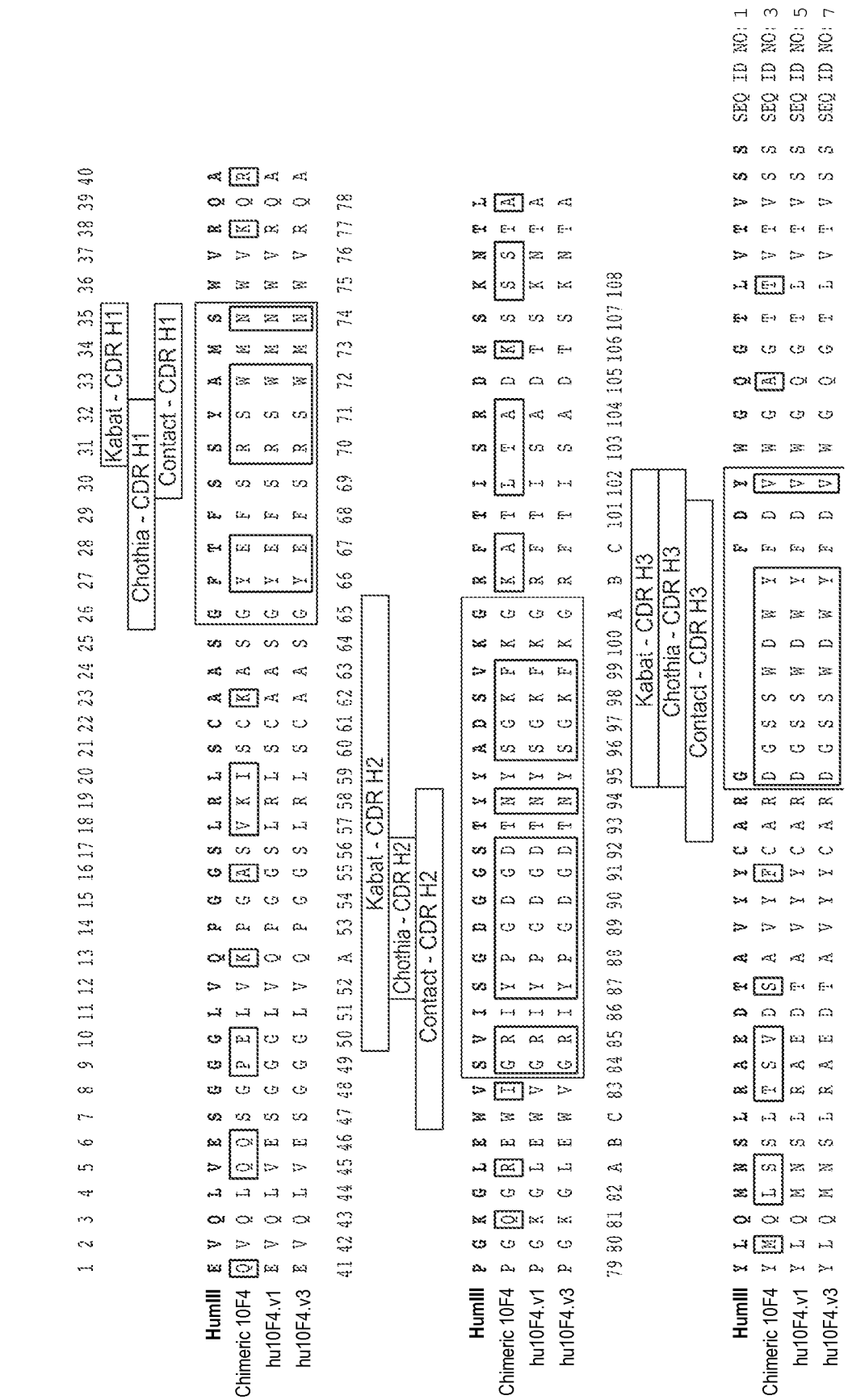

Kabat - CDR H1
Chothia - CDR H1
Contact - CDR H1
Kabat - CDR H2
Chothia - CDR H2
Contact - CDR H2
Kabat - CDR H3
Chothia - CDR H3
Contact - CDR H3
HumIII
Chimeric 10F4
hu10F4.v1
hu10F4.v3
SEQ ID NO: 1
SEQ ID NO: 3
SEQ ID NO: 5
SEQ ID NO: 7

