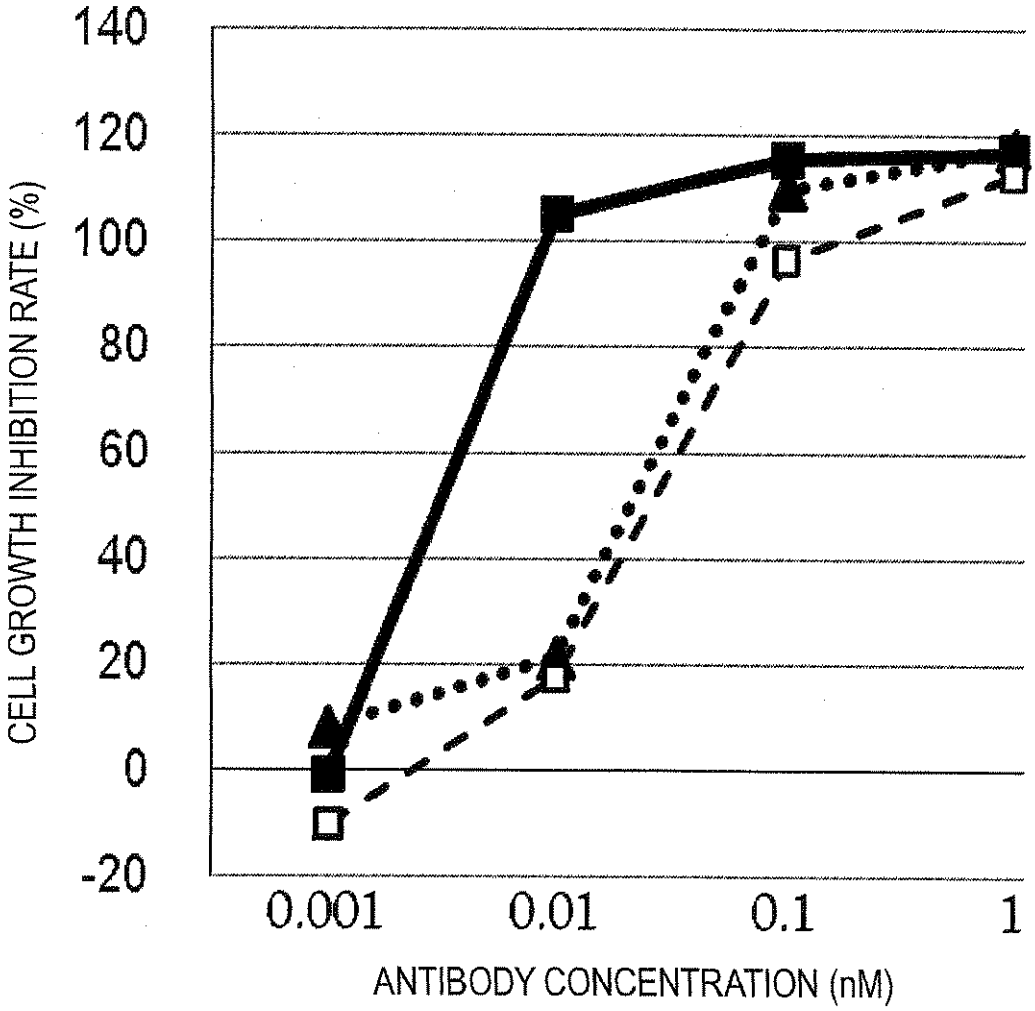

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 1

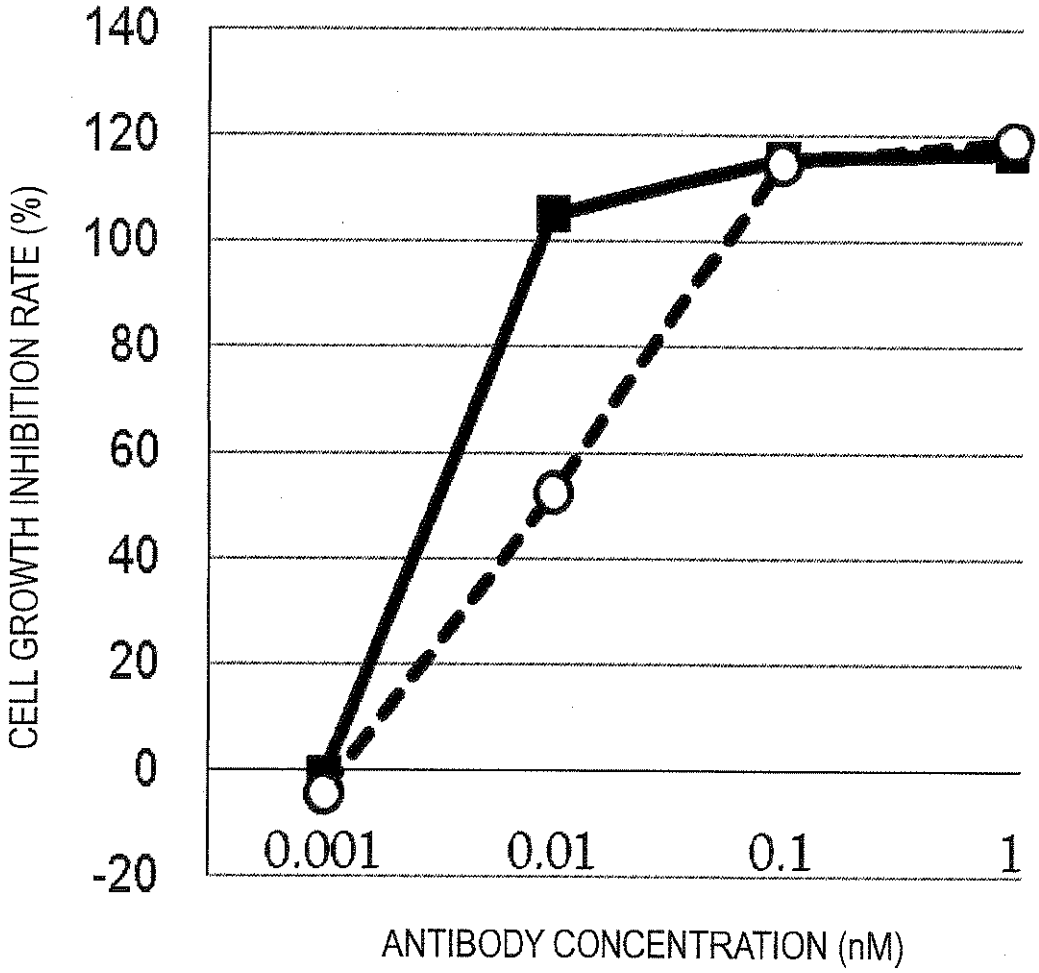

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 2

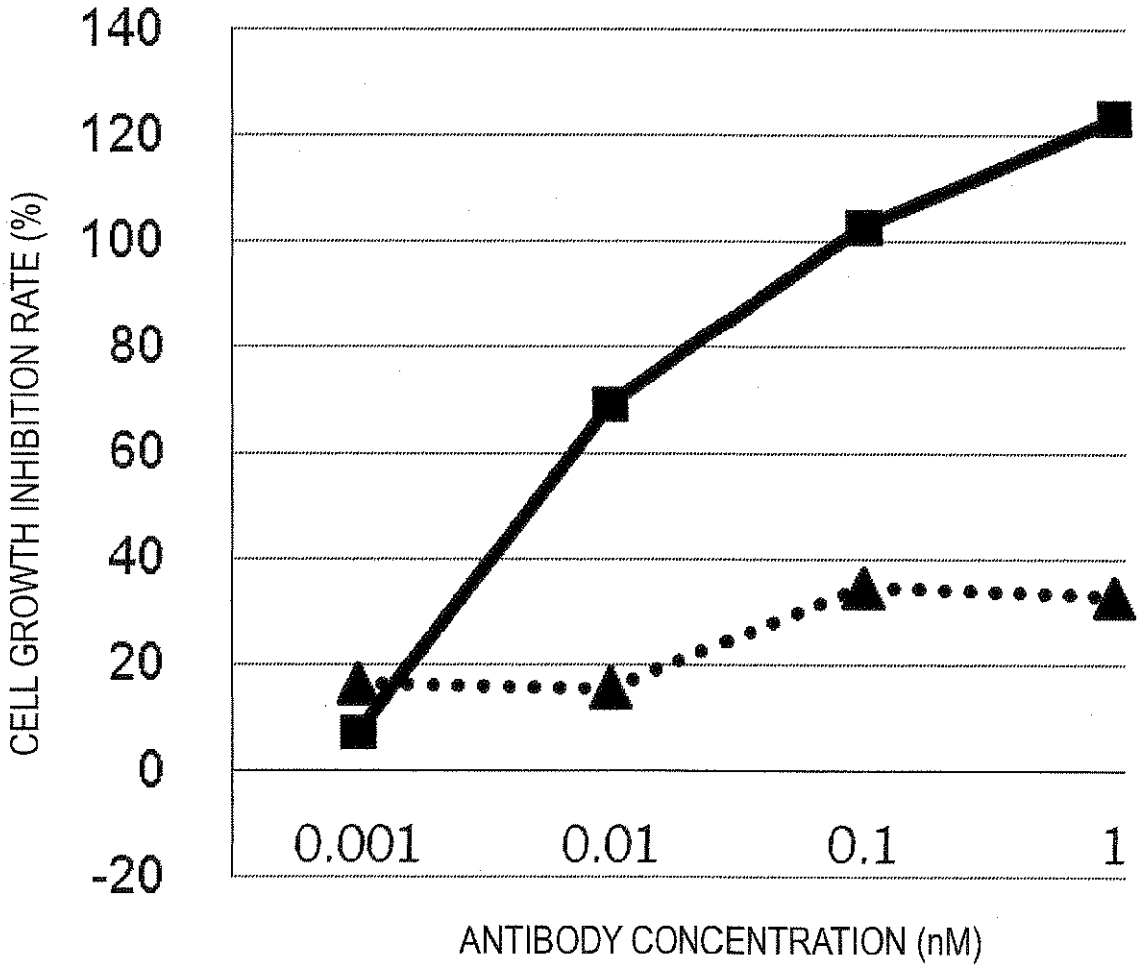

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 3

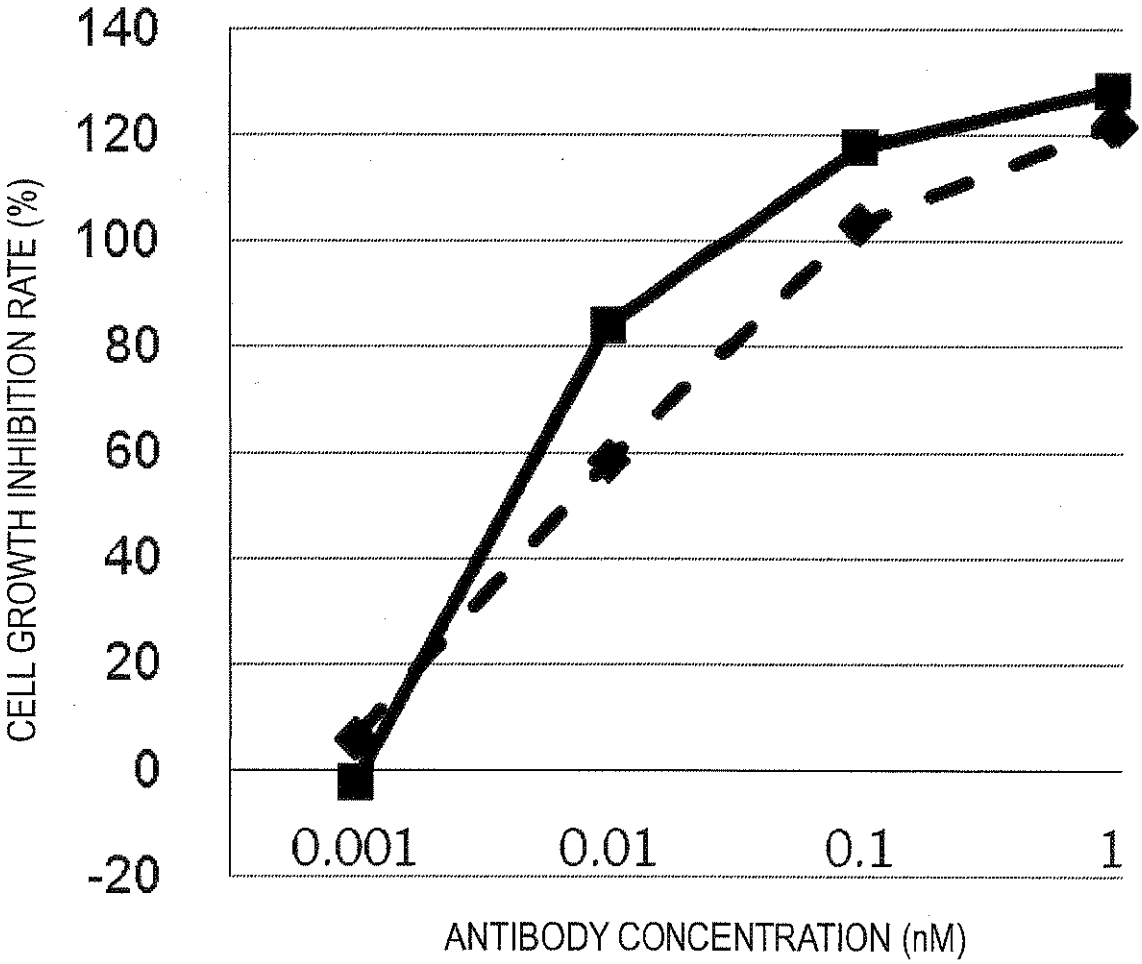

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 4

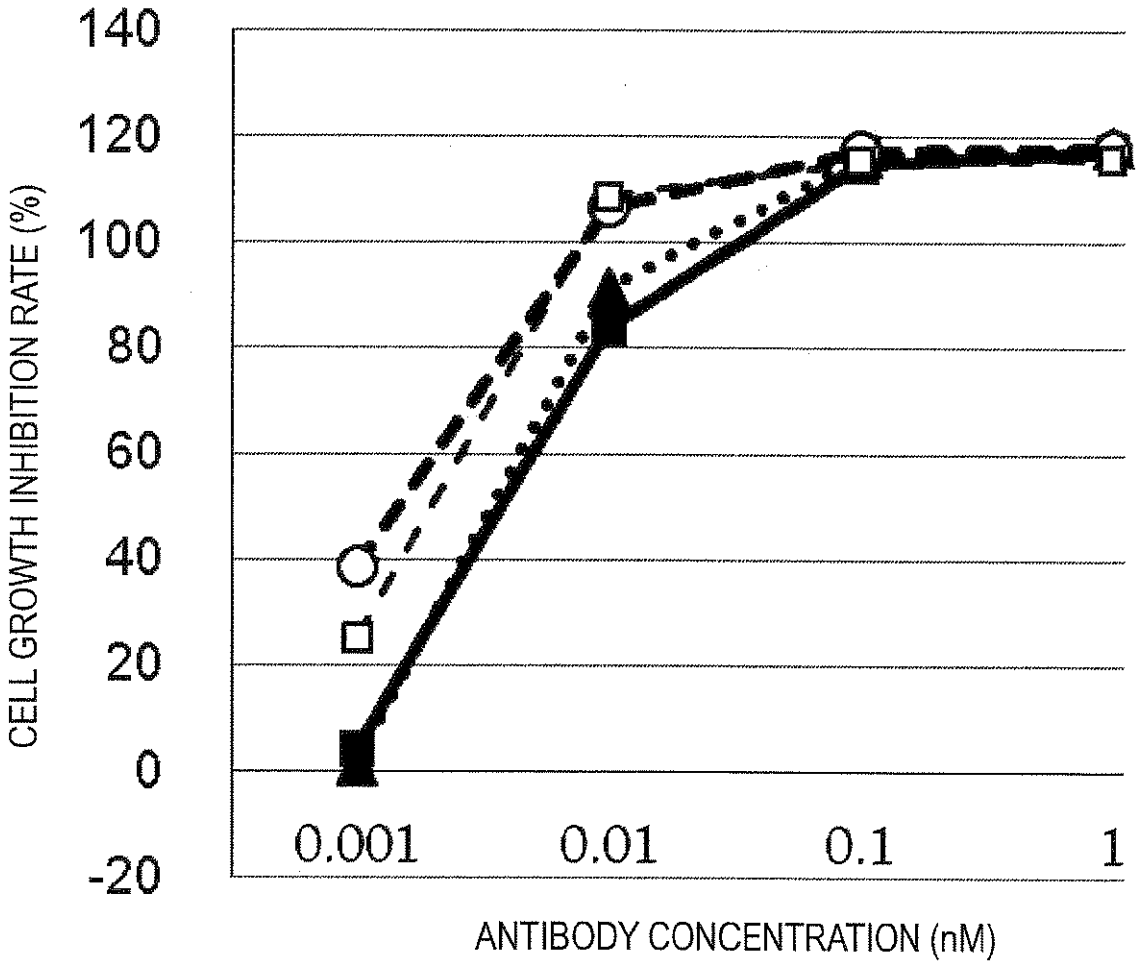

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 5

