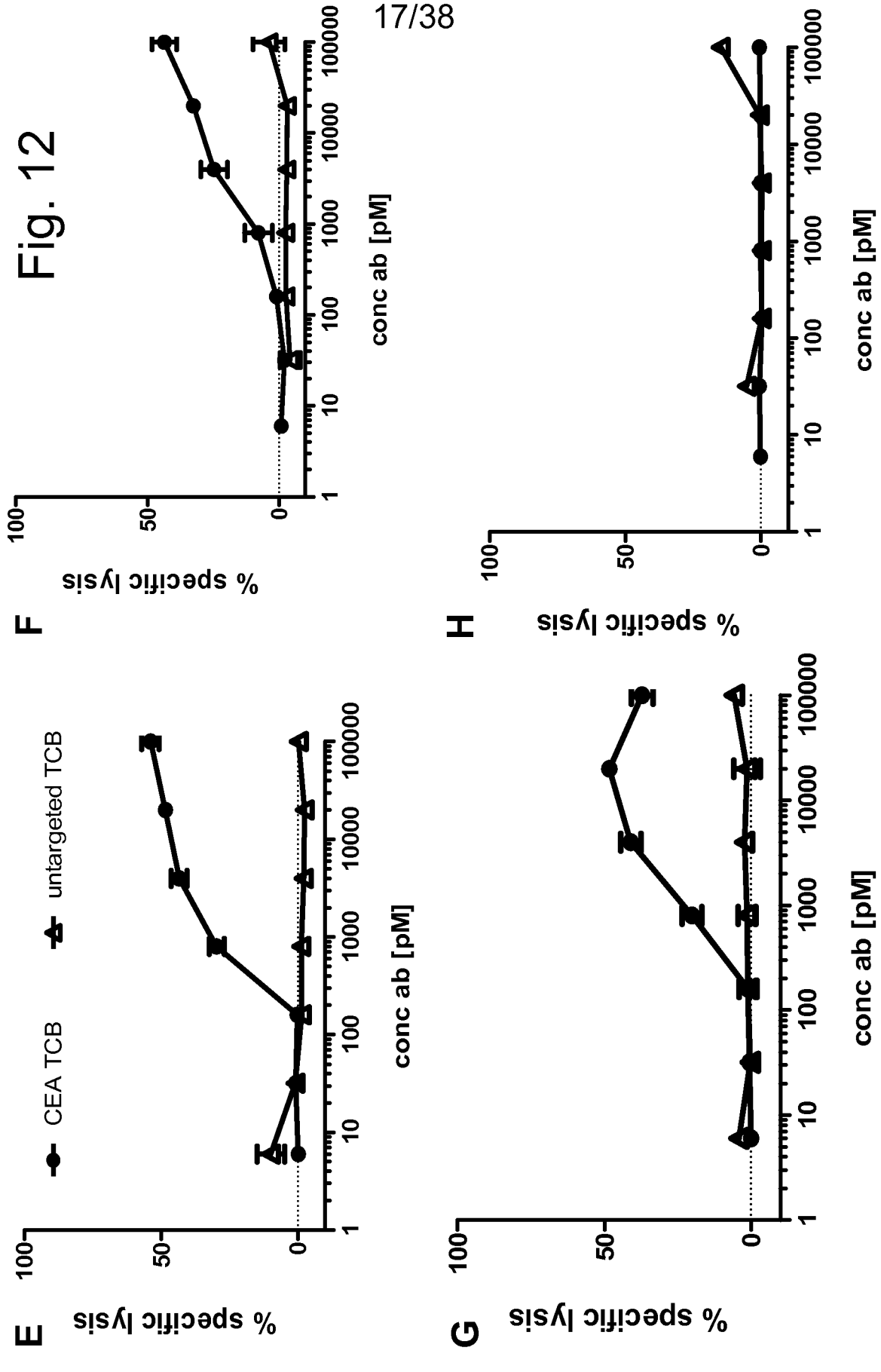

A
B
C
D
% specific lysis
conc ab [pM]
CEA TCB
untargeted TCB
100
50
0
1
10
100
1000
10000
100000

Fig. 12


E
F
G
H
% specific lysis
conc ab [pM]
CEA TCB
untargeted TCB
0
50
100
1
10
100
1000
10000
100000

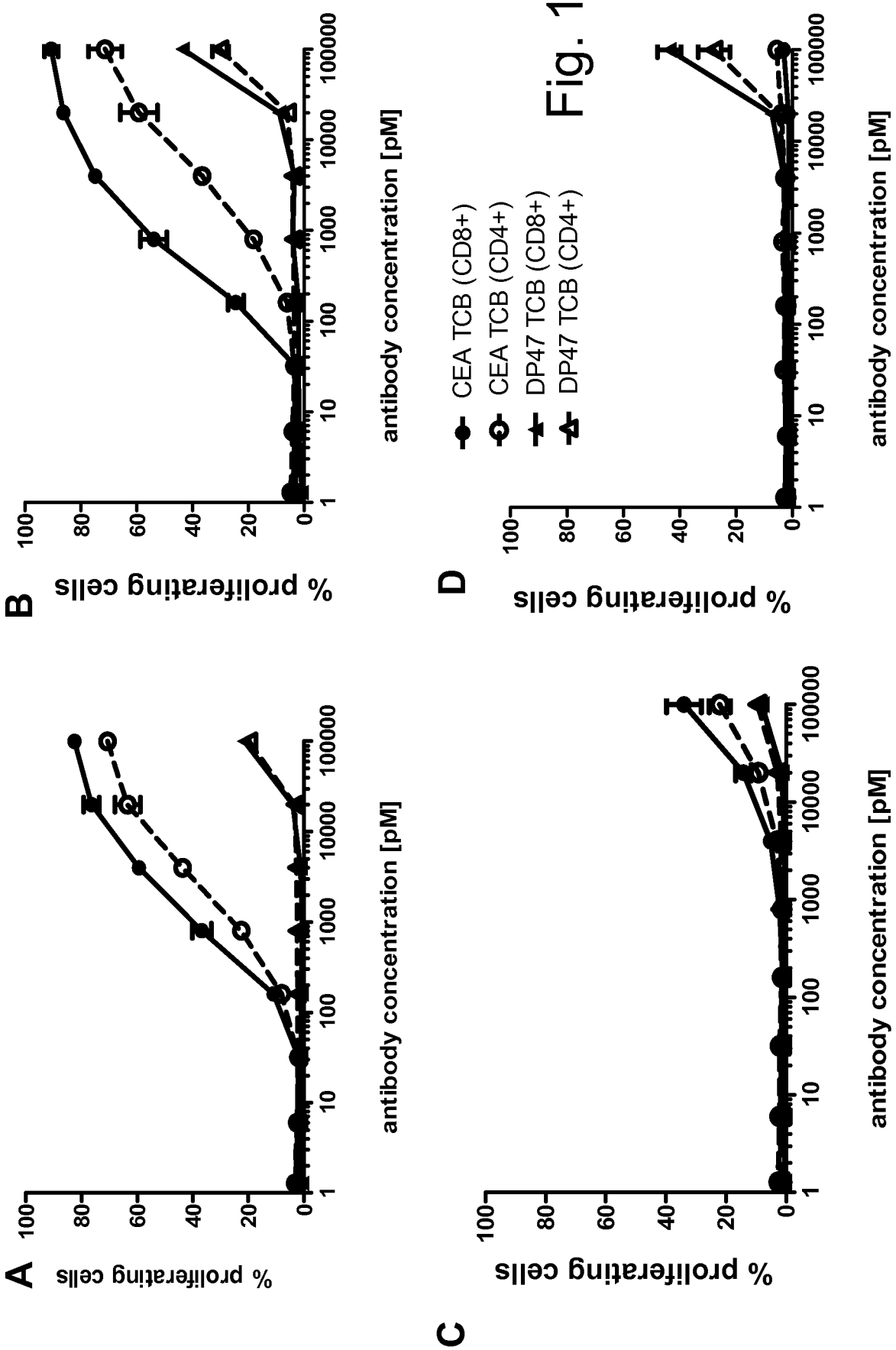
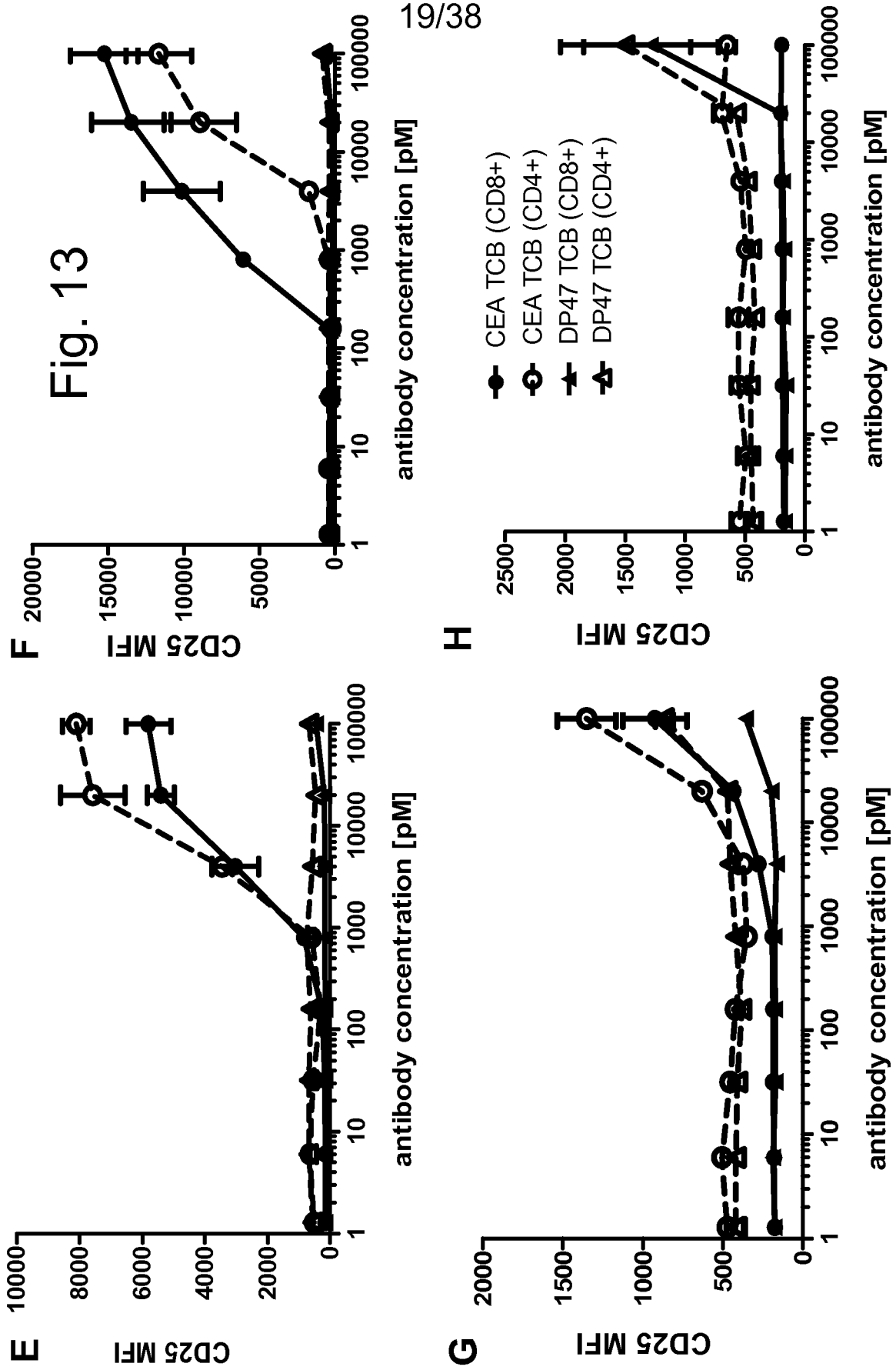