FIG. 1A

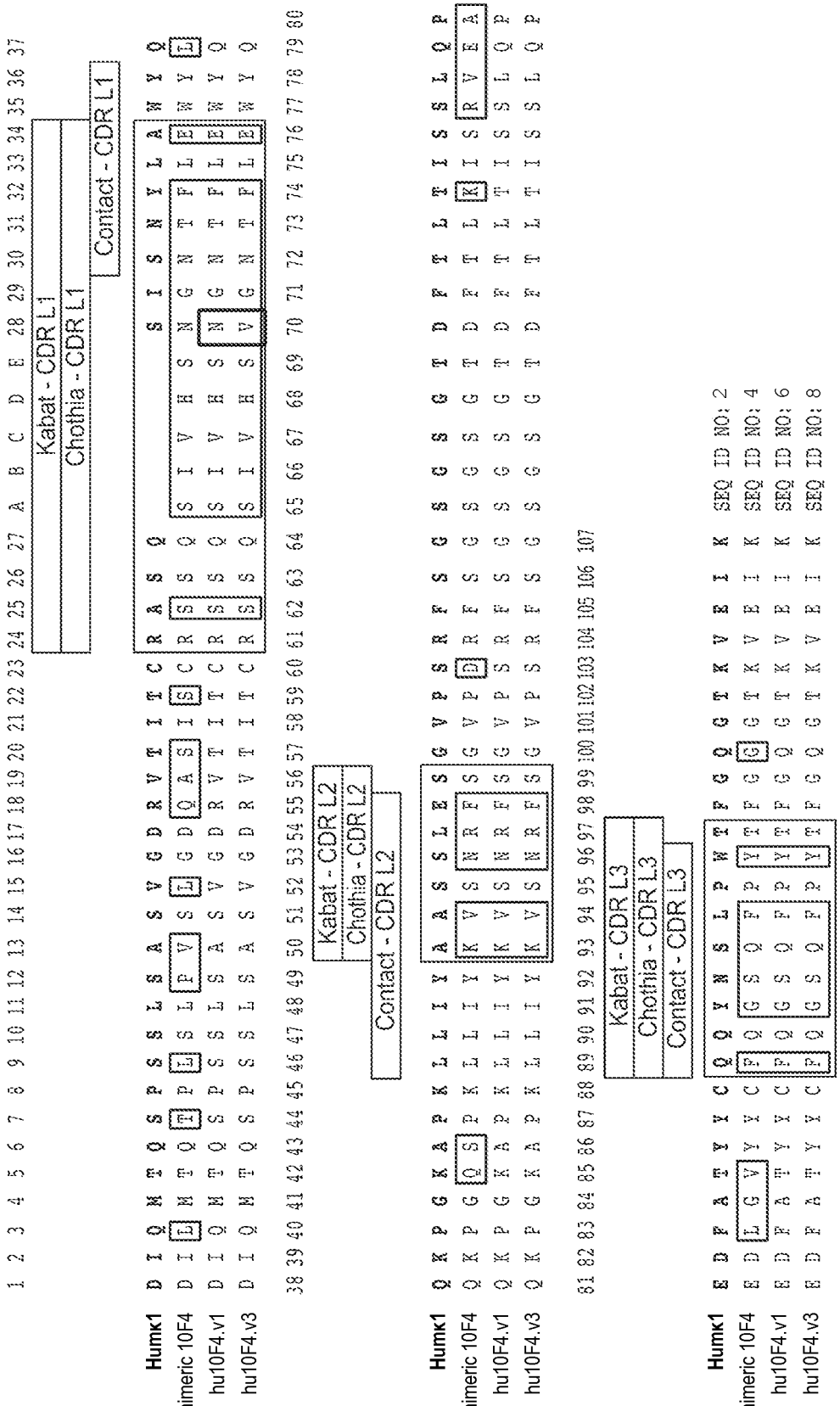

Kabat - CDR L1
Chothia - CDR L1
Contact - CDR L1
Kabat - CDR L2
Chothia - CDR L2
Contact - CDR L2
Kabat - CDR L3
Chothia - CDR L3
Contact - CDR L3
Humκ1
Chimeric 10F4
hu10F4.v1
hu10F4.v3
SEQ ID NO: 2
SEQ ID NO: 4
SEQ ID NO: 6
SEQ ID NO: 8

FIG. 1B

Anti-CD22 hu10F4v3 Light Chain

DIQMTQSPSSLSASVGDRVTITCRSSQSIVHSVGNTFLEWYQQKPGKAPKLLI
YKVSNRFSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCFQGSQFPYTFGQG
TKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNAL
QSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPVTK
SFNRGEC **SEQ ID NO: 23**

Anti-CD22 hu10F4v3 Heavy Chain

EVQLVESGGGLVQPGGSLRLSCAASGYEFSRSWMNWVRQAPGKGLEWVGRIYP
GDGDTNYSGKFKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARDGSSWDWY
FDVWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTV
SWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNT
KVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN
VFSCSVMHEALHNHYTQKSLSLSPGK **SEQ ID NO: 24**

FIG. 2

Anti-CD22 V205C h10F4v3 Cysteine Engineered Light Chain

DIQMTQSPSSLSASVGDRVTITCRSSQSIVHSVGNTFLEWYQQKPGKAPKLLI
YKVSNRFSGVPSRFSGSGSGTDFTLTISSLQPEDFATYYCFQGSQFPYTFGQG
TKVEIKRTVAAPSVFIFPPSDEQLKSGTASVVCLLNNFYPREAKVQWKVDNAL
QSGNSQESVTEQDSKDSTYSLSSTLTLSKADYEKHKVYACEVTHQGLSSPCTK
SFNRGEC **SEQ ID NO: 25**

Anti-CD22 A118C h10F4v3 Cysteine Engineered Heavy Chain

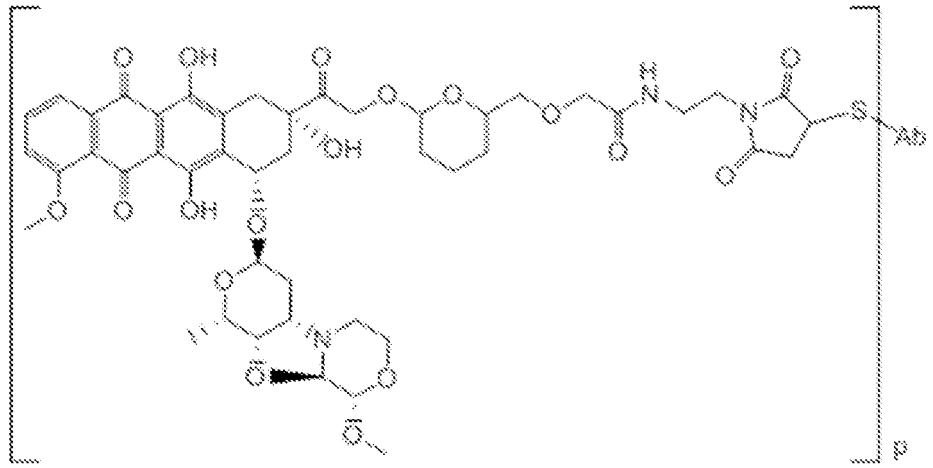
EVQLVESGGGLVQPGGSLRLSCAASGYEFSRSWMNWVRQAPGKGLEWVGRIYP
GDGDTNYSGKFKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARDGSSWDWY
FDVWGQGTLVTVSSCSTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTV
SWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNT
KVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGN
VFSCSVMHEALHNHYTQKSLSLSPGK **SEQ ID NO: 26**