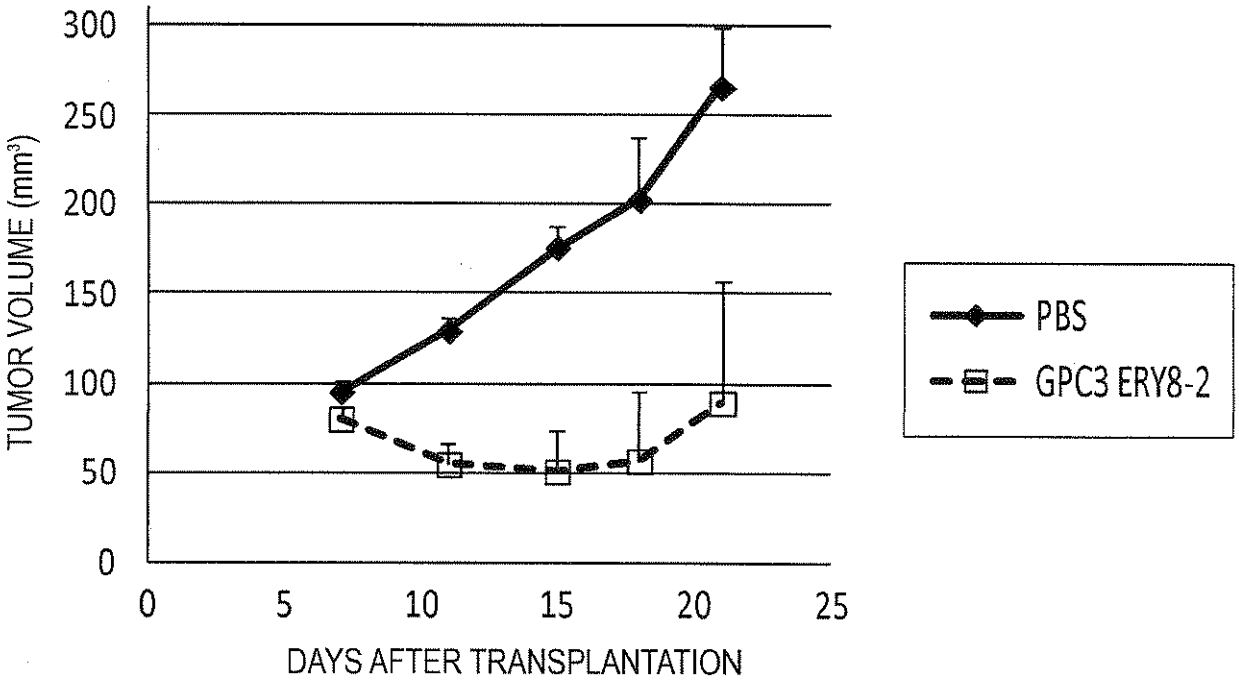

300
250
200
150
100
50
0
TUMOR VOLUME (mm³)
0
5
10
15
20
25
DAYS AFTER TRANSPLANTATION
PBS
GPC3 ERY8-2

FIG. 6

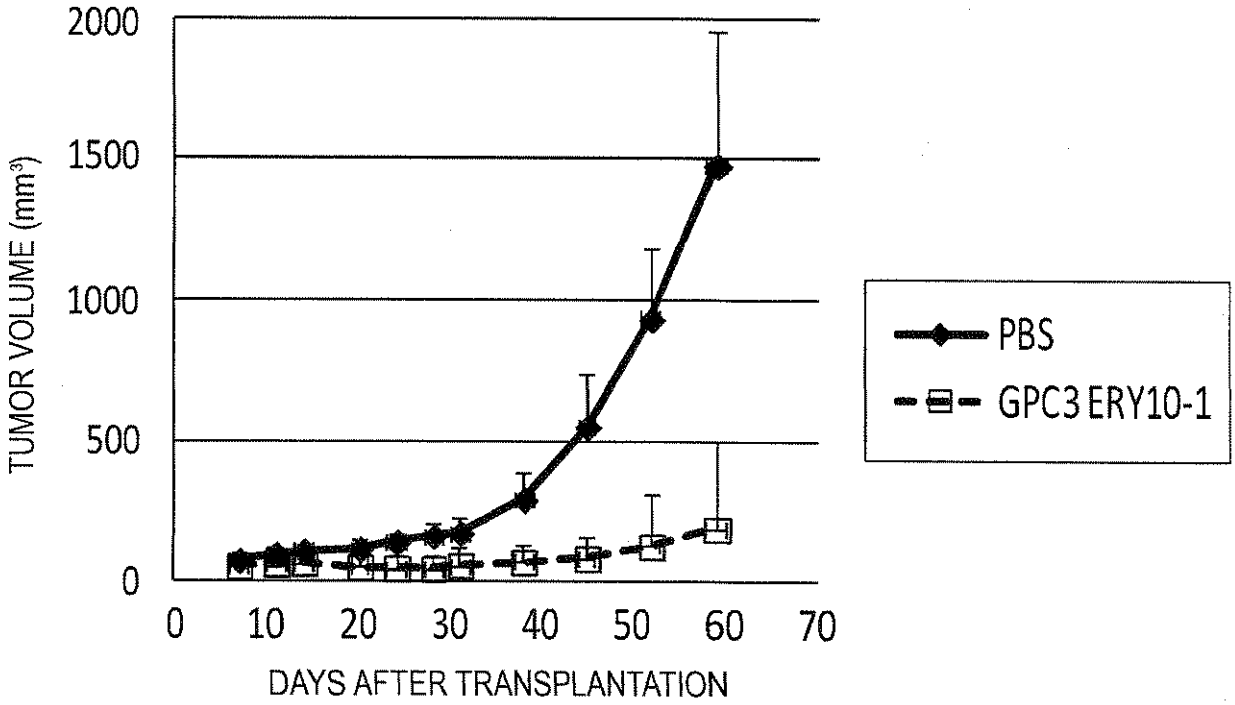

2000
1500
1000
500
0
TUMOR VOLUME (mm³)
0
10
20
30
40
50
60
70
DAYS AFTER TRANSPLANTATION
PBS
GPC3 ERY10-1

FIG. 7

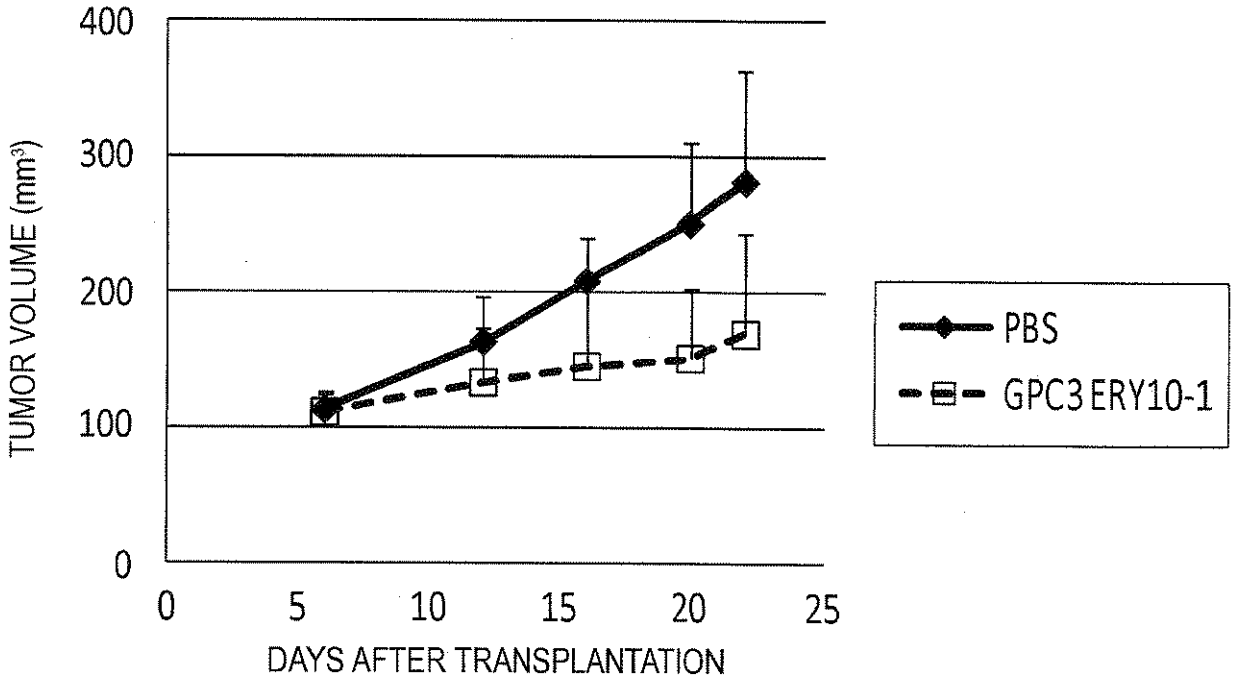

400
300
200
100
0
TUMOR VOLUME (mm³)
0
5
10
15
20
25
DAYS AFTER TRANSPLANTATION
PBS
GPC3 ERY10-1

FIG. 8

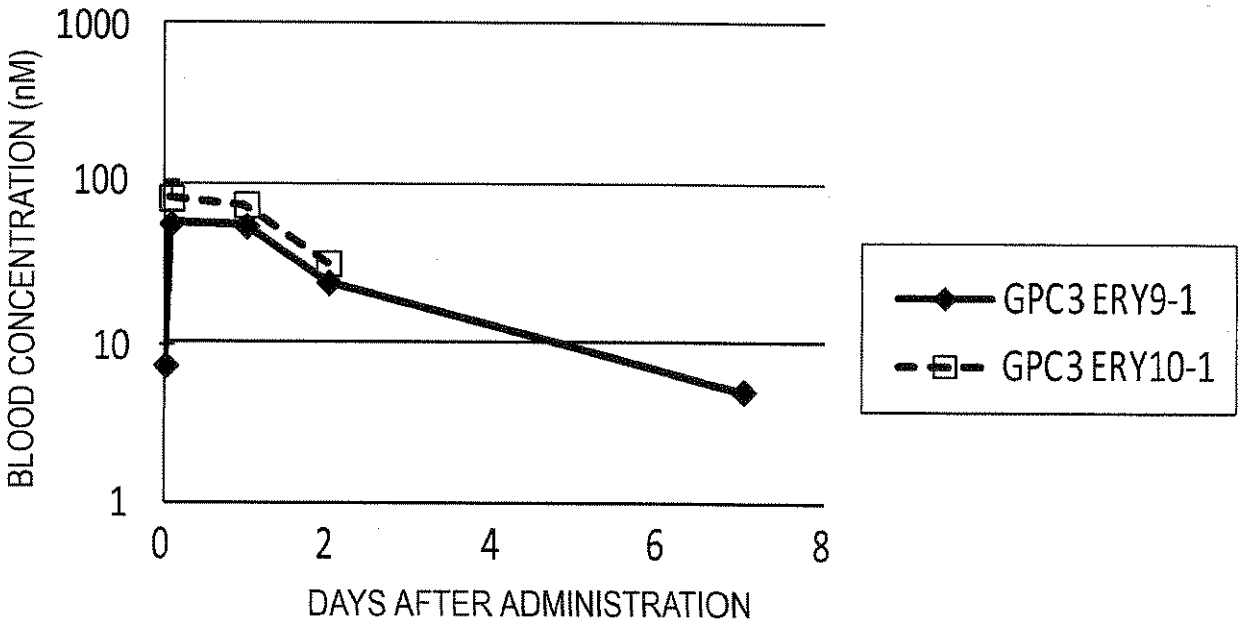