A
B
C
D
% proliferating cells
antibody concentration [pM]
CEA TCB (CD8+)
CEA TCB (CD4+)
DP47 TCB (CD8+)
DP47 TCB (CD4+)
0
20
40
60
80
100
1
10
100
1000
10000
100000

Fig. 13

Fig. 13


E
CD25 MFI
antibody concentration [pM]
F
CD25 MFI
antibody concentration [pM]
G
CD25 MFI
antibody concentration [pM]
H
CD25 MFI
antibody concentration [pM]
CEA TCB (CD8+)
CEA TCB (CD4+)
DP47 TCB (CD8+)
DP47 TCB (CD4+)

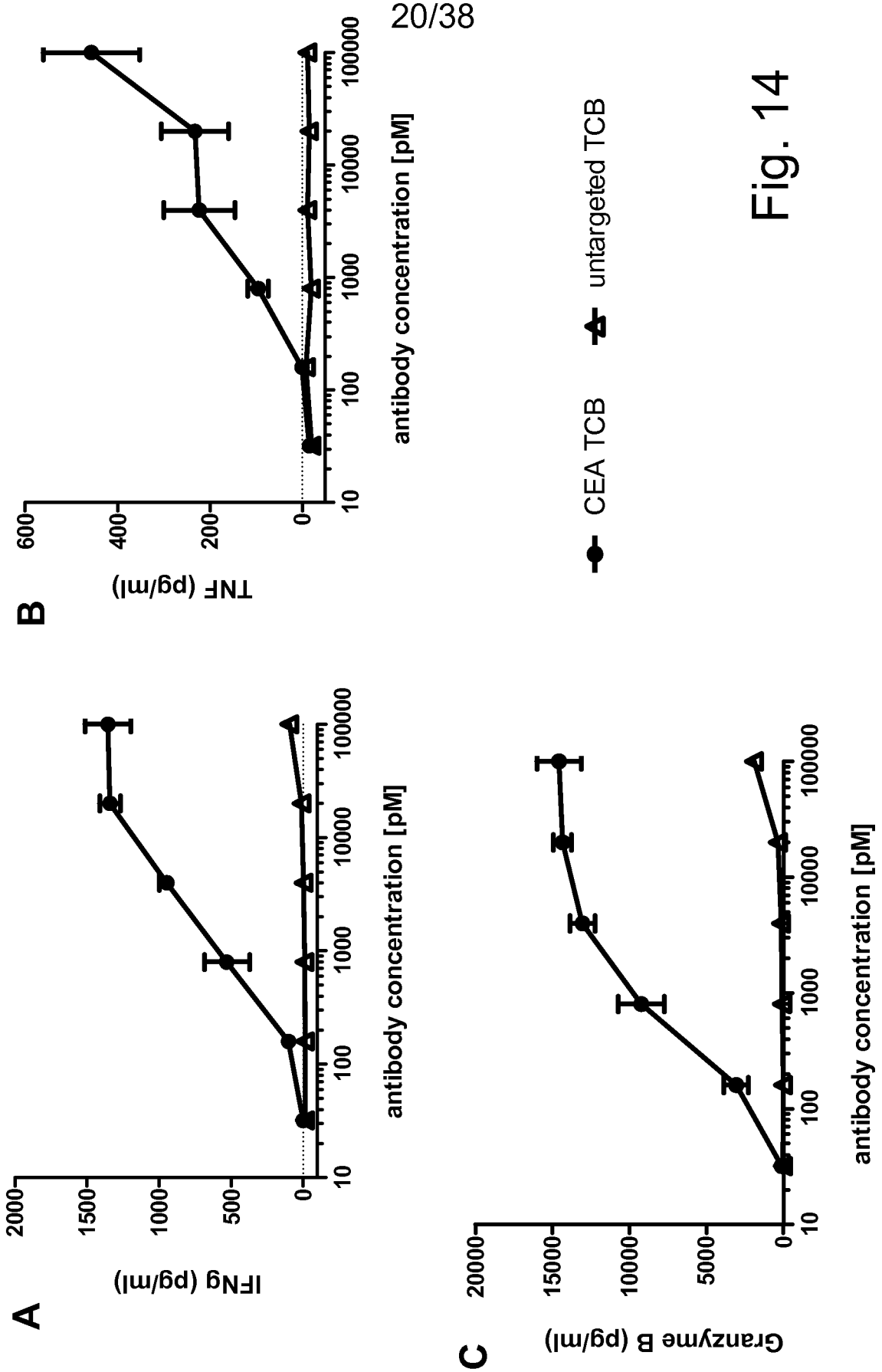

A
IFNg (pg/ml)
2000
1500
1000
500
0
10
100
1000
10000
100000
antibody concentration [pM]
B
TNF (pg/ml)
600
400
200
0
10
100
1000
10000
100000
antibody concentration [pM]
C
Granzyme B (pg/ml)
20000
15000
10000
5000
0
10
100
1000
10000
100000
antibody concentration [pM]
CEA TCB
untargeted TCB

Fig. 14

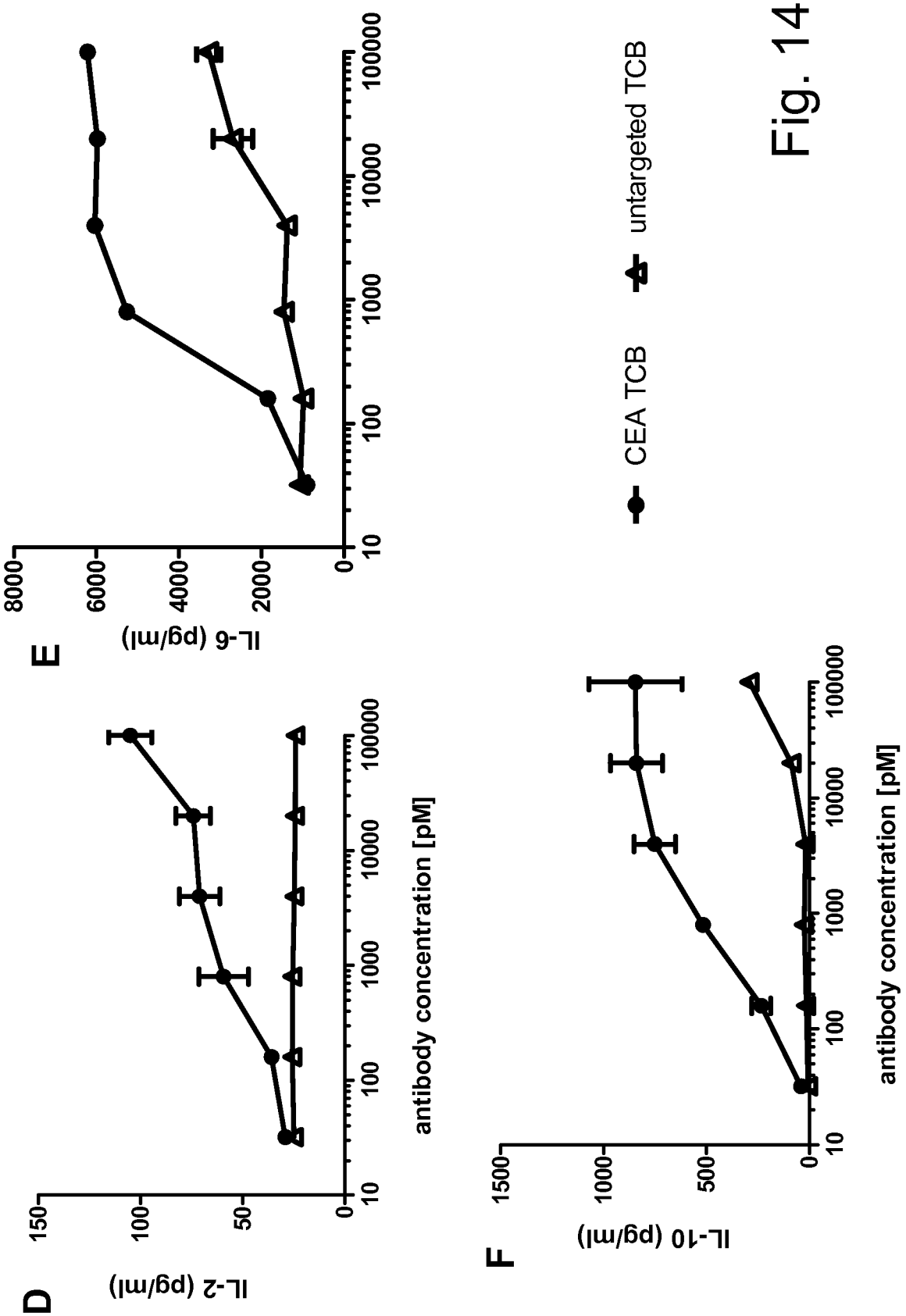

D
IL-2 (pg/ml)
150
100
50
0
10
100
1000
10000
100000
antibody concentration [pM]
E
IL-6 (pg/ml)
8000
6000
4000
2000
0
CEA TCB
untargeted TCB
F
IL-10 (pg/ml)
1500
1000
500
0