Anti-CD22 S400C h10F4v3 Cysteine Engineered Fc Region

EVQLVESGGGLVQPGGSLRLSCAASGYEFSRSWMNWVRQAPGKGLEWVGRIYP
GDGDTNYSGKFKGRFTISADTSKNTAYLQMNSLRAEDTAVYYCARDGSSWDWY
FDVWGQGTLVTVSSASTKGPSVFPLAPSSKSTSGGTAALGCLVKDYFPEPVTV
SWNSGALTSGVHTFPAVLQSSGLYSLSSVVTVPSSSLGTQTYICNVNHKPSNT
KVDKKVEPKSCDKTHTCPPCPAPELLGGPSVFLFPPKPKDTLMISRTPEVTCV
VVDVSHEDPEVKFNWYVDGVEVHNAKTKPREEQYNSTYRVVSVLTVLHQDWLN
GKEYKCKVSNKALPAPIEKTISKAKGQPREPQVYTLPPSREEMTKNQVSLTCL
VKGFYPSDIAVEWESNGQPENNYKTTPPVLDCDGSFFLYSKLTVDKSRWQQGN
VFSCSVMHEALHNHYTQKSLSLSPGK **SEQ ID NO: 27**

FIG.3

AThioHuanti-CD2210F4v3HCA118C-MC-acetal-PNU-159682("10F4v3-PNU-2")



BThioHuanti-CD2210F4v3HCA118C-MC-val-cit-PAB-PNU-159682("10F4v3-PNU-1")