1000
100
10
1
BLOOD CONCENTRATION (nM)
0
2
4
6
8
DAYS AFTER ADMINISTRATION
GPC3 ERY9-1
GPC3 ERY10-1

FIG. 9

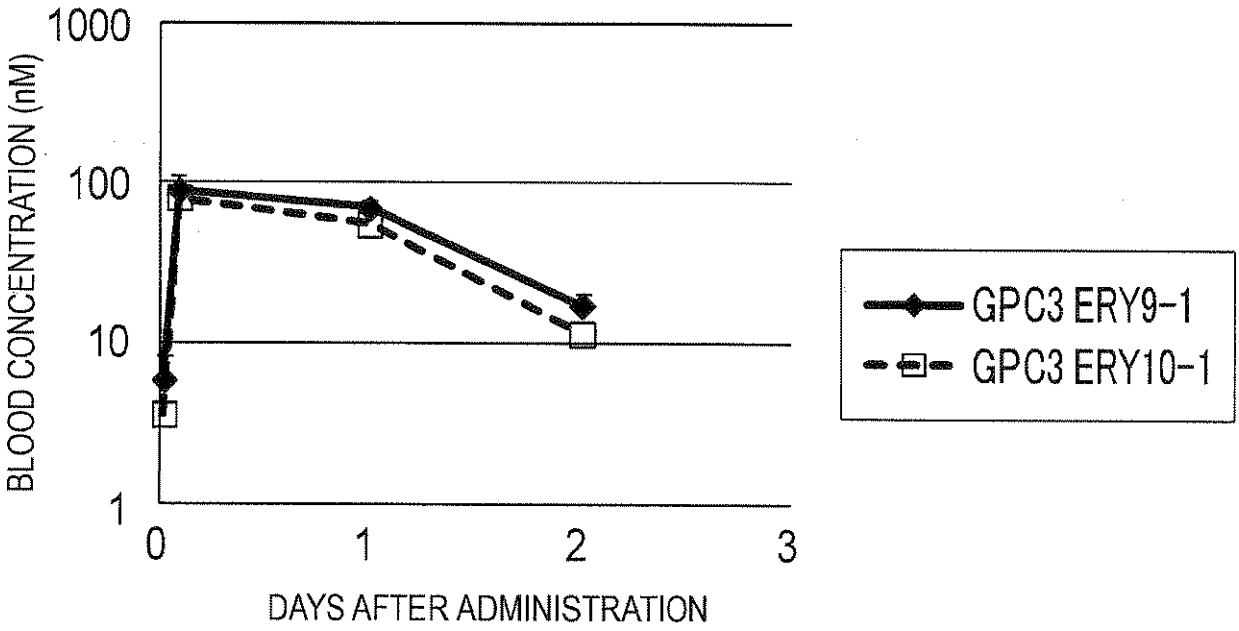

1000
100
10
1
BLOOD CONCENTRATION (nM)
0
1
2
3
DAYS AFTER ADMINISTRATION
GPC3 ERY9-1
GPC3 ERY10-1

FIG. 10

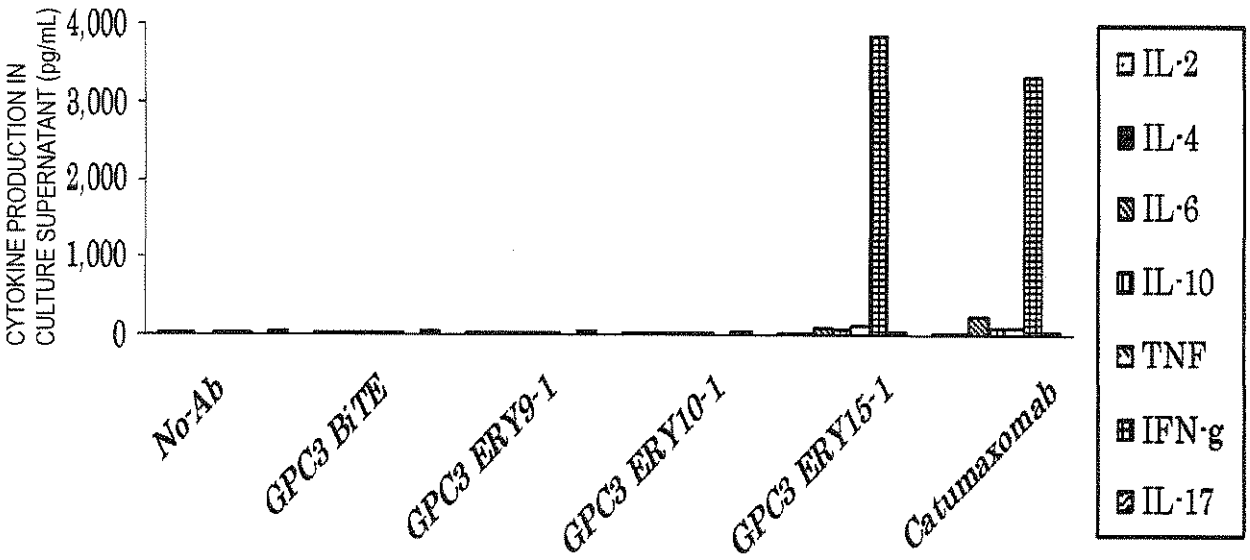

CYTOKINE PRODUCTION IN CULTURE SUPERNATANT (pg/mL)
4,000
3,000
2,000
1,000
0
No-Ab
GPC3 BiTE
GPC3 ERY9-1
GPC3 ERY10-1
GPC3 ERY15-1
Catumaxomab
IL-2
IL-4
IL-6
IL-10
TNF
IFN-g
IL-17