Fig. 14

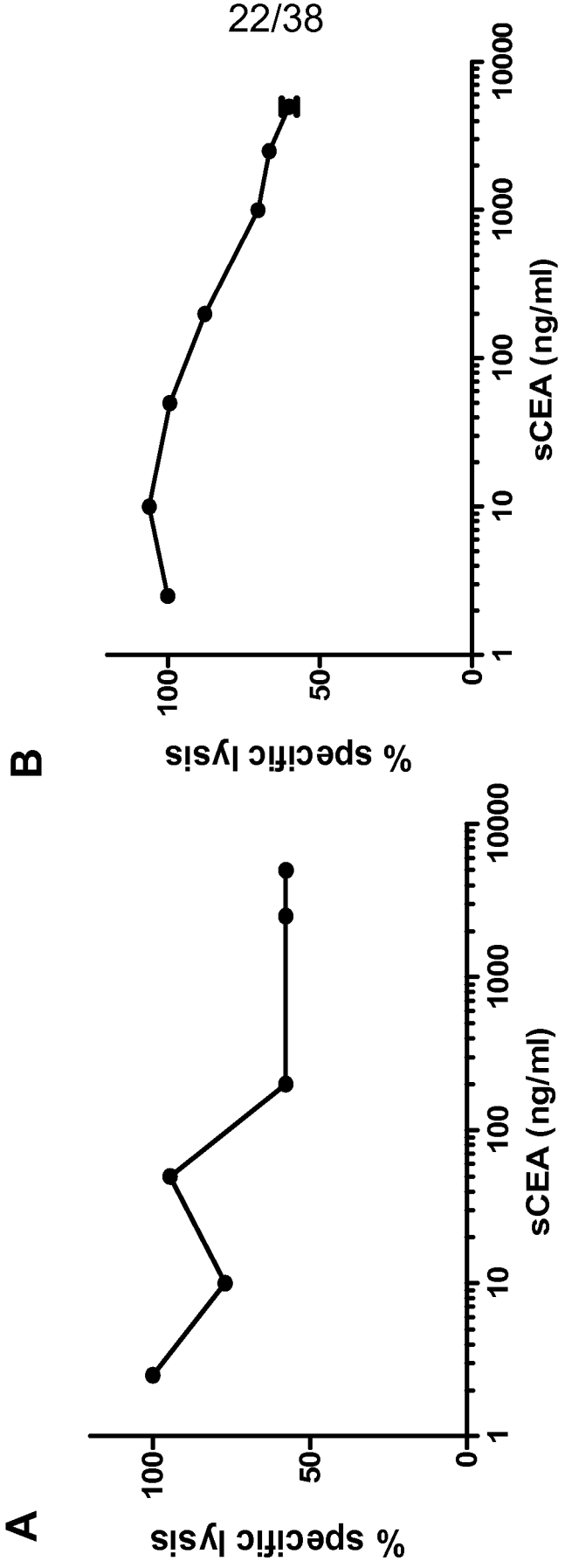
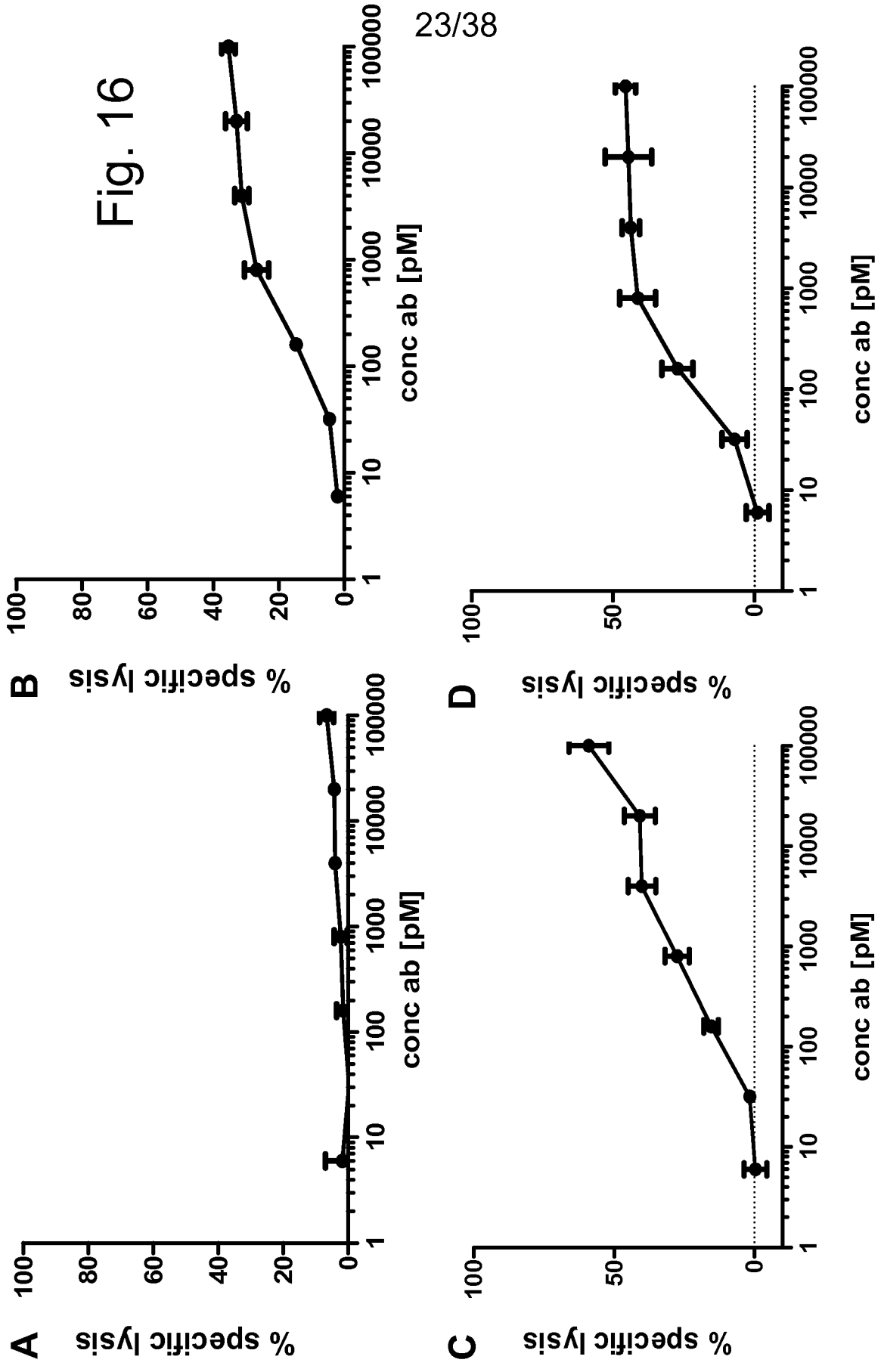

A
% specific lysis
100
50
0
1
10
100
1000
10000
sCEA (ng/ml)
B
% specific lysis
100
50
0
1
10
100
1000
10000
sCEA (ng/ml)

Fig. 15

Fig. 16


A
% specific lysis
conc ab [pM]
B
% specific lysis
conc ab [pM]
C
% specific lysis
conc ab [pM]
D
% specific lysis
conc ab [pM]

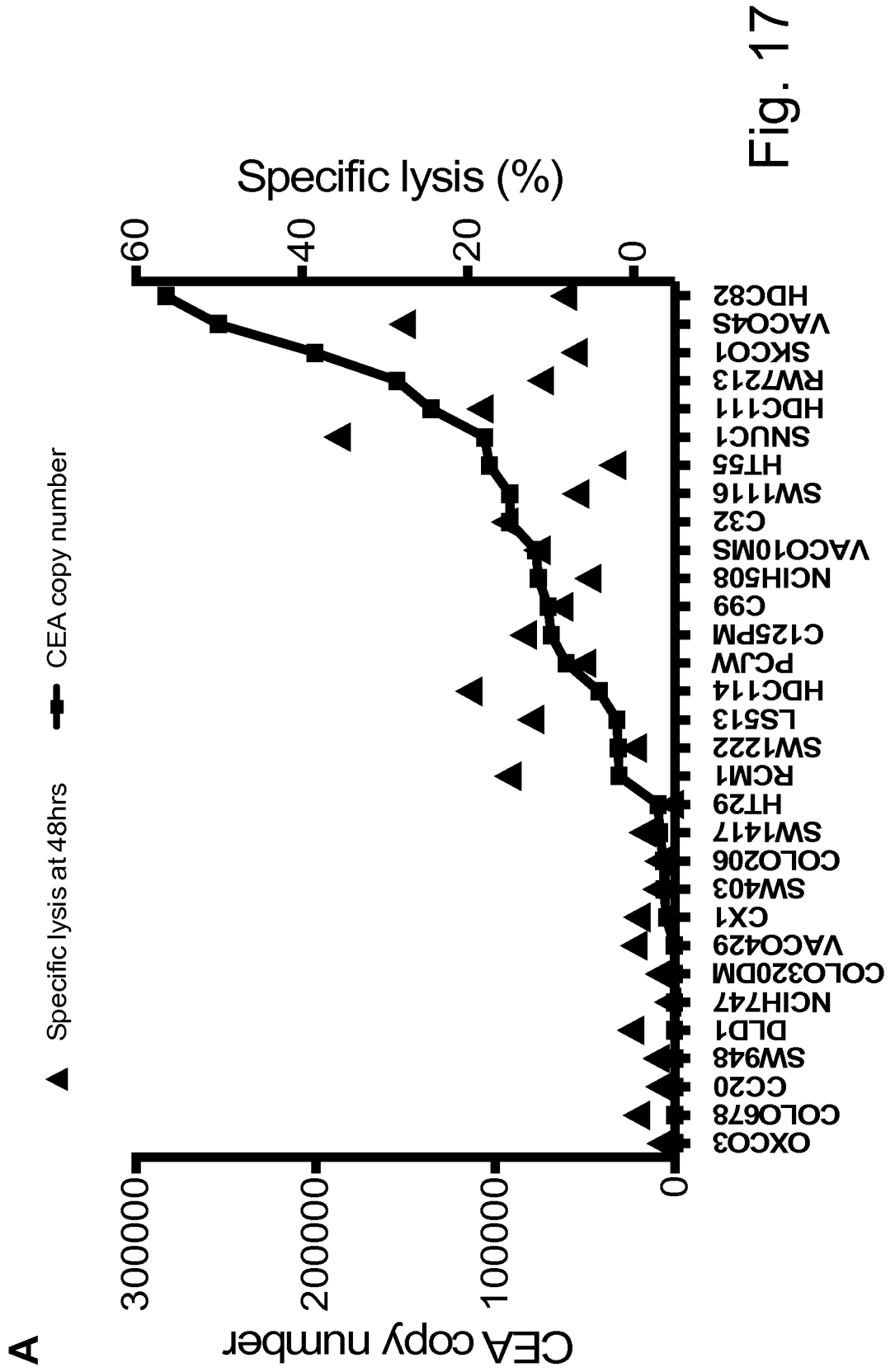

A
CEA copy number
300000
200000
100000
0
Specific lysis (%)
60
40
20
0
Specific lysis at 48hrs
CEA copy number
OXCO3
COLO678
CC20
SW948
DLD1
NCIH747
COLO320DM
VACO429
CX1
SW403
COLO206
SW1417
HT29
RCM1
SW1222
LS513
HDC114
PCJW
C125PM
C99
NCIH508
VACO10MS
C32
SW1116
HT55
SNUC1
HDC111
RW7213
SKCO1
VACO4S
HDC82