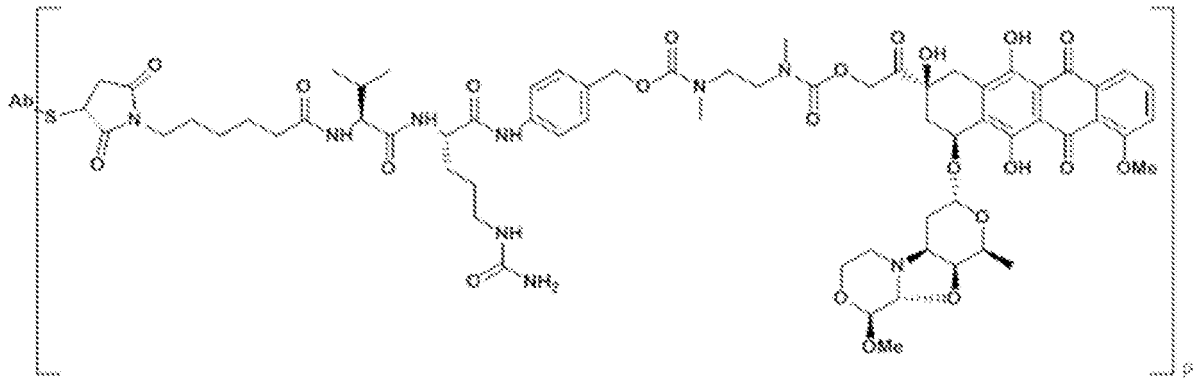


FIG.4

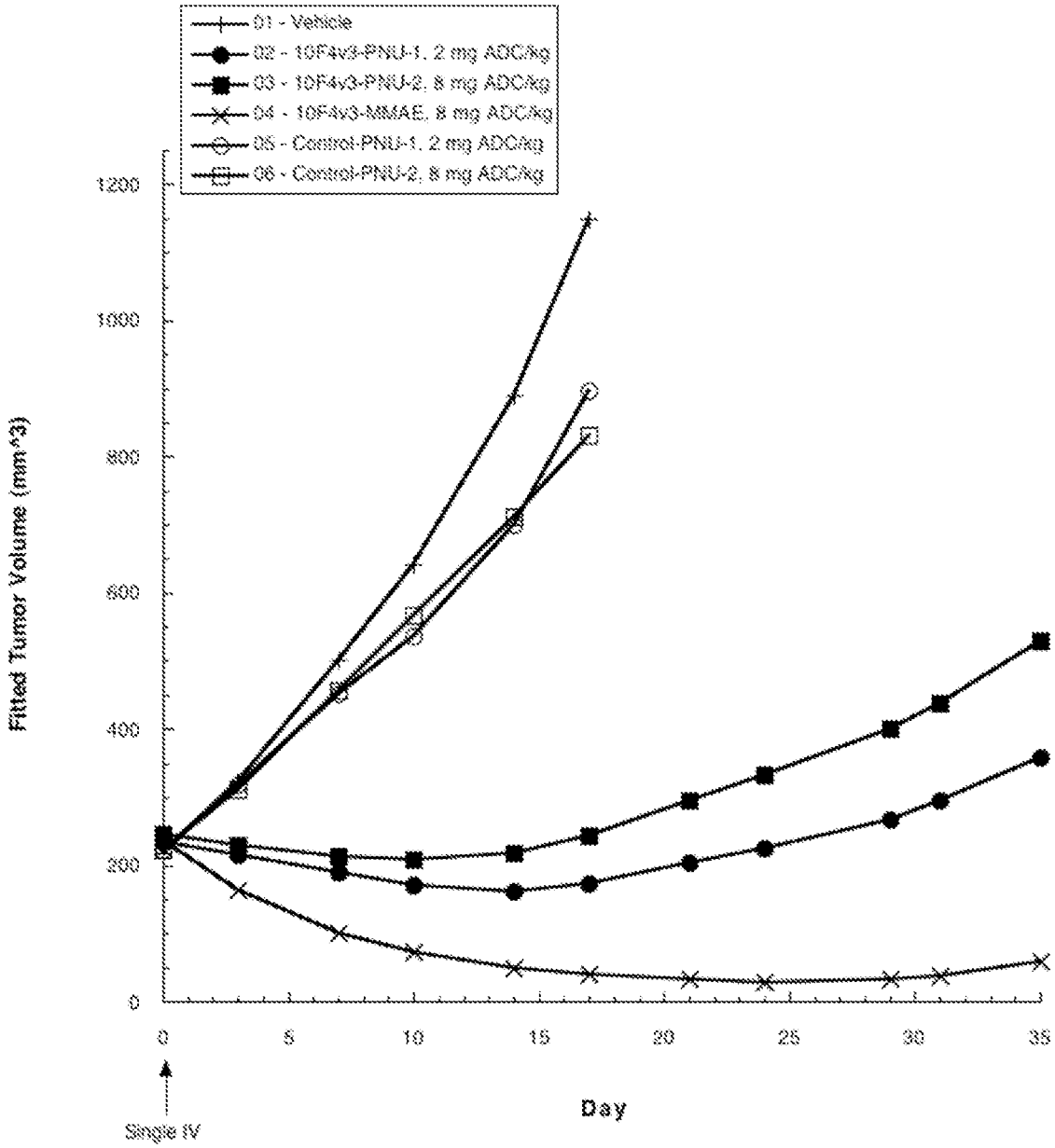

01 - Vehicle
02 - 10F4v3-PNU-1, 2 mg ADC/kg
03 - 10F4v3-PNU-2, 8 mg ADC/kg
04 - 10F4v3-MMAE, 8 mg ADC/kg
05 - Control-PNU-1, 2 mg ADC/kg
06 - Control-PNU-2, 8 mg ADC/kg
Fitted Tumor Volume (mm^3)
1200
1000
800
600
400
200
0
0
5
10
15
20
25
30
35
Day
Single IV