FIG. 11

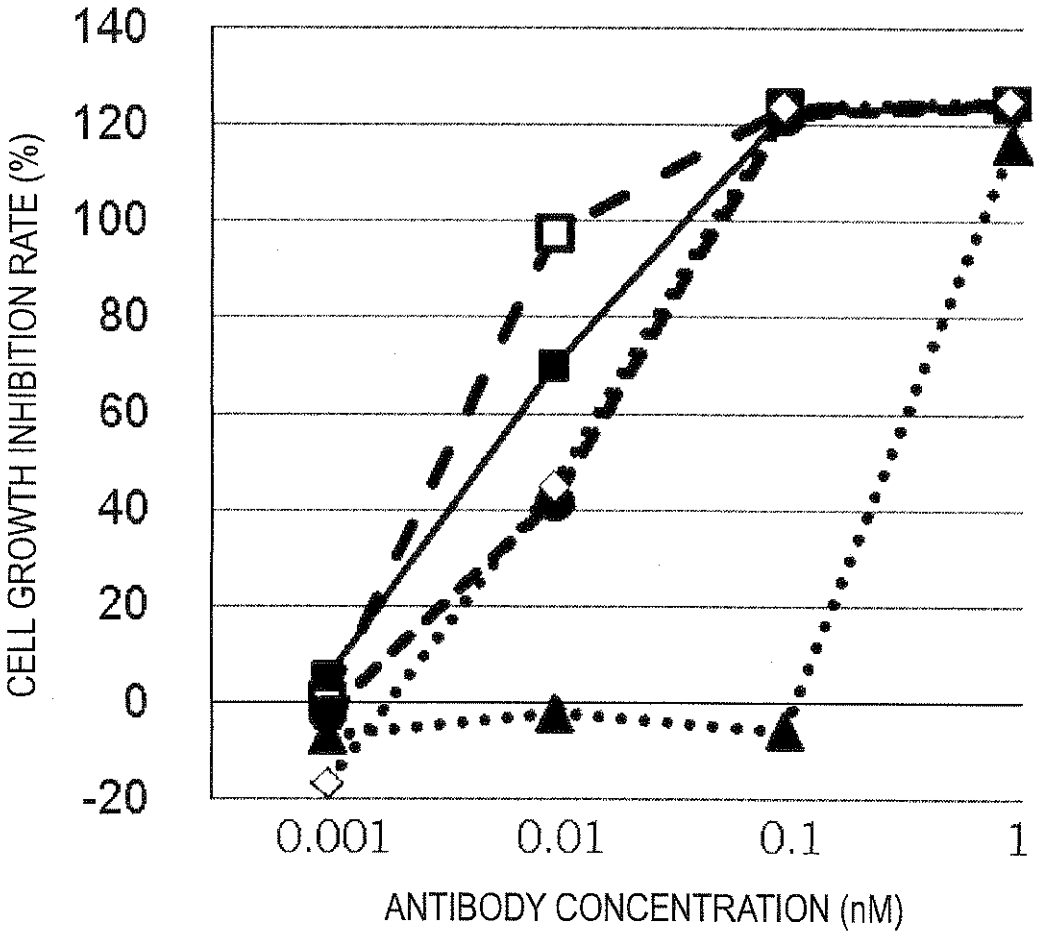

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 12

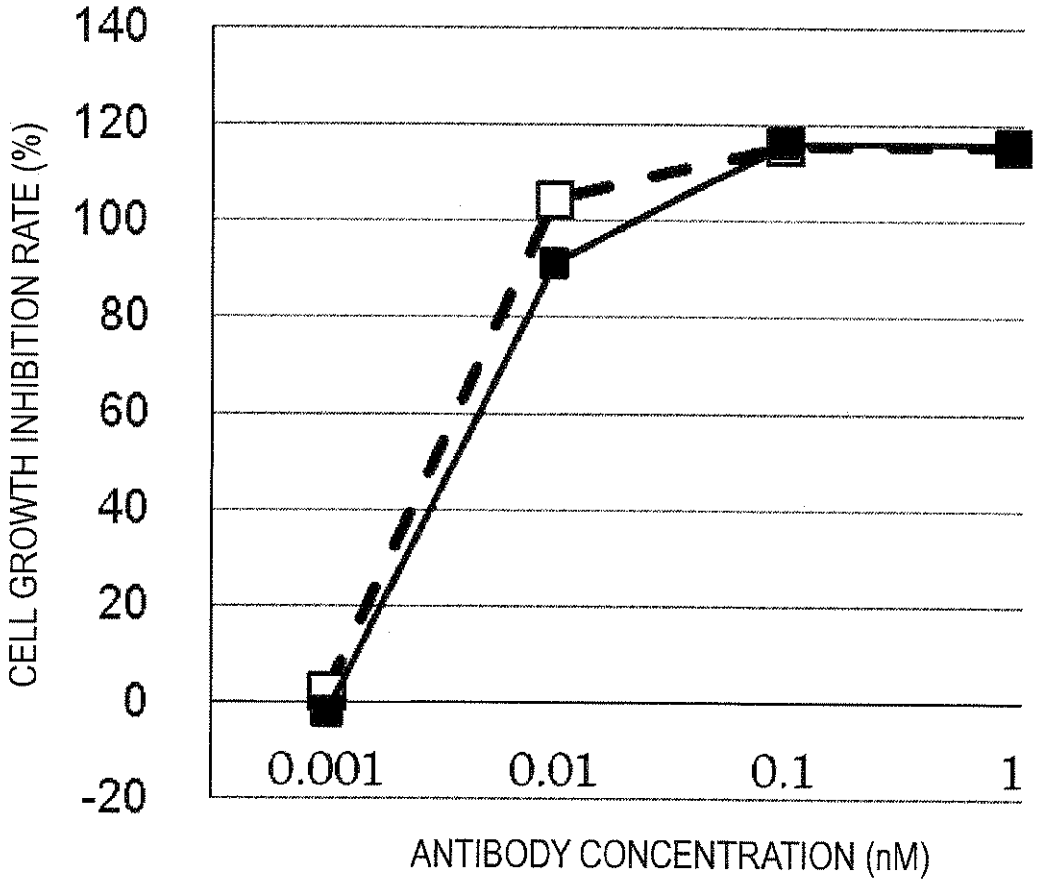

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 13

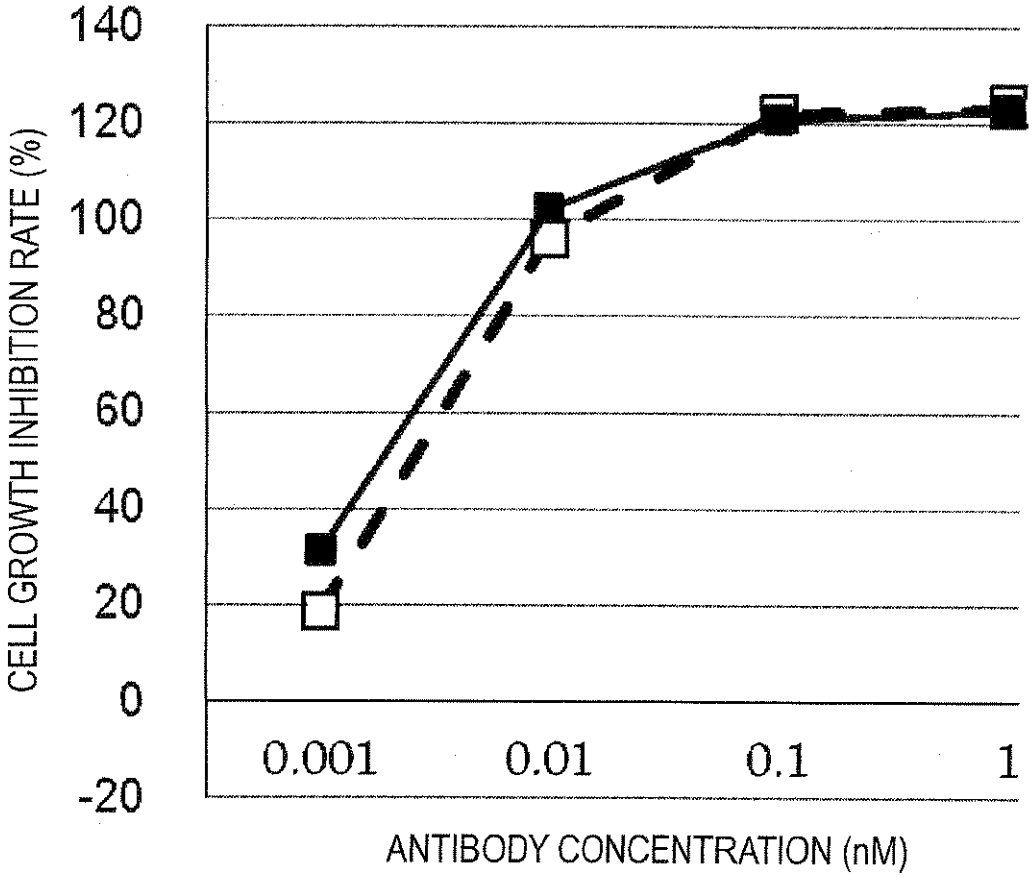

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 14

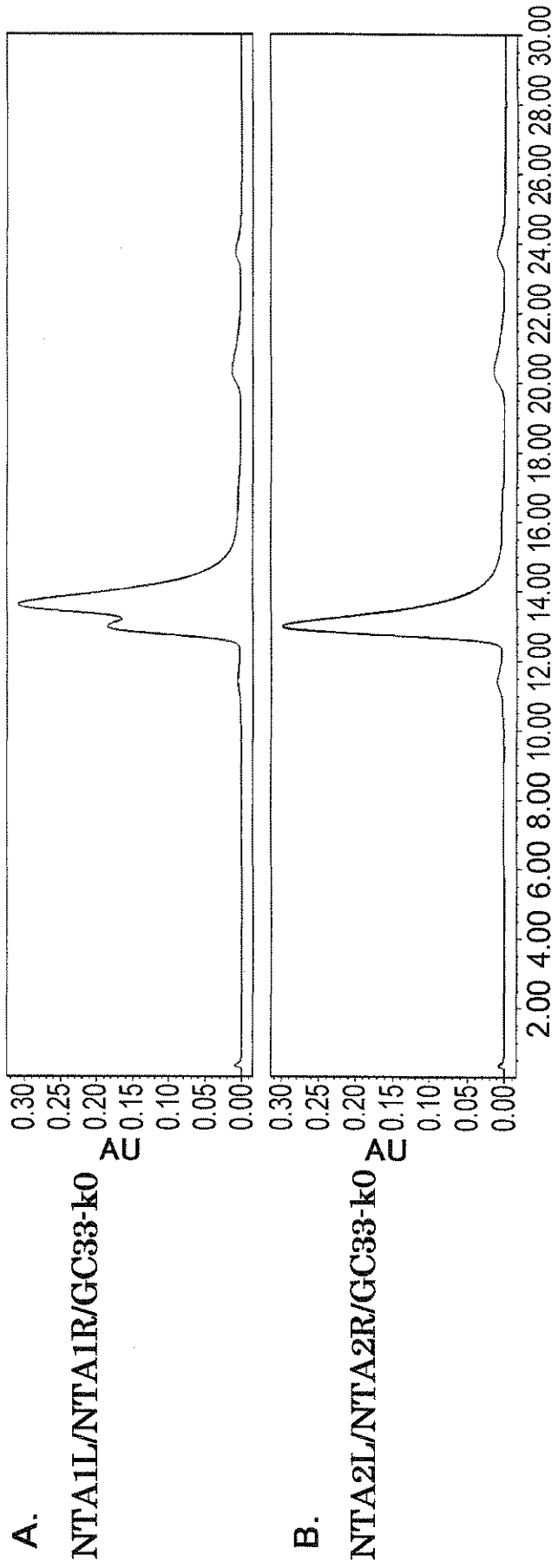

A.
NTA1L/NTA1R/GC33-k0
AU
0.30
0.25
0.20
0.15
0.10
0.05
0.00
B.
NTA2L/NTA2R/GC33-k0
AU
0.30
0.25
0.20
0.15
0.10
0.05
0.00
2.00 4.00 6.00 8.00 10.00 12.00 14.00 16.00 18.00 20.00 22.00 24.00 26.00 28.00 30.00
MINUTES

FIG. 15

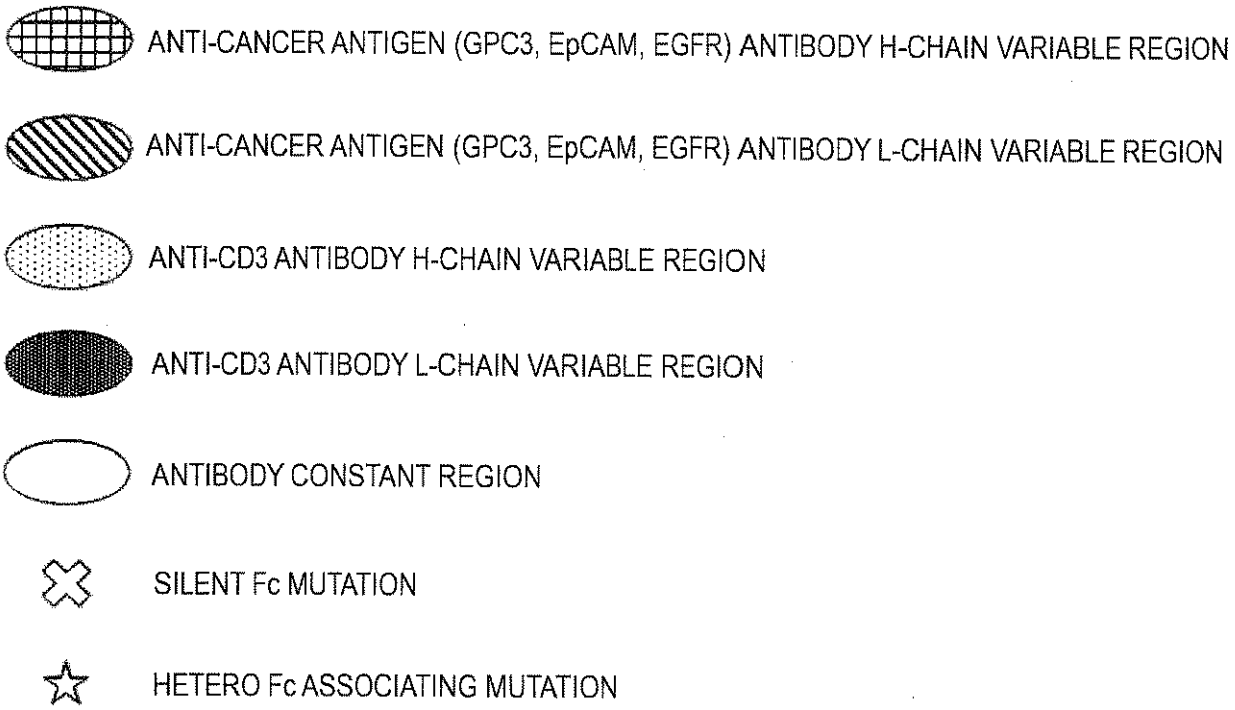

ANTI-CANCER ANTIGEN (GPC3, EpCAM, EGFR) ANTIBODY H-CHAIN VARIABLE REGION
ANTI-CANCER ANTIGEN (GPC3, EpCAM, EGFR) ANTIBODY L-CHAIN VARIABLE REGION
ANTI-CD3 ANTIBODY H-CHAIN VARIABLE REGION
ANTI-CD3 ANTIBODY L-CHAIN VARIABLE REGION
ANTIBODY CONSTANT REGION
SILENT Fc MUTATION
HETERO Fc ASSOCIATING MUTATION