Fig. 17

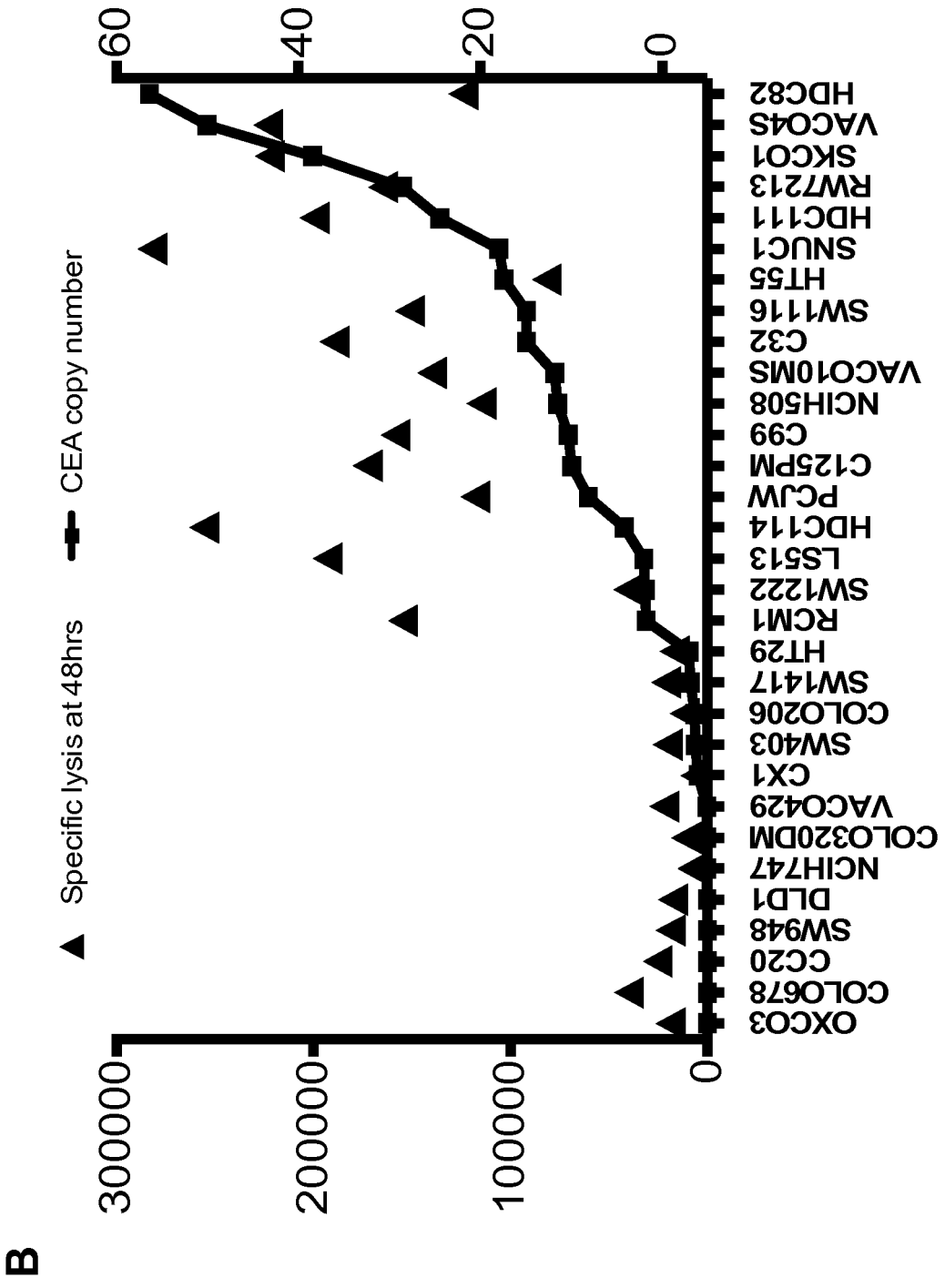

B
Specific lysis at 48hrs
CEA copy number
300000
200000
100000
0
60
40
20
0
OXCO3
COLO678
CC20
SW948
DLD1
NCIH747
COLO320DM
VACO429
CX1
SW403
COLO206
SW1417
HT29
RCM1
SW1222
LS513
HDC114
PCJW
C125PM
C99
NCIH508
VACO10MS
C32
SW1116
HT55
SNUC1
HDC111
RW7213
SKCO1
VACO4S
HDC82

Fig. 17

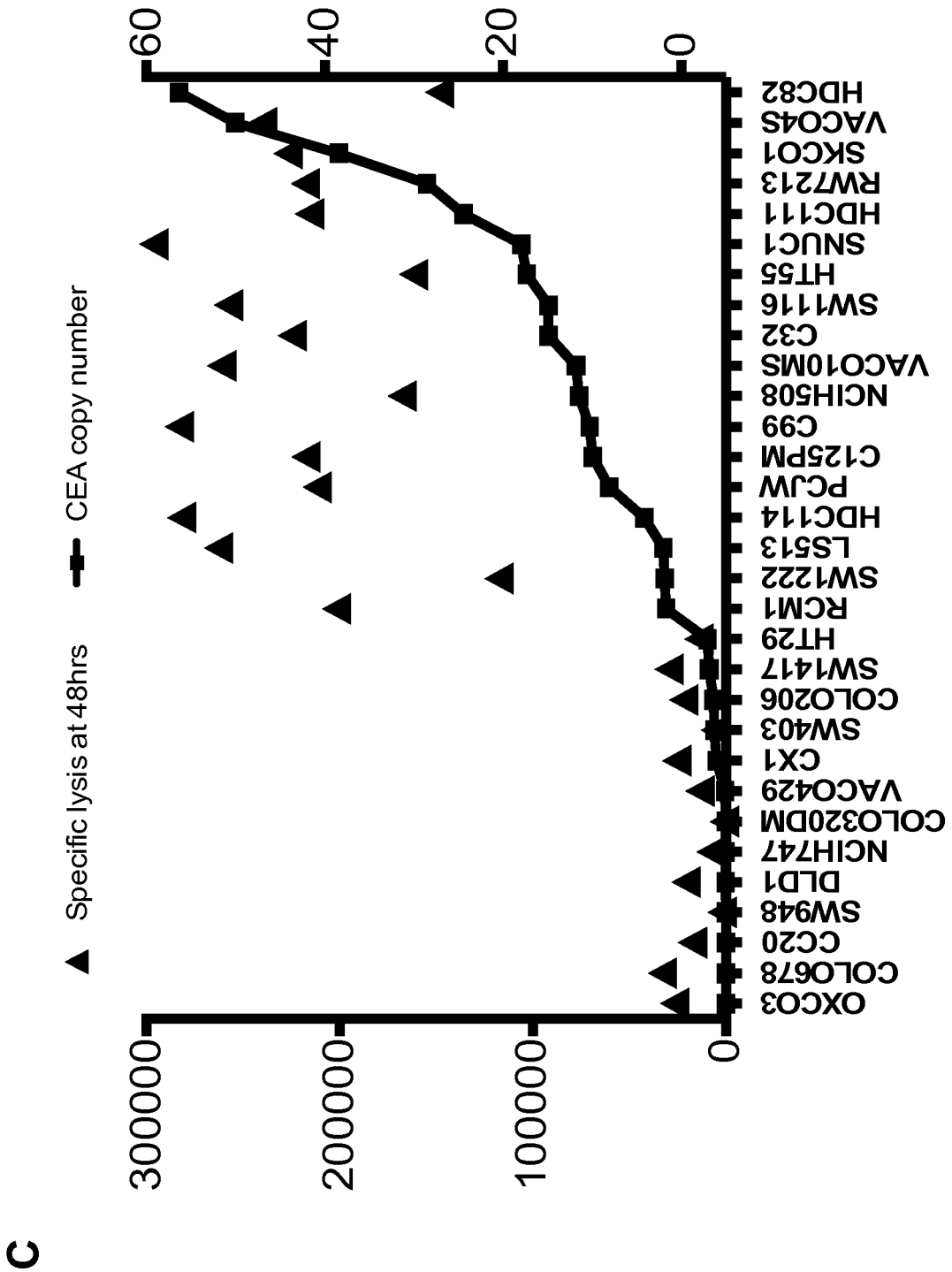
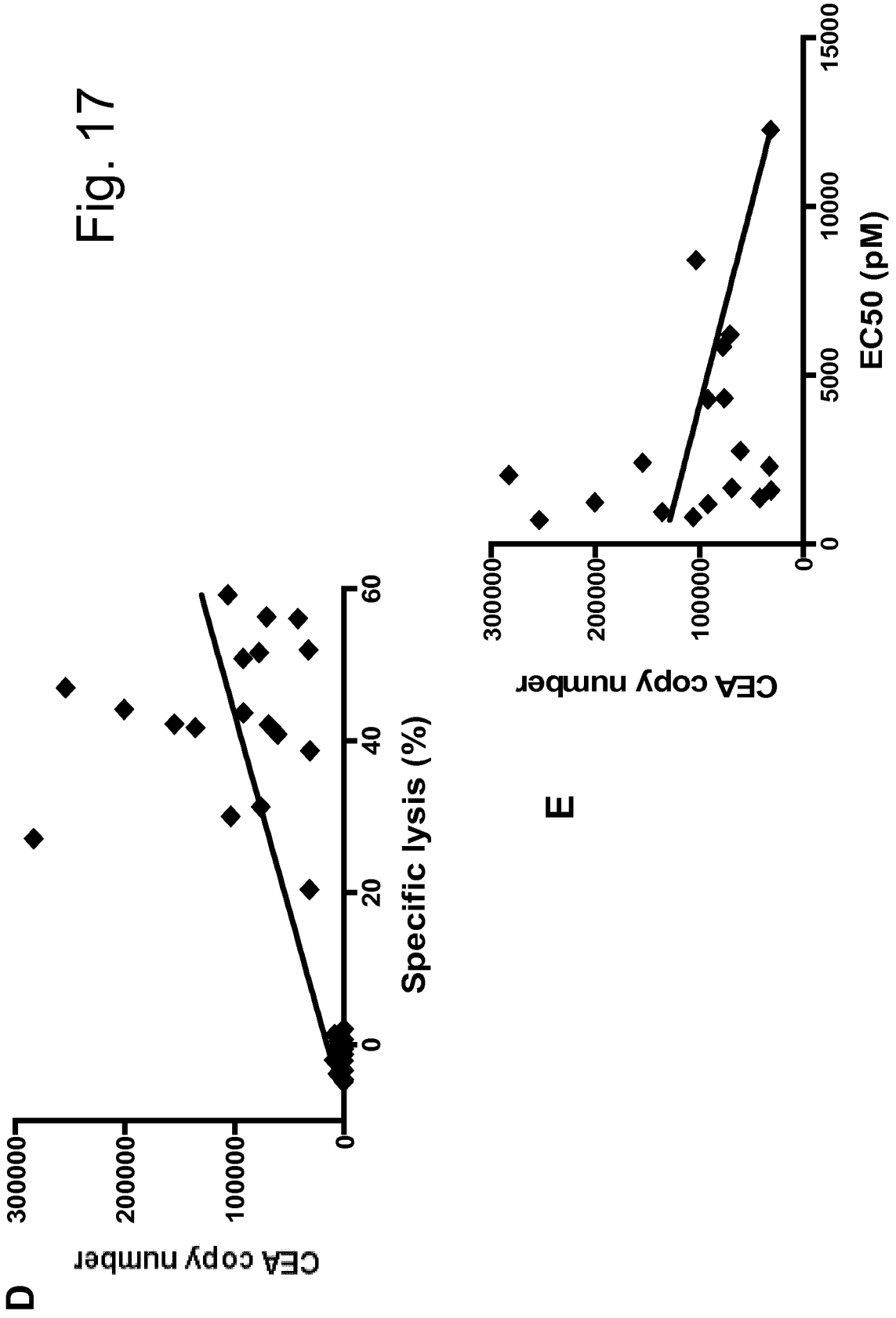