FIG.5

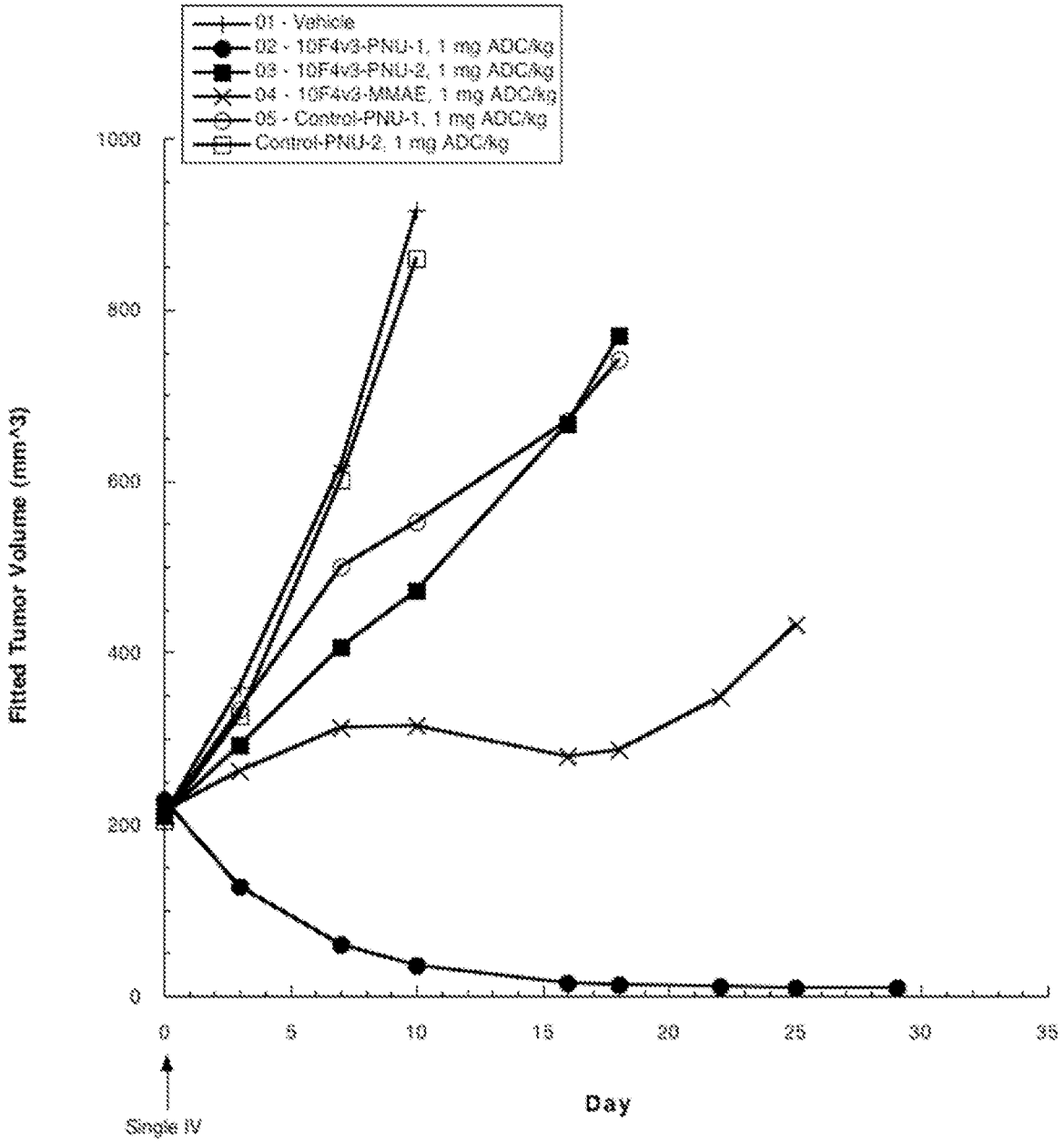

01 - Vehicle
02 - 10F4v3-PNU-1, 1 mg ADC/kg
03 - 10F4v3-PNU-2, 1 mg ADC/kg
04 - 10F4v3-MMAE, 1 mg ADC/kg
05 - Control-PNU-1, 1 mg ADC/kg
Control-PNU-2, 1 mg ADC/kg
Fitted Tumor Volume (mm^3)
1000
800
600
400
200
0
0
5
10
15
20
25
30
35
Day
Single IV

FIG.6

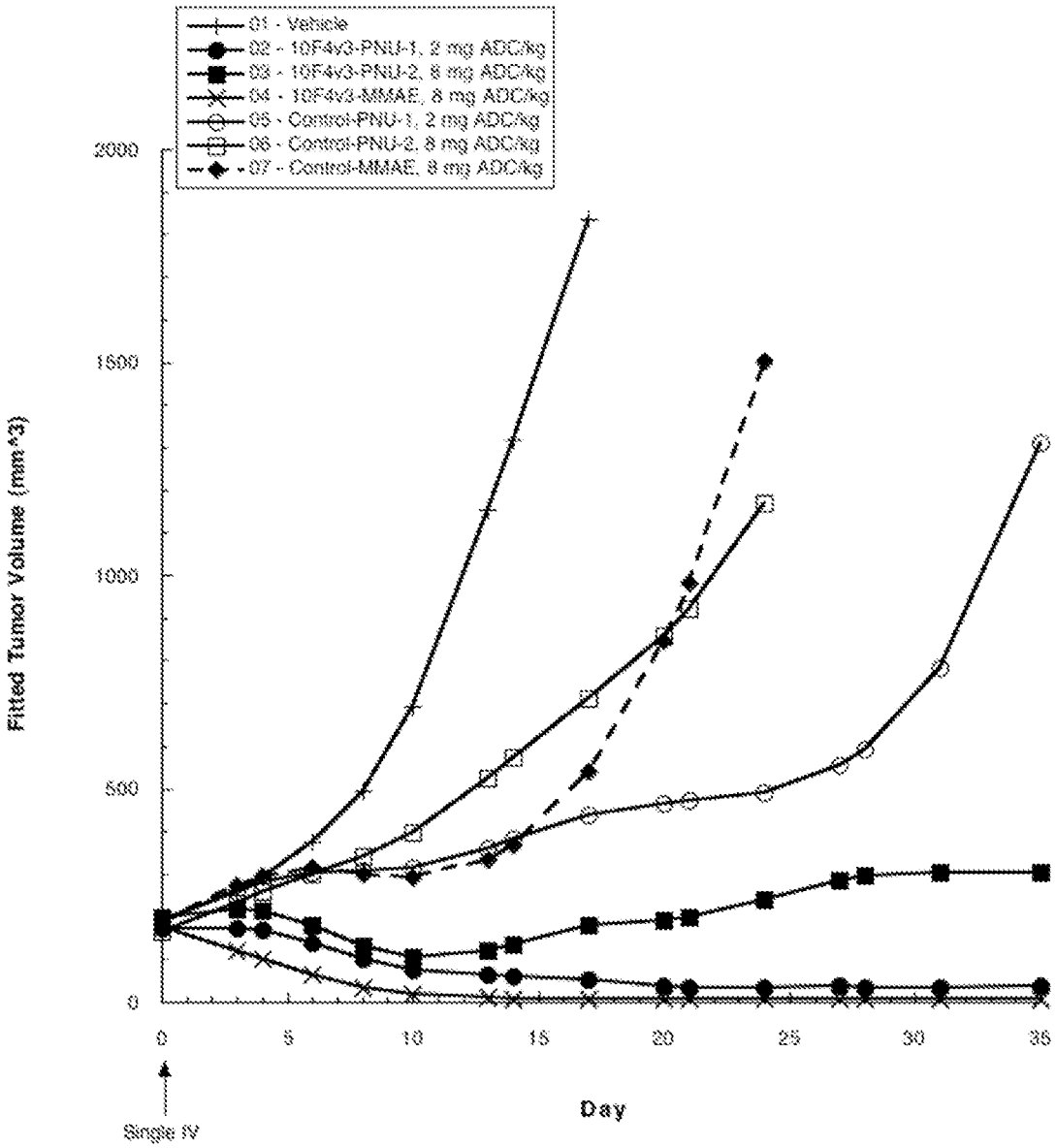

01 - Vehicle
02 - 10F4v3-PNU-1, 2 mg ADC/kg
03 - 10F4v3-PNU-2, 8 mg ADC/kg
04 - 10F4v3-MMAE, 8 mg ADC/kg
05 - Control-PNU-1, 2 mg ADC/kg
06 - Control-PNU-2, 8 mg ADC/kg
07 - Control-MMAE, 8 mg ADC/kg
Fitted Tumor Volume (mm^3)
2000
1500
1000
500
0
0
5
10
15
20
25
30
35
Day
Single IV