FIG. 16

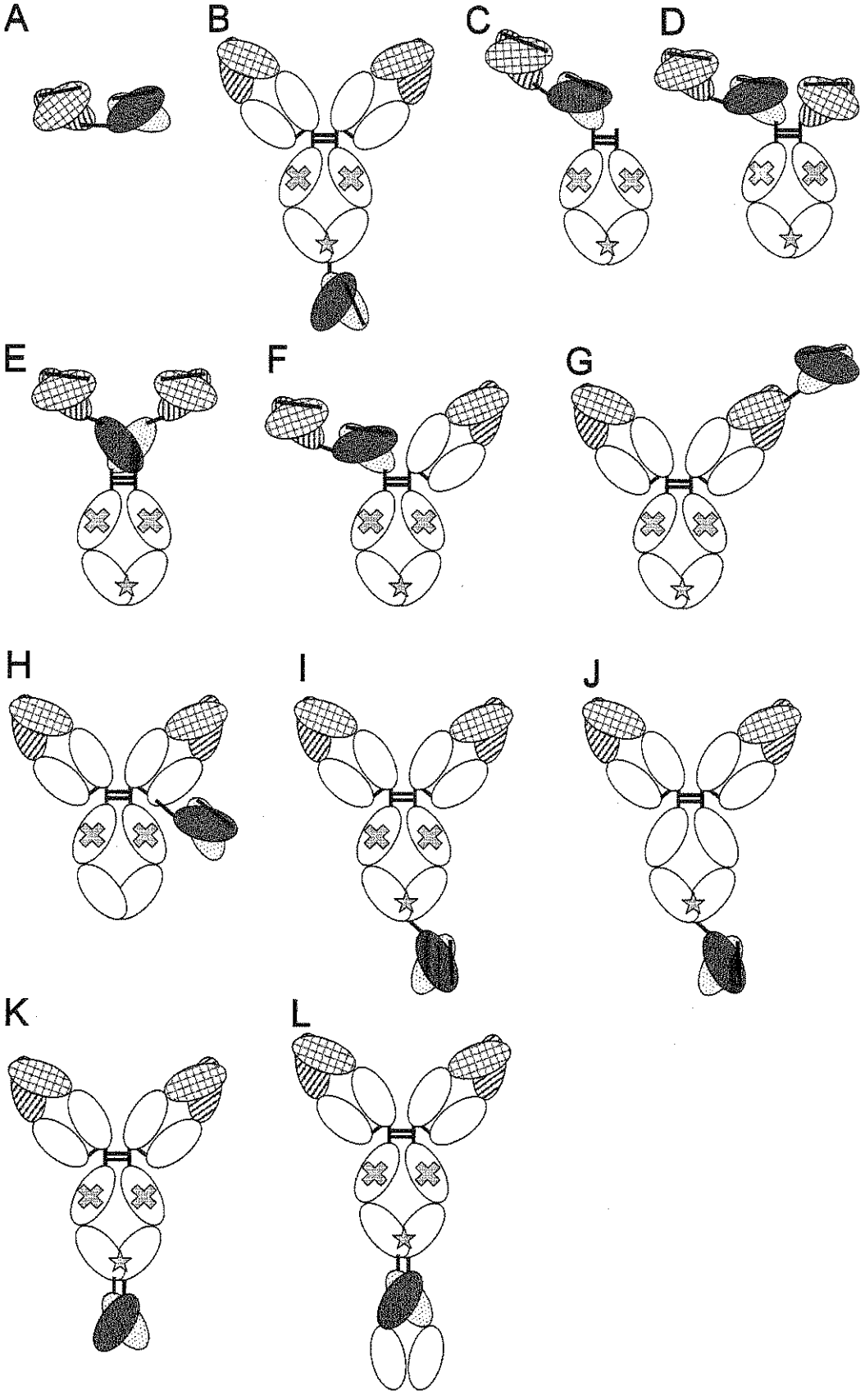


FIG. 17

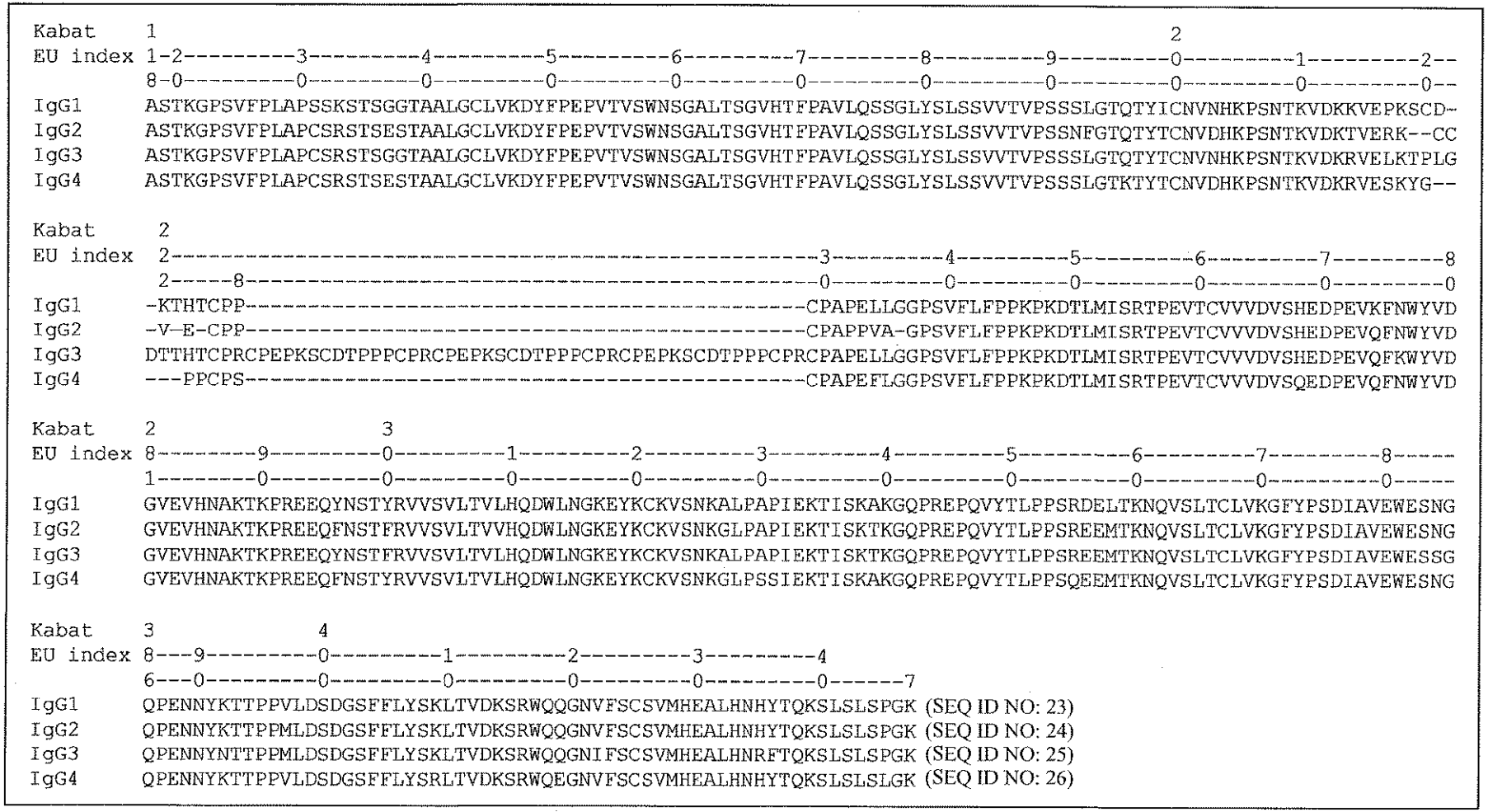

Kabat 1 2
EU index 1-2---------3---------4---------5---------6---------7---------8---------9---------0---------1---------2--
8-0---------0---------0---------0---------0---------0---------0---------0---------0---------0---------0--
IgG1 ASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNTKVDKKVEPKSCD-
IgG2 ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSNFGTQTYTCNVDHKPSNTKVDKTVERK--CC
IgG3 ASTKGPSVFPLAPCSRSTSGGTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYTCNVNHKPSNTKVDKRVELKTPLG
IgG4 ASTKGPSVFPLAPCSRSTSESTAALGCLVKDYFPEPVTVSWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTKTYTCNVDHKPSNTKVDKRVESKYG--
Kabat 2
EU index 2---------3---------4---------5---------6---------7---------8
2-----8---------0---------0---------0---------0---------0---------0
IgG1 -KTHTCPP---------CPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVKFNWYVD
IgG2 -V-E-CPP---------CPAPPVA-GPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFNWYVD
IgG3 DTTHTCPRCPEPKSCDTPPPCPRCPEPKSCDTPPPCPRCPEPKSCDTPPPCPRCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSHEDPEVQFKWYVD
IgG4 ---PPCPS---------CPAPEFLGGPSVFLFPPKPKDTLMISRTPEVTCVVVDVSQEDPEVQFNWYVD
Kabat 2 3
EU index 8---------9---------0---------1---------2---------3---------4---------5---------6---------7---------8-----
1---------0---------0---------0---------0---------0---------0---------0---------0---------0---------0-----
IgG1 GVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNG
IgG2 GVEVHNAKTKPREEQFNSTFRVVSVLTVVHQDWLNGKEYKCKVSNKGLPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESNG
IgG3 GVEVHNAKTKPREEQYNSTFRVVSVLTVLHQDWLNGKEYKCKVSNKALPAPIEKTISKTKGQPREPQVYTLPPSREEMTKNQVSLTCLVKGFYPSDIAVEWESSG
IgG4 GVEVHNAKTKPREEQFNSTYRVVSVLTVLHQDWLNGKEYKCKVSNKGLPSSIEKTISKAKGQPREPQVYTLPPSQEEMTKNQVSLTCLVKGFYPSDIAVEWESNG
Kabat 3 4
EU index 8---9---------0---------1---------2---------3---------4
6---0---------0---------0---------0---------0---------0------7
IgG1 QPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO: 23)
IgG2 QPENNYKTTPPMLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLSPGK (SEQ ID NO: 24)
IgG3 QPENNYNTTPPMLDSDGSFFLYSKLTVDKSRWQQGNIFSCSVMHEALHNRFTQKSLSLSPGK (SEQ ID NO: 25)
IgG4 QPENNYKTTPPVLDSDGSFFLYSRLTVDKSRWQEGNVFSCSVMHEALHNHYTQKSLSLSLGK (SEQ ID NO: 26)