C
Specific lysis at 48hrs
CEA copy number
300000
200000
100000
0
60
40
20
0
OXCO3
COLO678
CC20
SW948
DLD1
NCIH747
COLO320DM
VACO429
CX1
SW403
COLO206
SW1417
HT29
RCM1
SW1222
LS513
HDC114
PCJW
C125PM
C99
NCIH508
VACO10MS
C32
SW1116
HT55
SNUC1
HDC111
RW7213
SKCO1
VACO4S
HDC82

Fig. 17

Fig. 17


D
CEA copy number
300000
200000
100000
0
0
20
40
60
Specific lysis (%)
E
CEA copy number
300000
200000
100000
0
0
5000
10000
15000
EC50 (pM)

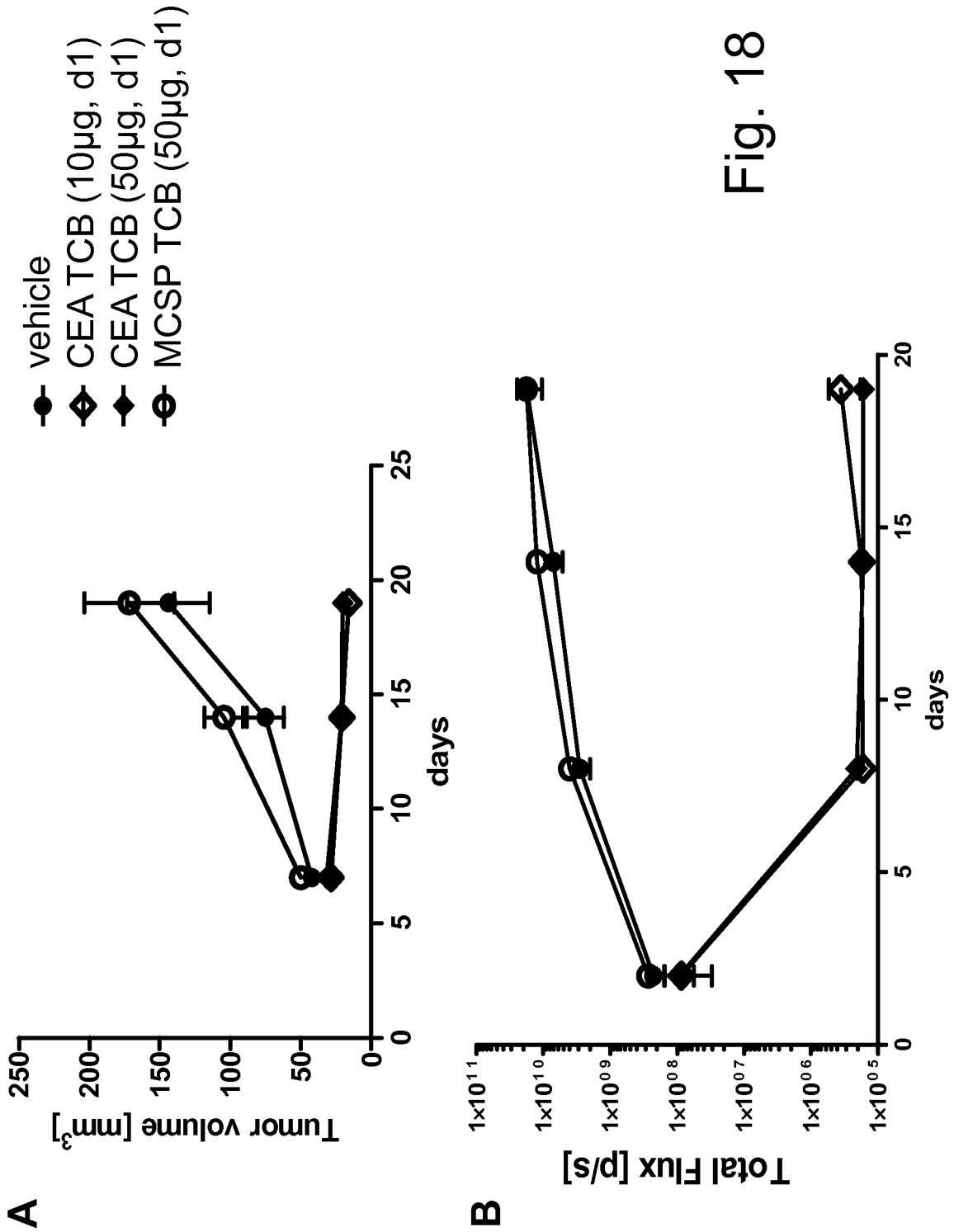

A
Tumor volume [mm3]
250
200
150
100
50
0
0
5
10
15
20
25
days
vehicle
CEA TCB (10µg, d1)
CEA TCB (50µg, d1)
MCSP TCB (50µg, d1)
B
Total Flux [p/s]
1x10^11
1x10^10
1x10^09
1x10^08
1x10^07
1x10^06
1x10^05
0
5
10
15
20
days

Fig. 18

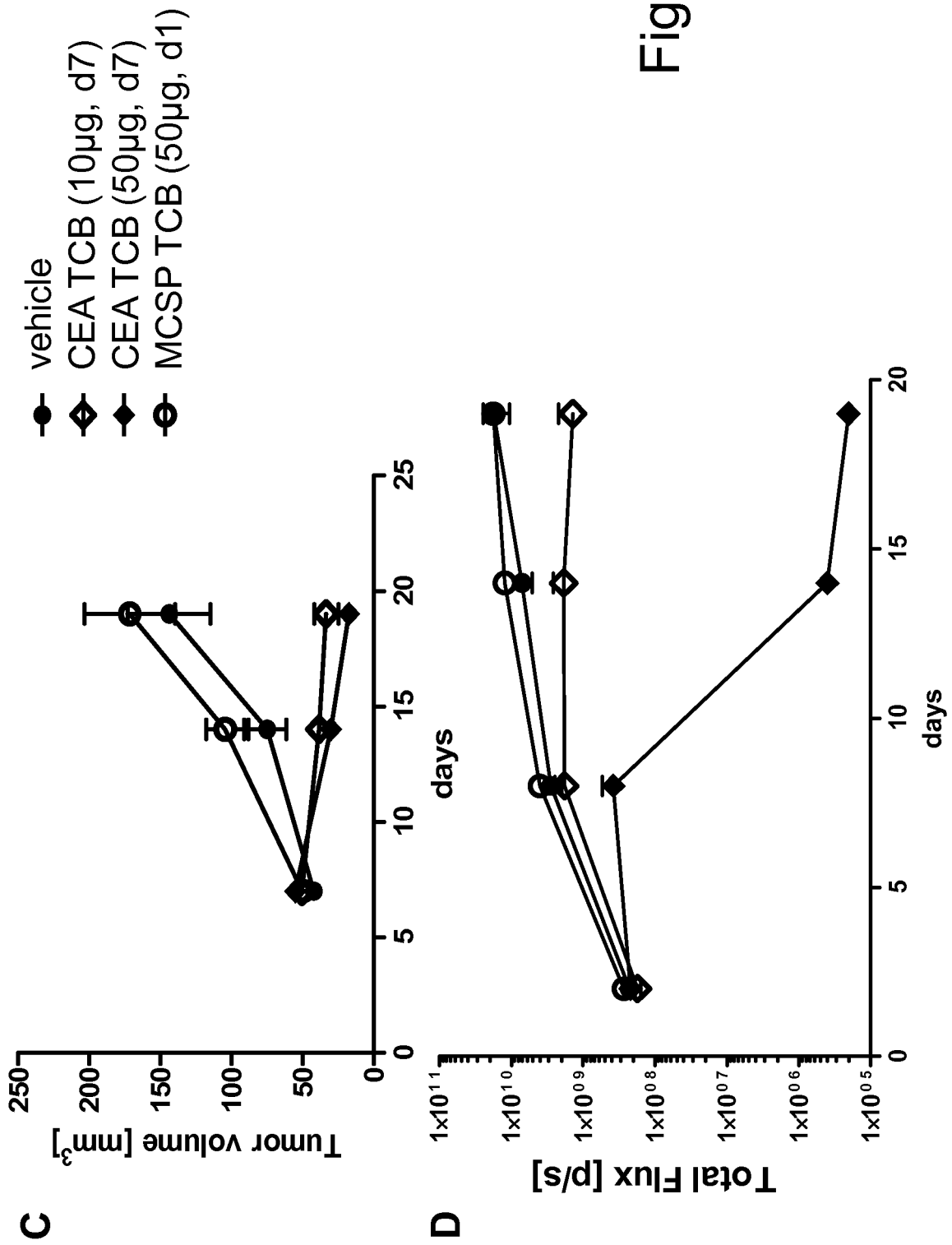

C
Tumor volume [mm3]
250
200
150
100
50
0
0
5
10
15
20
25
days
vehicle
CEA TCB (10µg, d7)
CEA TCB (50µg, d7)
MCSP TCB (50µg, d1)
D
Total Flux [p/s]
1x10^11
1x10^10
1x10^09
1x10^08
1x10^07
1x10^06
1x10^05
0
5
10
15
20
days