FIG.7

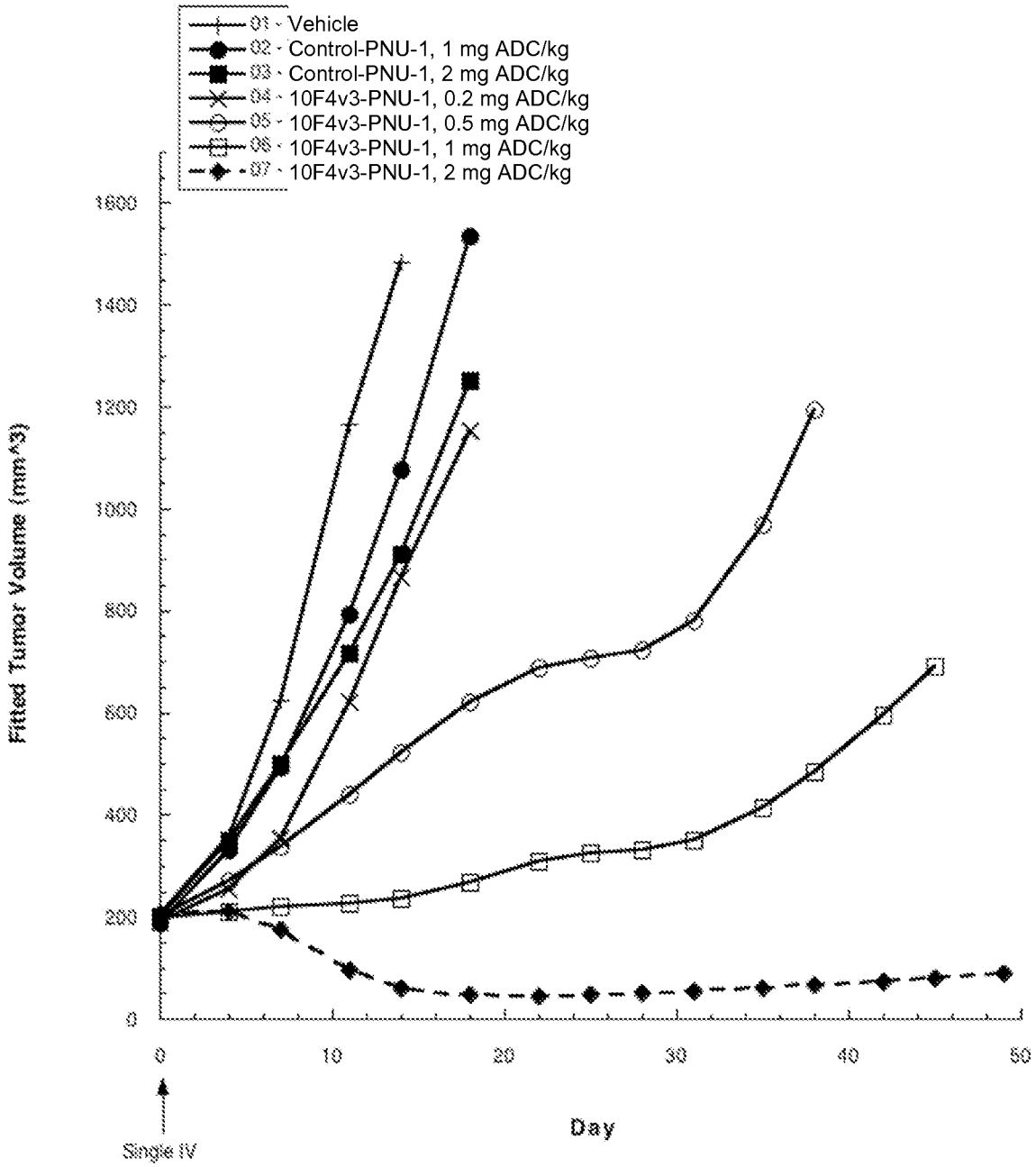

01 - Vehicle
02 - Control-PNU-1, 1 mg ADC/kg
03 - Control-PNU-1, 2 mg ADC/kg
04 - 10F4v3-PNU-1, 0.2 mg ADC/kg
05 - 10F4v3-PNU-1, 0.5 mg ADC/kg
06 - 10F4v3-PNU-1, 1 mg ADC/kg
07 - 10F4v3-PNU-1, 2 mg ADC/kg
Fitted Tumor Volume (mm^3)
1600
1400
1200
1000
800
600
400
200
0
0
10
20
30
40
50
Day
Single IV