FIG. 18

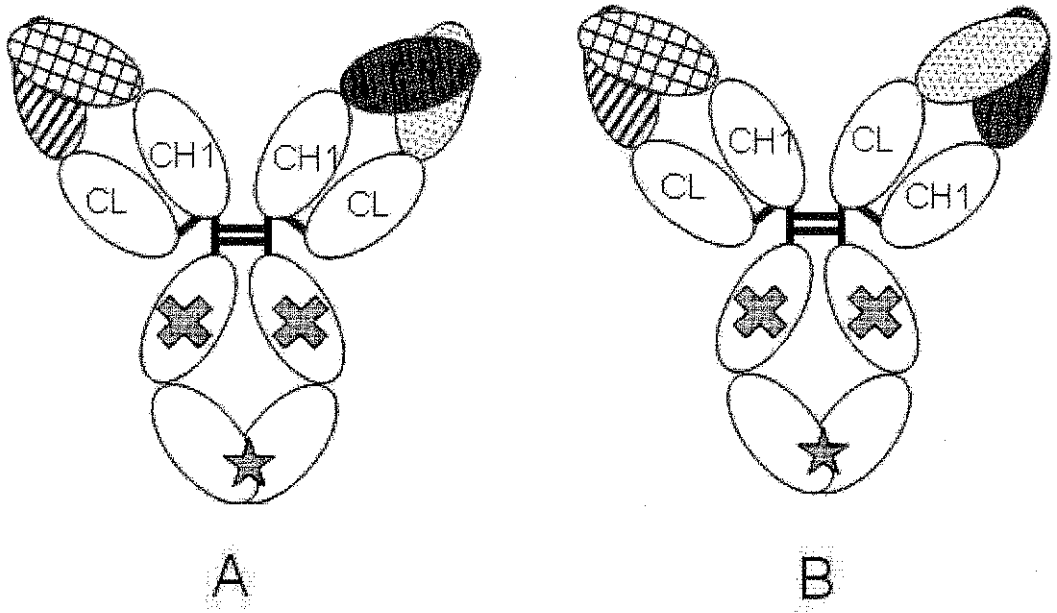


FIG. 19

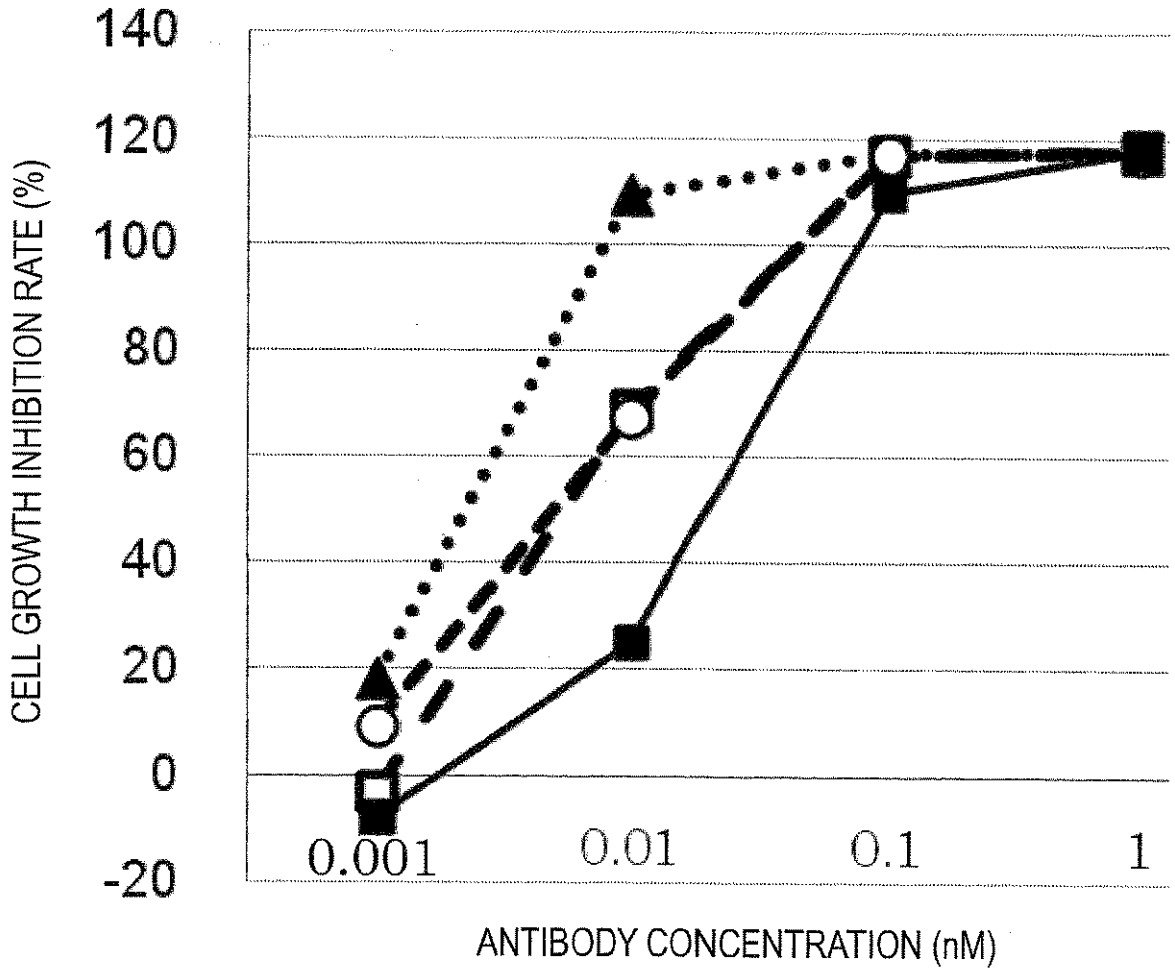

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 20

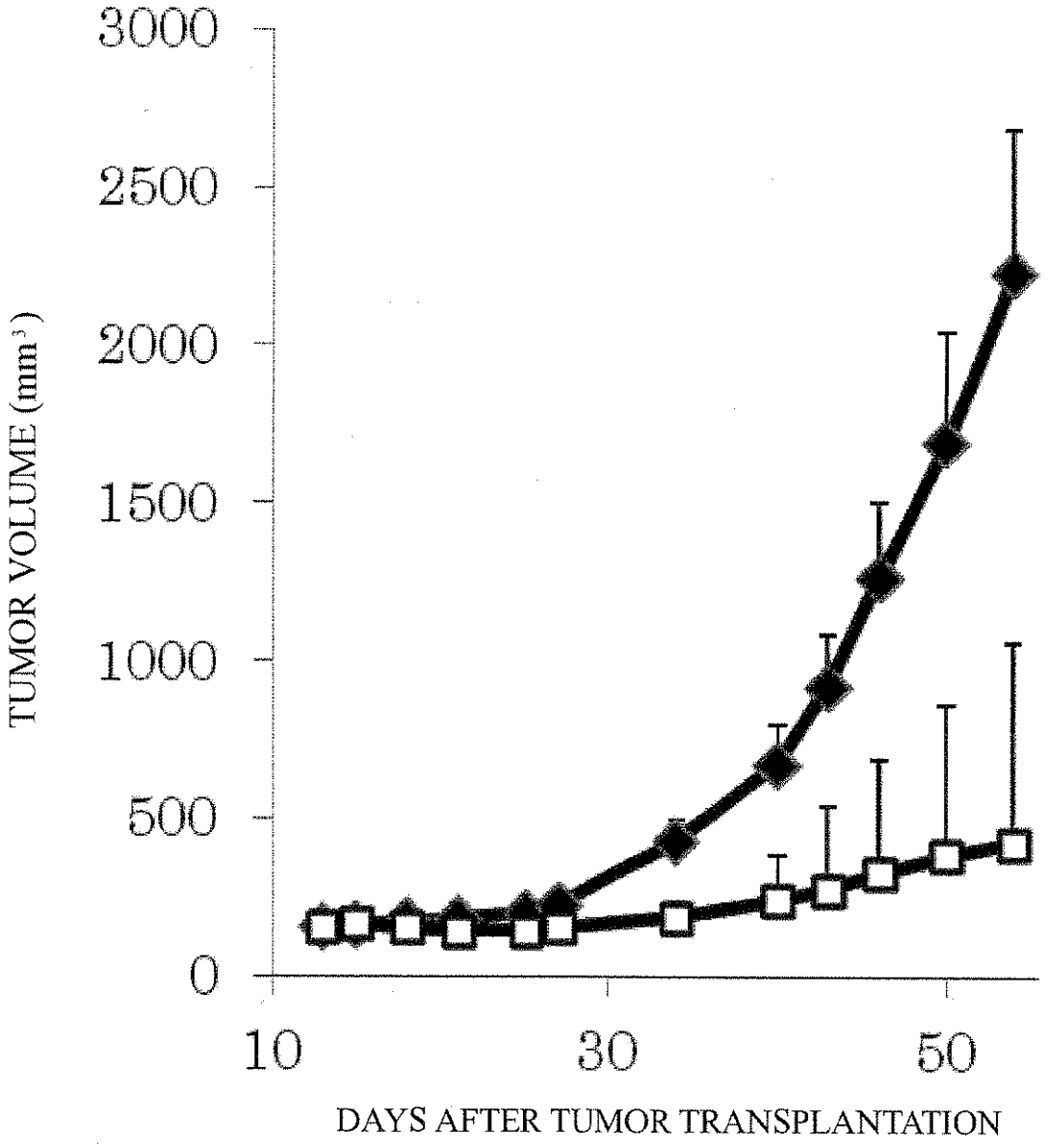

3000
2500
2000
1500
1000
500
0
TUMOR VOLUME (mm³)
10
30
50
DAYS AFTER TUMOR TRANSPLANTATION

FIG. 21

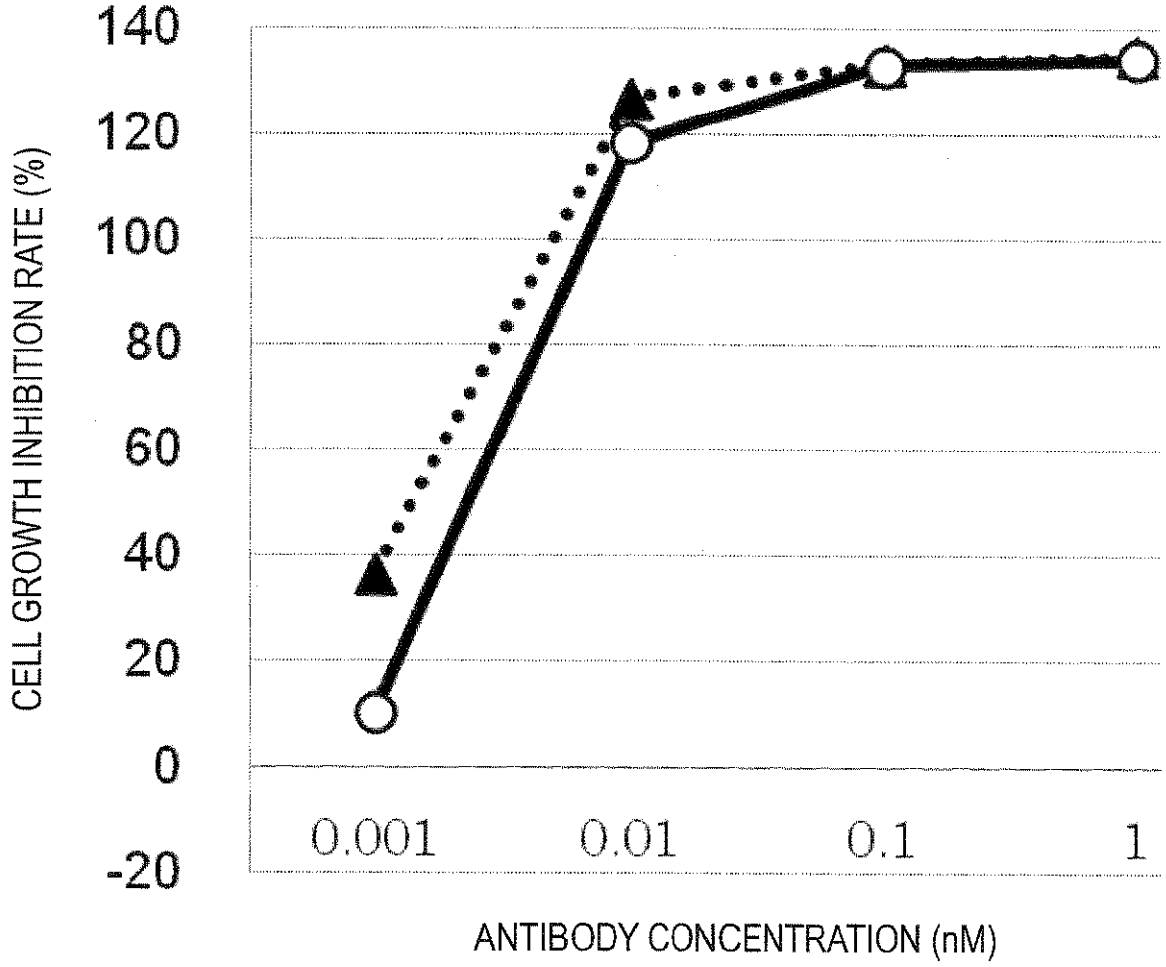

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 22