Fig. 18

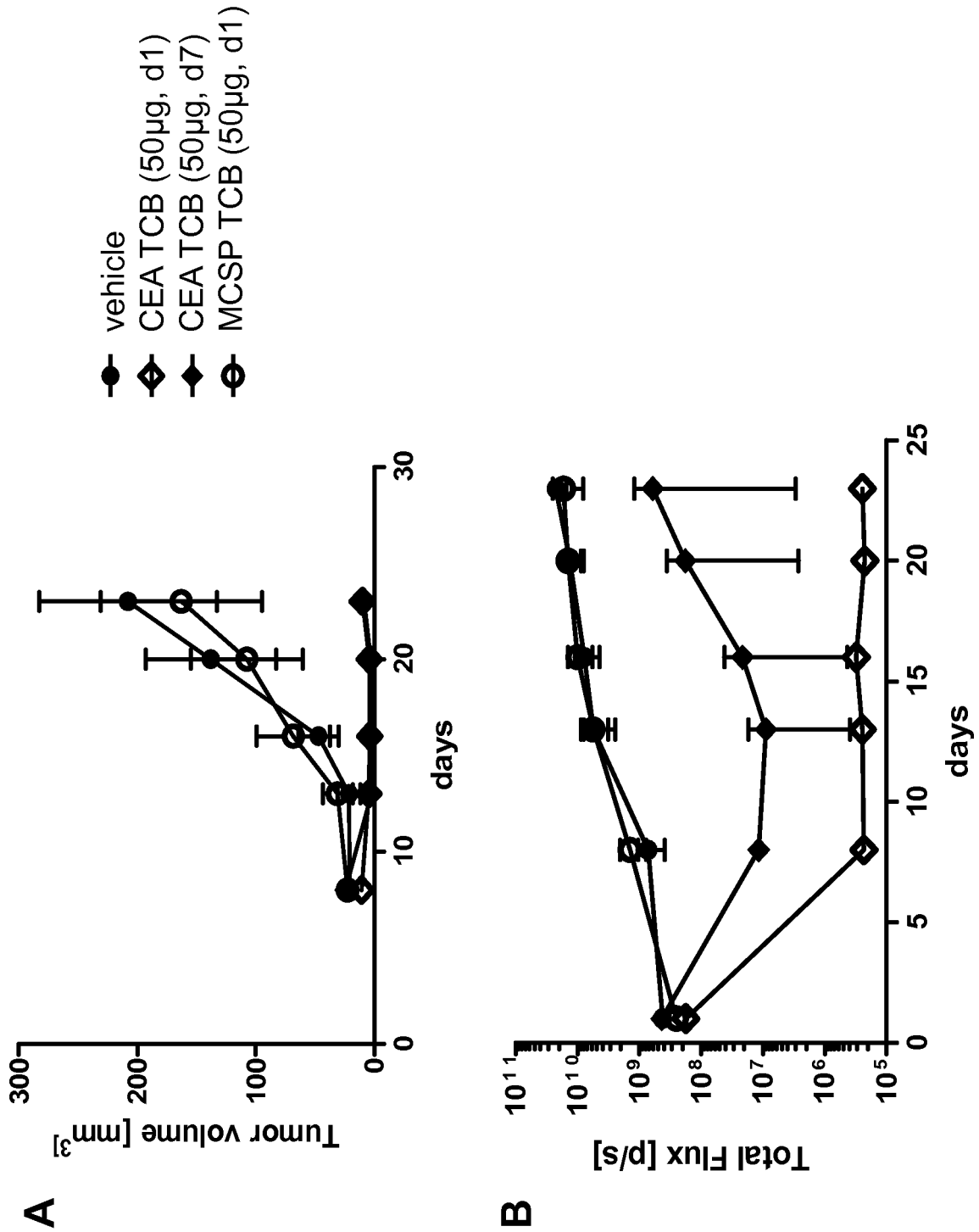
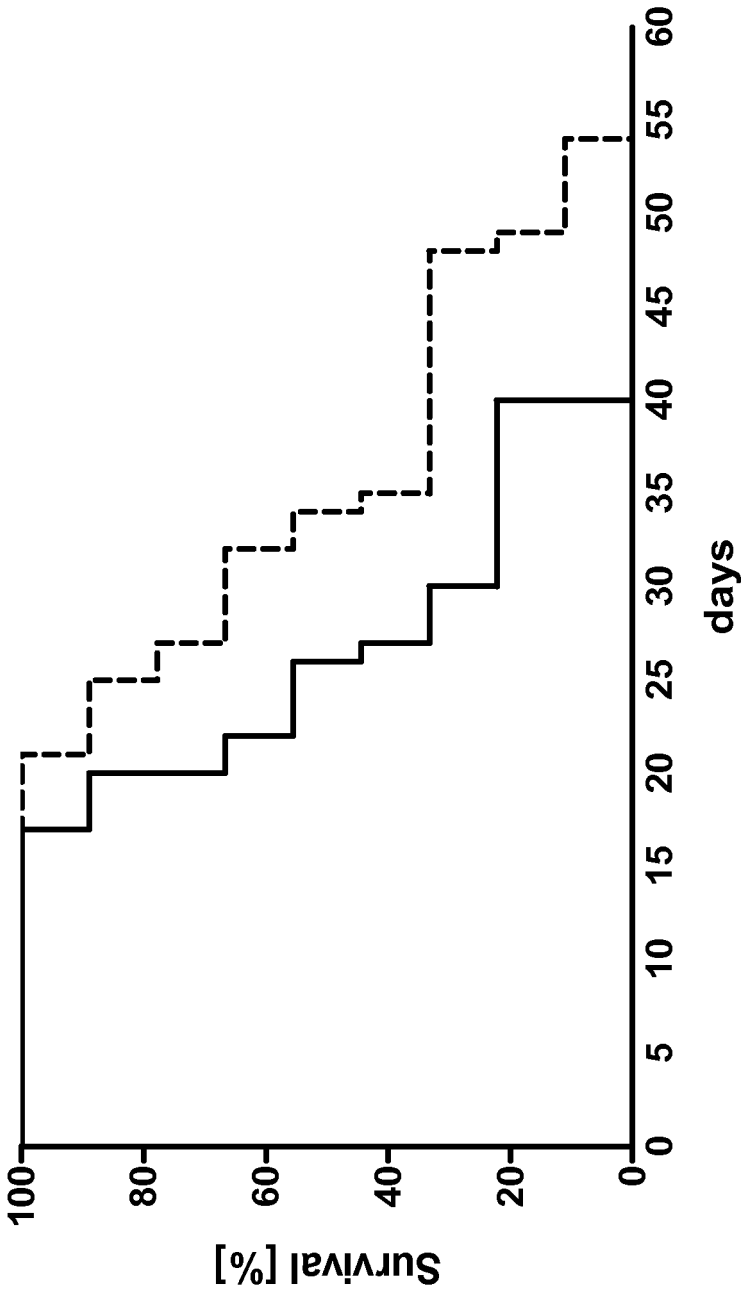

A
Tumor volume [mm3]
300
200
100
0
0
10
20
30
days
vehicle
CEA TCB (50µg, d1)
CEA TCB (50µg, d7)
MCSP TCB (50µg, d1)
B
Total Flux [p/s]
10 11
10 10
10 9
10 8
10 7
10 6
10 5
0
5
10
15
20
25
days

Fig. 19

Fig. 20


vehicle
CEA TCB (d8)
Survival [%]
100
80
60
40
20
0
0
5
10
15
20
25
30
35
40
45
50
55
60
days

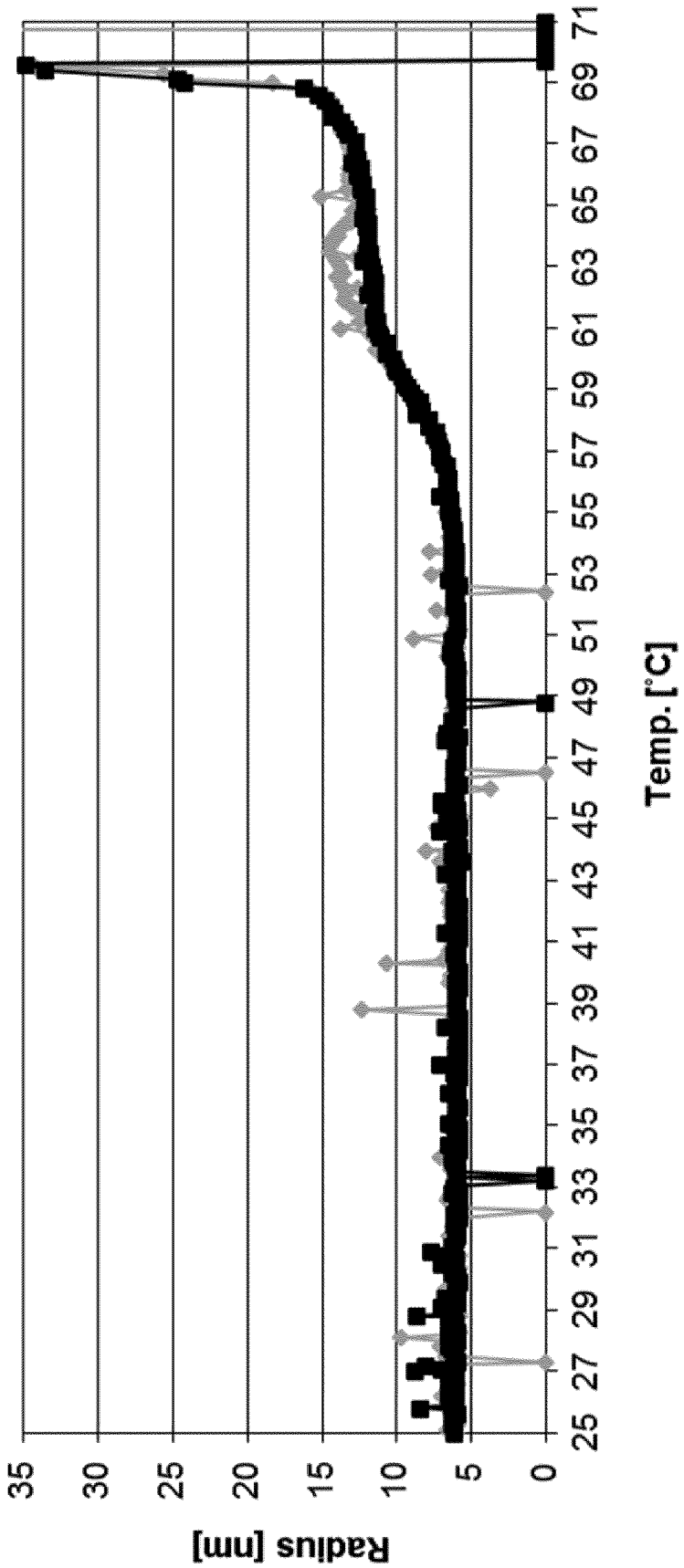

Radius [nm]
35
30
25
20
15
10
5
0
Temp. [°C]
25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71