FIG.8

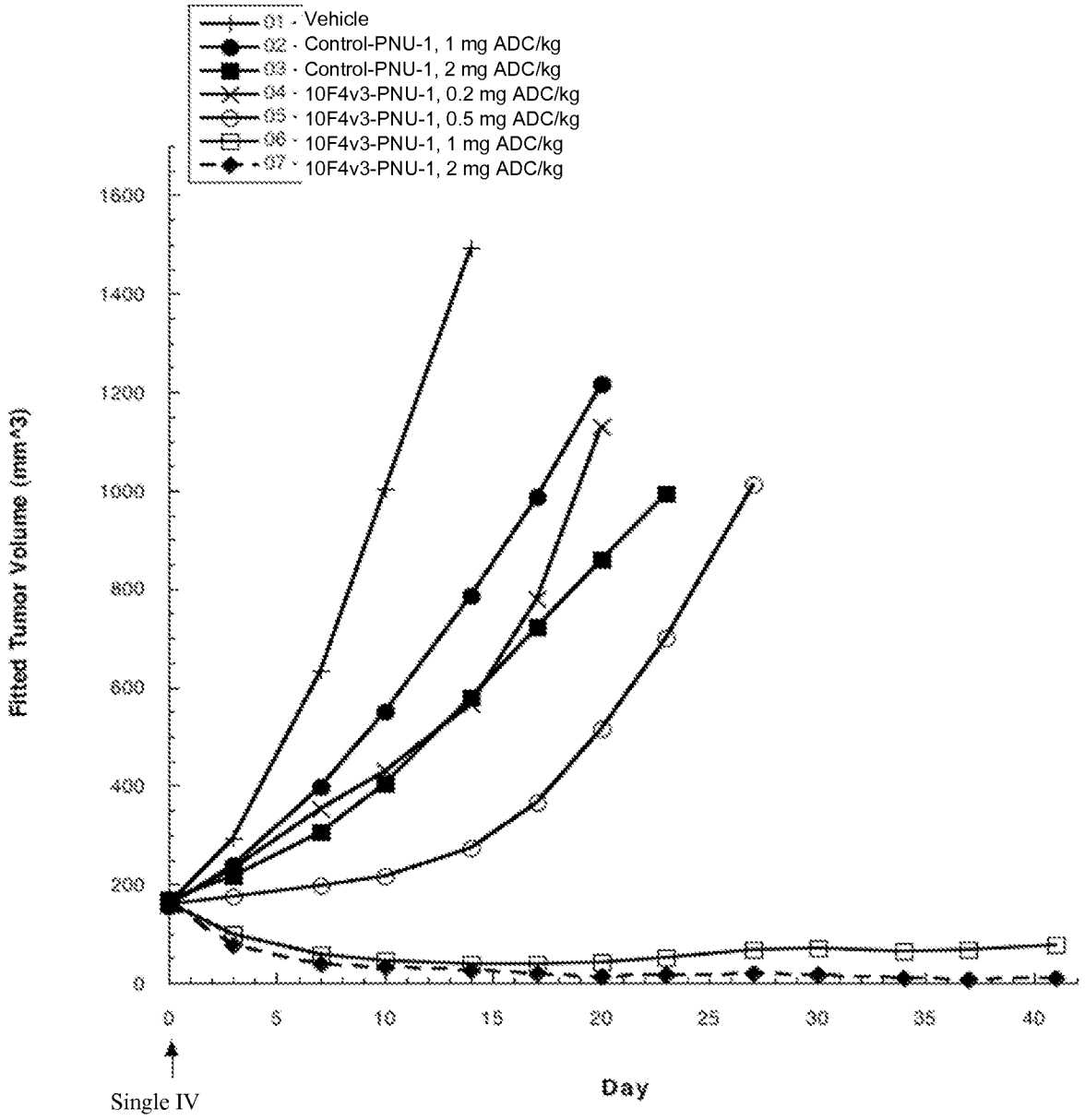

01 - Vehicle
02 - Control-PNU-1, 1 mg ADC/kg
03 - Control-PNU-1, 2 mg ADC/kg
04 - 10F4v3-PNU-1, 0.2 mg ADC/kg
05 - 10F4v3-PNU-1, 0.5 mg ADC/kg
06 - 10F4v3-PNU-1, 1 mg ADC/kg
07 - 10F4v3-PNU-1, 2 mg ADC/kg
Fitted Tumor Volume (mm^3)
1600
1400
1200
1000
800
600
400
200
0
0
5
10
15
20
25
30
35
40
Day
Single IV

FIG.9

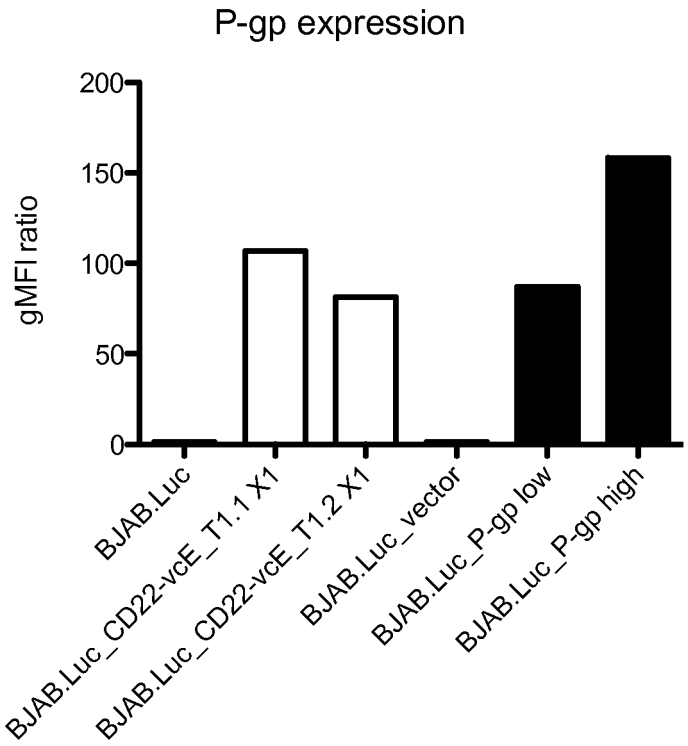

P-gp expression
gMFI ratio
200
150
100
50
0
BJAB.Luc
BJAB.Luc_CD22-vcE_T1.1 X1
BJAB.Luc_CD22-vcE_T1.2 X1
BJAB.Luc_vector
BJAB.Luc_P-gp low
BJAB.Luc_P-gp high