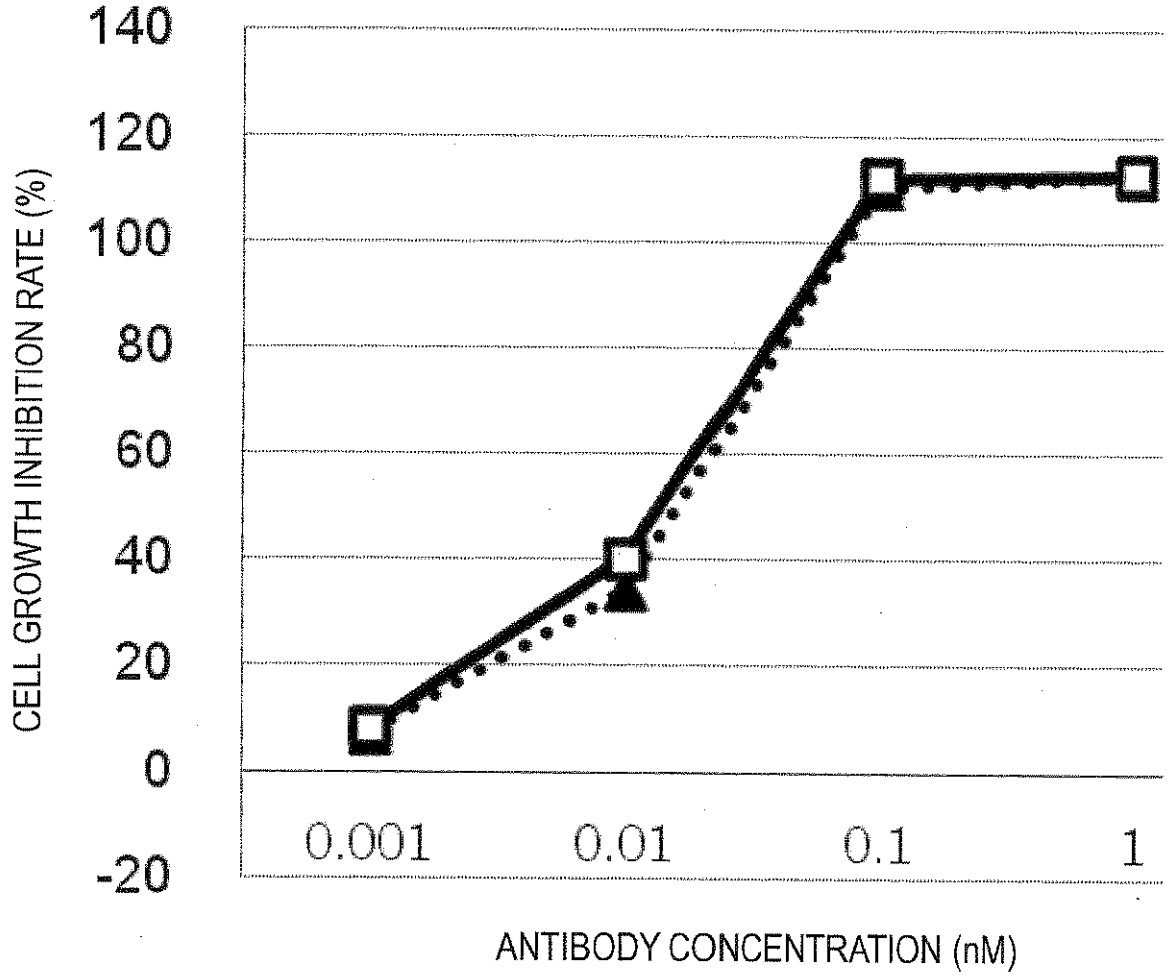

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 23

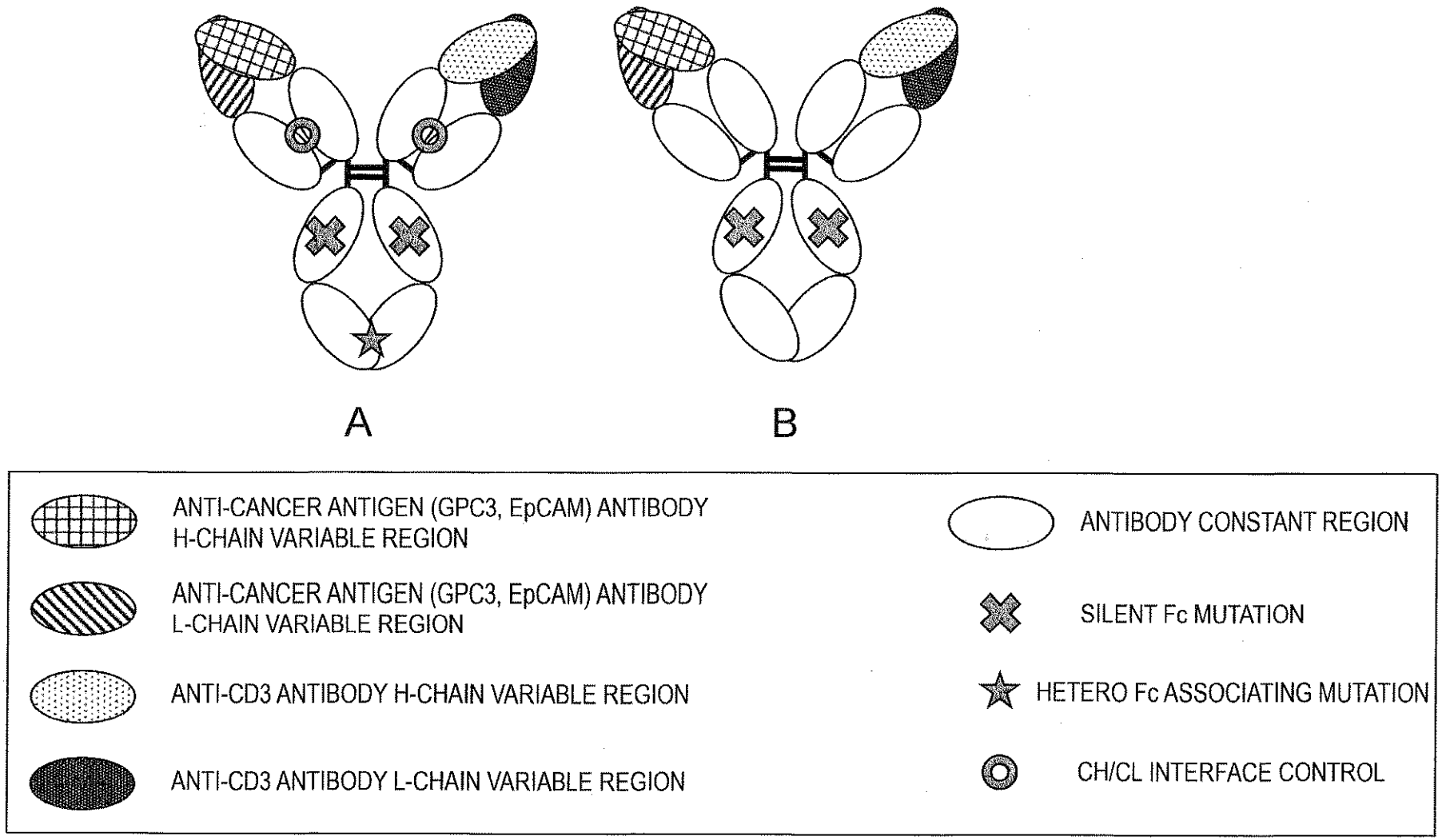

A
B
ANTI-CANCER ANTIGEN (GPC3, EpCAM) ANTIBODY H-CHAIN VARIABLE REGION
ANTI-CANCER ANTIGEN (GPC3, EpCAM) ANTIBODY L-CHAIN VARIABLE REGION
ANTI-CD3 ANTIBODY H-CHAIN VARIABLE REGION
ANTI-CD3 ANTIBODY L-CHAIN VARIABLE REGION
ANTIBODY CONSTANT REGION