Fig. 21

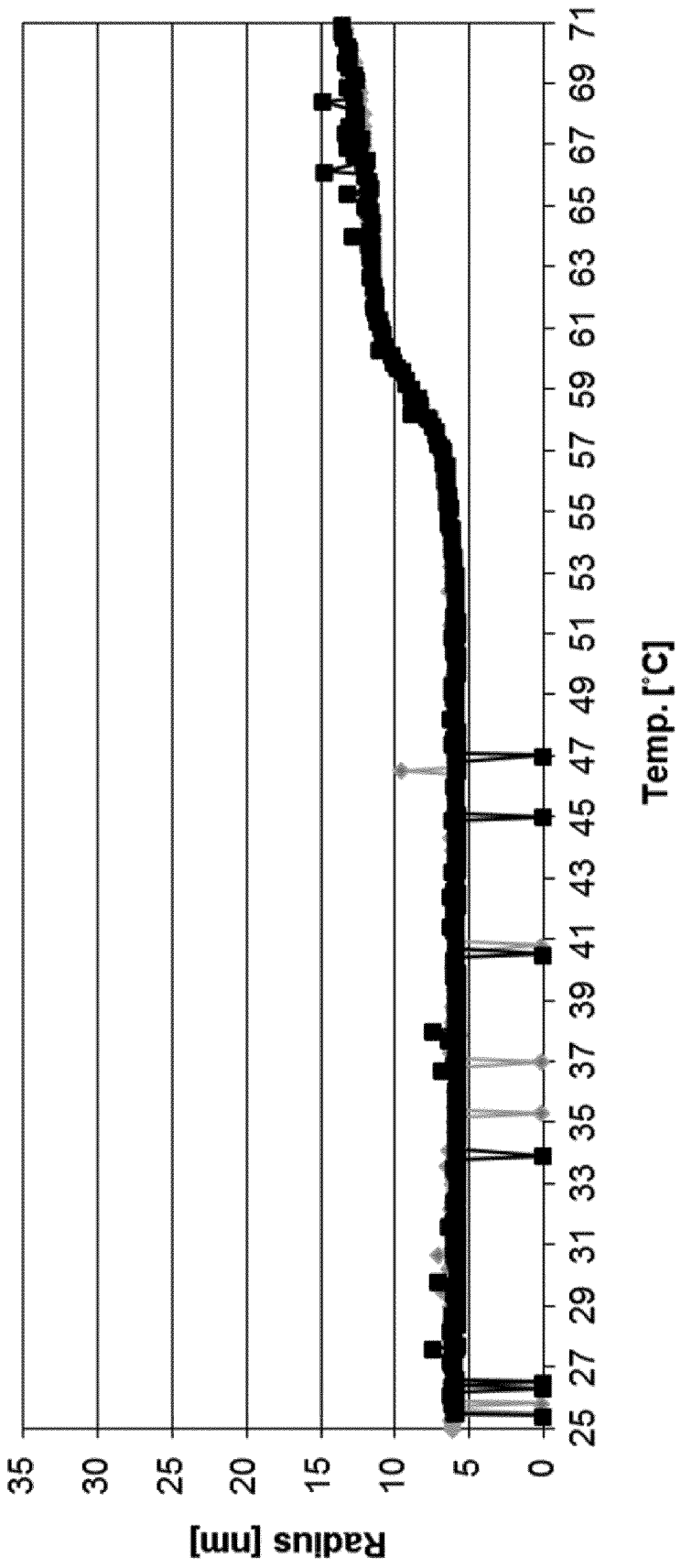

Radius [nm]
0
5
10
15
20
25
30
35
Temp. [°C]
25 27 29 31 33 35 37 39 41 43 45 47 49 51 53 55 57 59 61 63 65 67 69 71

Fig. 22

Fig. 23

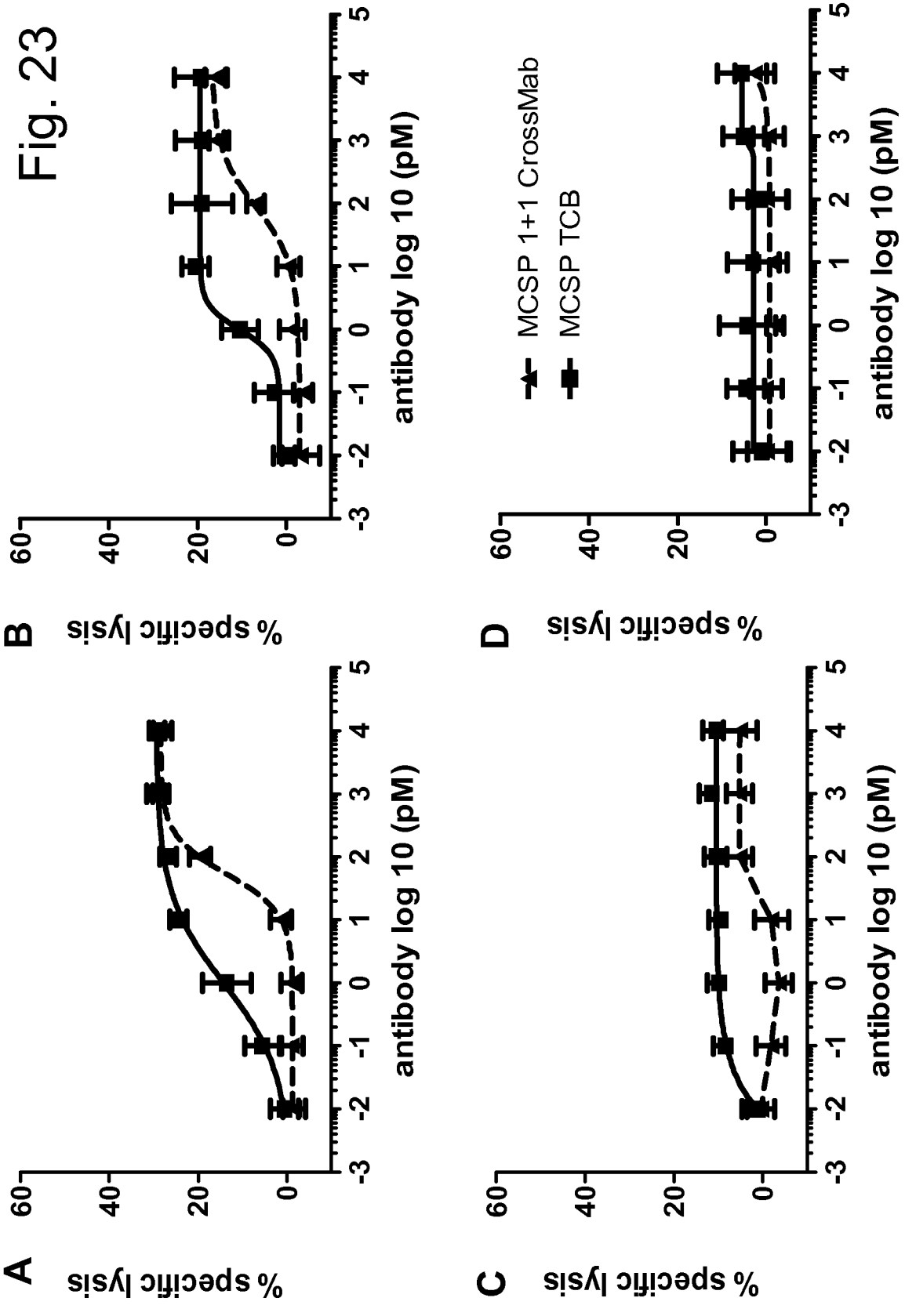

A
B
C
D
% specific lysis
antibody log 10 (pM)
MCSP 1+1 CrossMab
MCSP TCB

Fig. 23

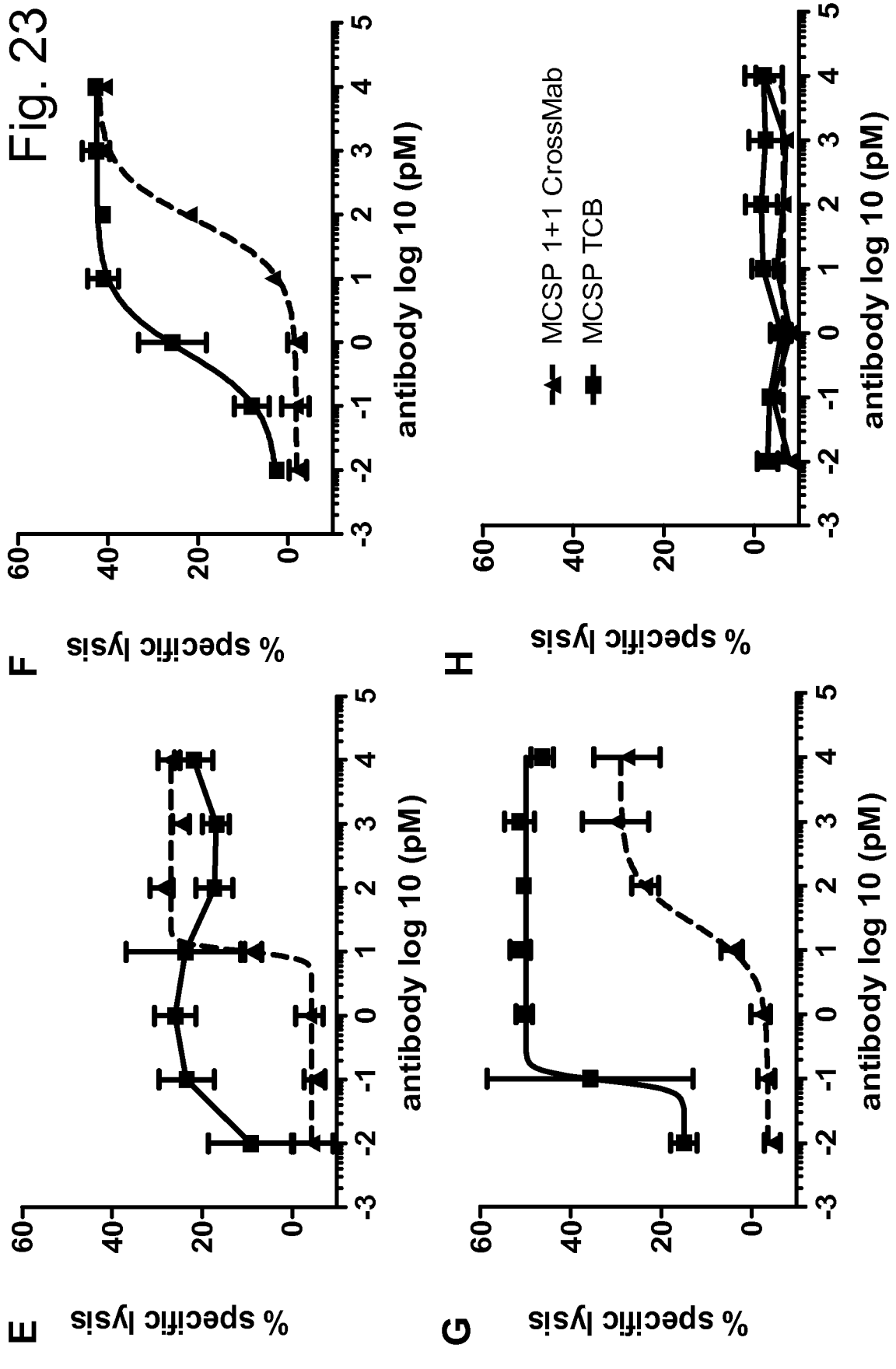

F
% specific lysis
antibody log 10 (pM)
E
% specific lysis
antibody log 10 (pM)
H
MCSP 1+1 CrossMab
MCSP TCB
% specific lysis
antibody log 10 (pM)
G
% specific lysis
antibody log 10 (pM)

Fig. 24

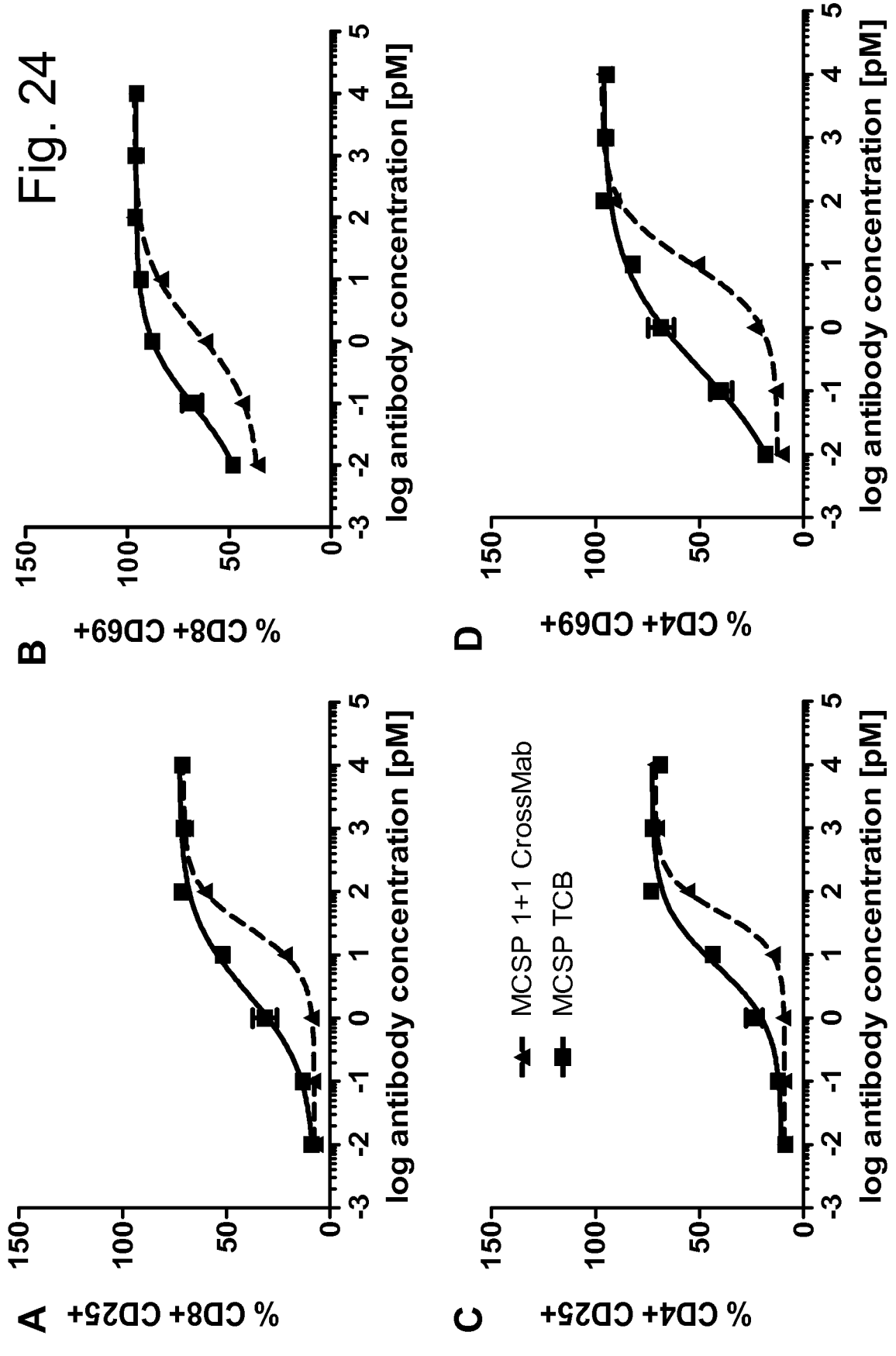
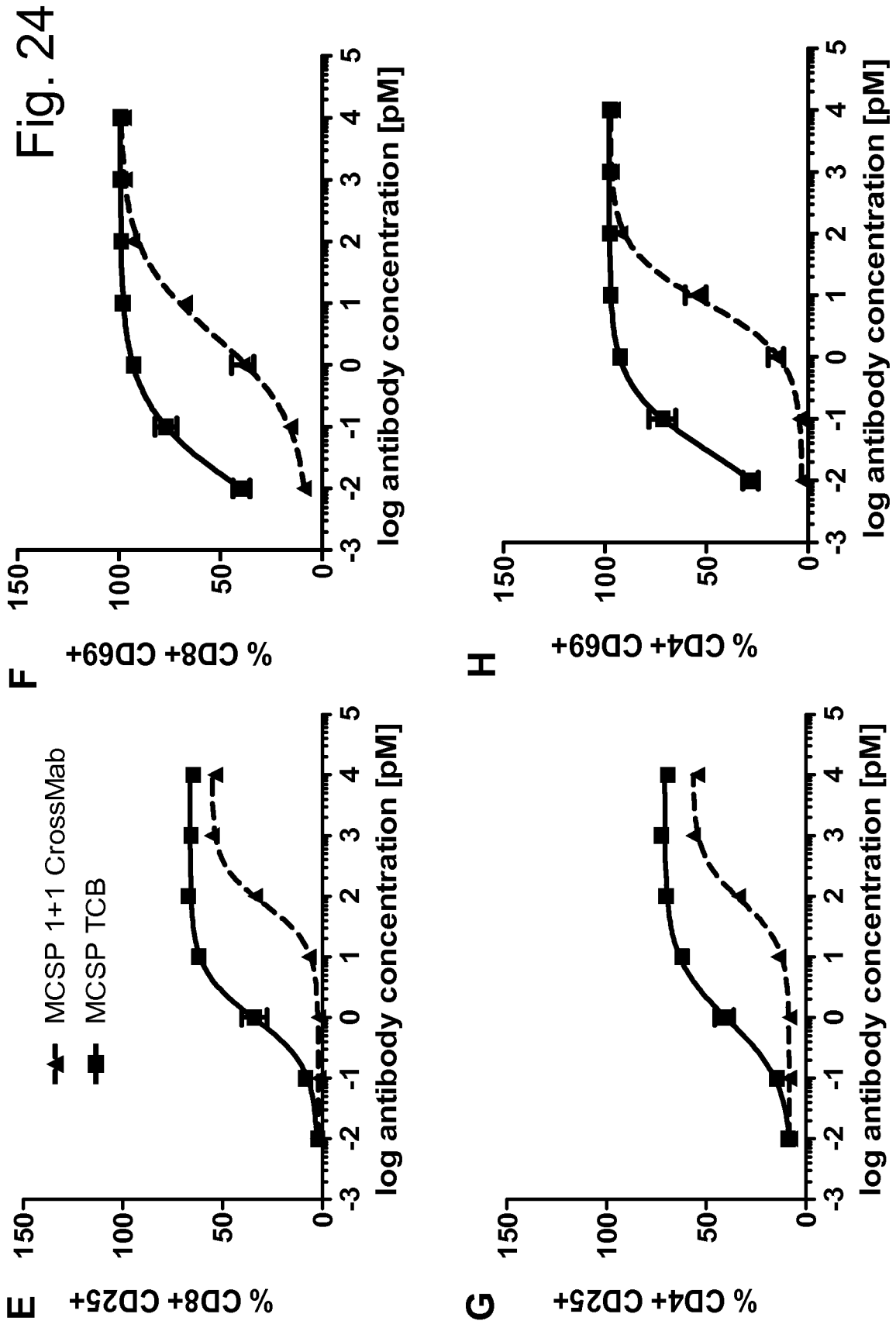

A
% CD8+ CD25+
B
% CD8+ CD69+
C
% CD4+ CD25+
D
% CD4+ CD69+
log antibody concentration [pM]
MCSP 1+1 CrossMab
MCSP TCB

Fig. 24


E
% CD8+ CD25+
F
% CD8+ CD69+
G
% CD4+ CD25+
H
% CD4+ CD69+
MCSP 1+1 CrossMab
MCSP TCB
log antibody concentration [pM]
0
50
100
150
-3
-2
-1
0
1
2
3
4
5

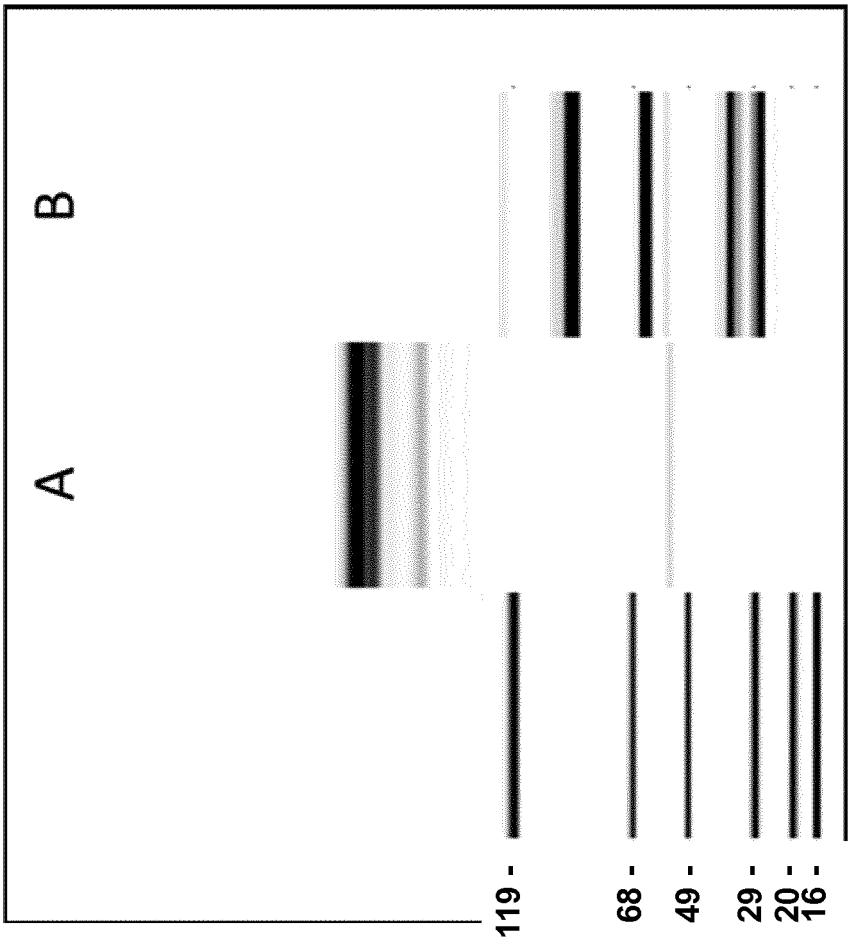


Fig. 25