SILENT Fc MUTATION
HETERO Fc ASSOCIATING MUTATION
CH/CL INTERFACE CONTROL

FIG. 24

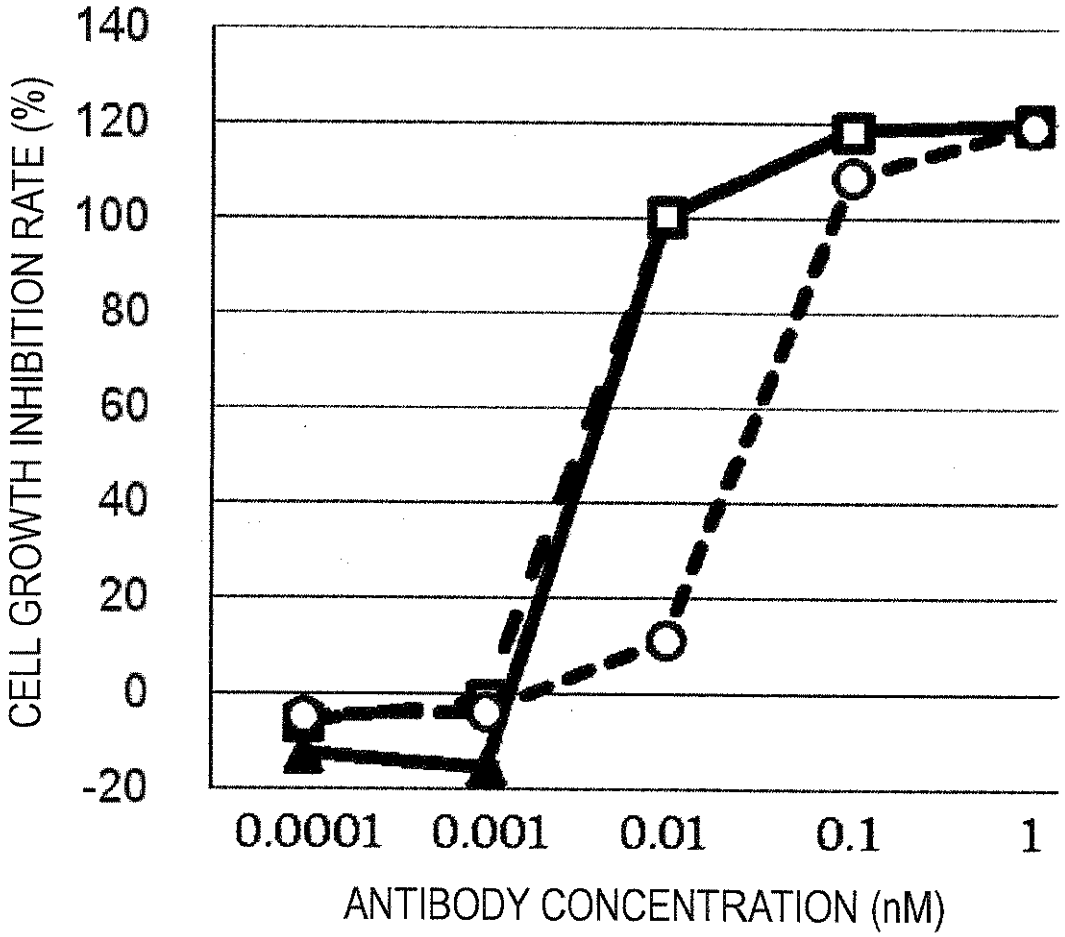

140
120
100
80
60
40
20
0
-20
CELL GROWTH INHIBITION RATE (%)
0.0001
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 25

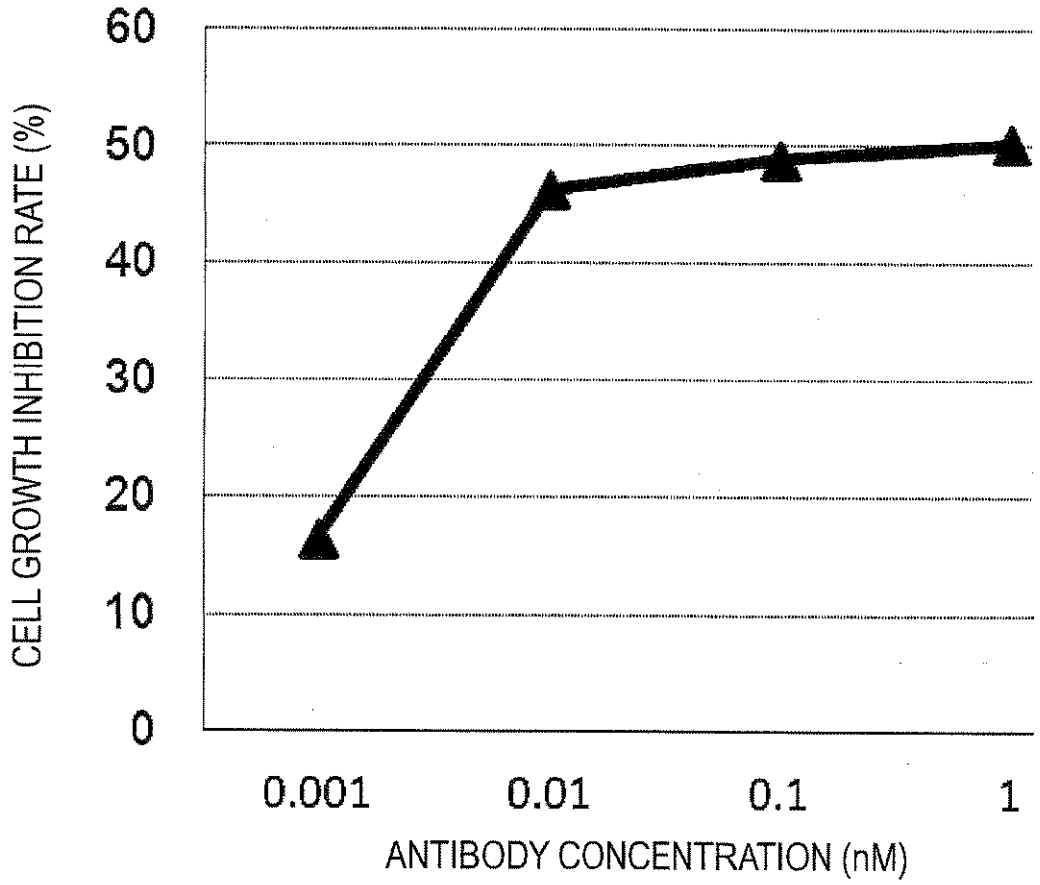

60
50
40
30
20
10
0
CELL GROWTH INHIBITION RATE (%)
0.001
0.01
0.1
1
ANTIBODY CONCENTRATION (nM)

FIG. 26