FIG.10

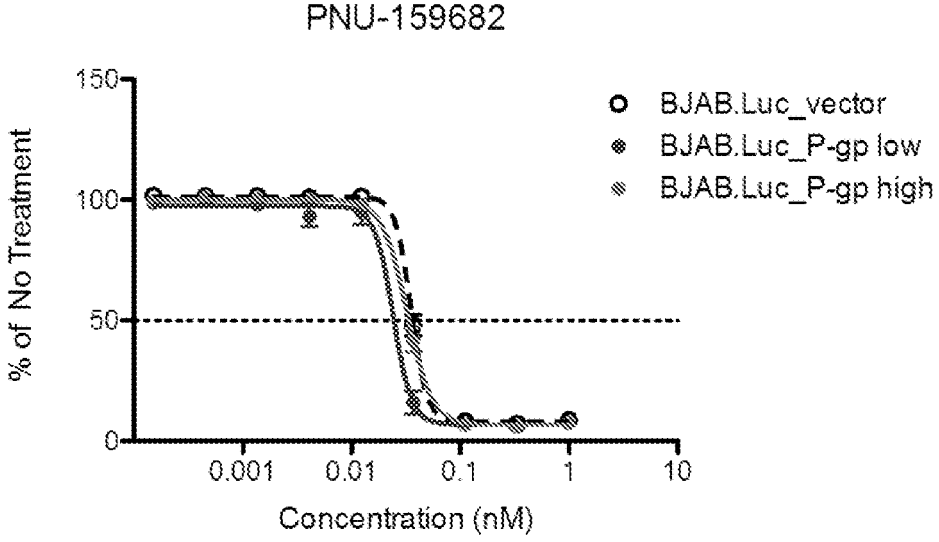

PNU-159682
% of No Treatment
150
100
50
0
0.001
0.01
0.1
1
10
Concentration (nM)
BJAB.Luc_vector
BJAB.Luc_P-gp low
BJAB.Luc_P-gp high

FIG.11

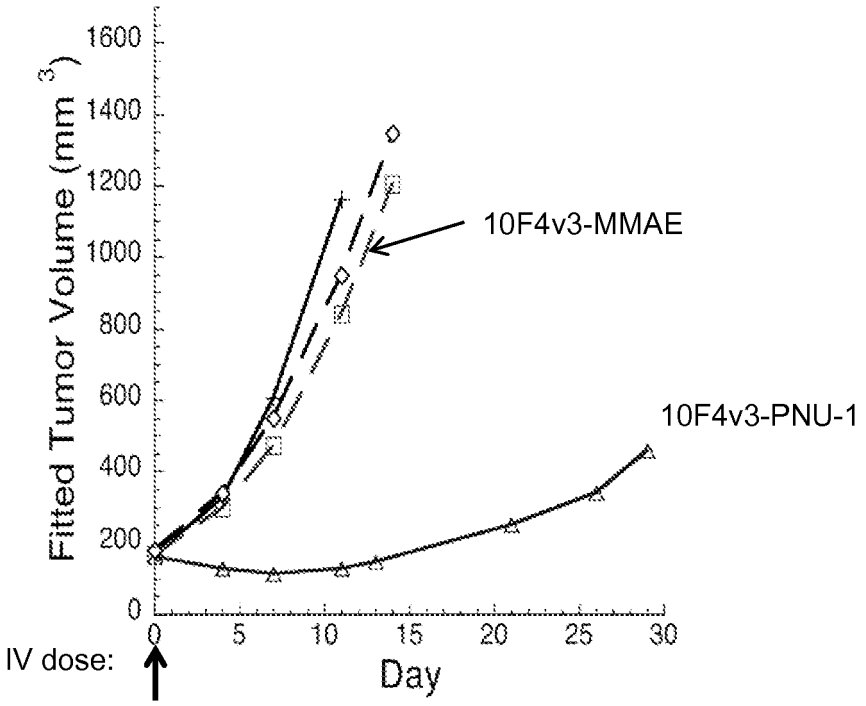

Fitted Tumor Volume (mm 3)
1600
1400
1200
1000
800
600
400
200
0
10F4v3-MMAE
10F4v3-PNU-1
IV dose:
0
5
10
15
20
25
30
Day

FIG.12

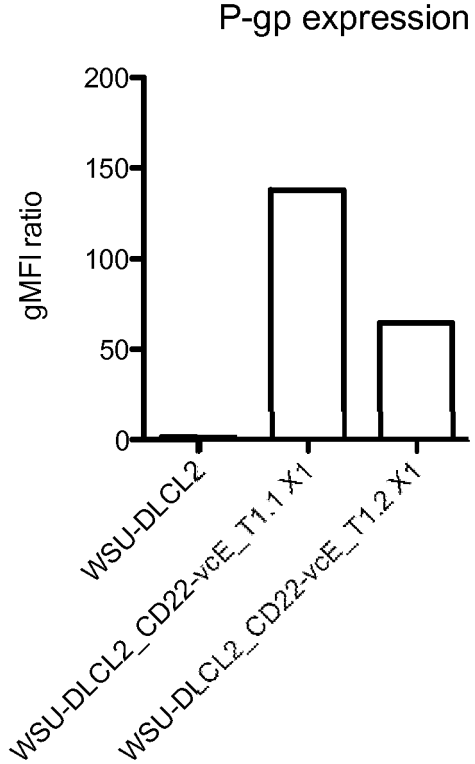

P-gp expression
gMFI ratio
200
150
100
50
0
WSU-DLCL2
WSU-DLCL2_CD22-vcE_T1.1 X1
WSU-DLCL2_CD22-vcE_T1.2 X1

FIG.13

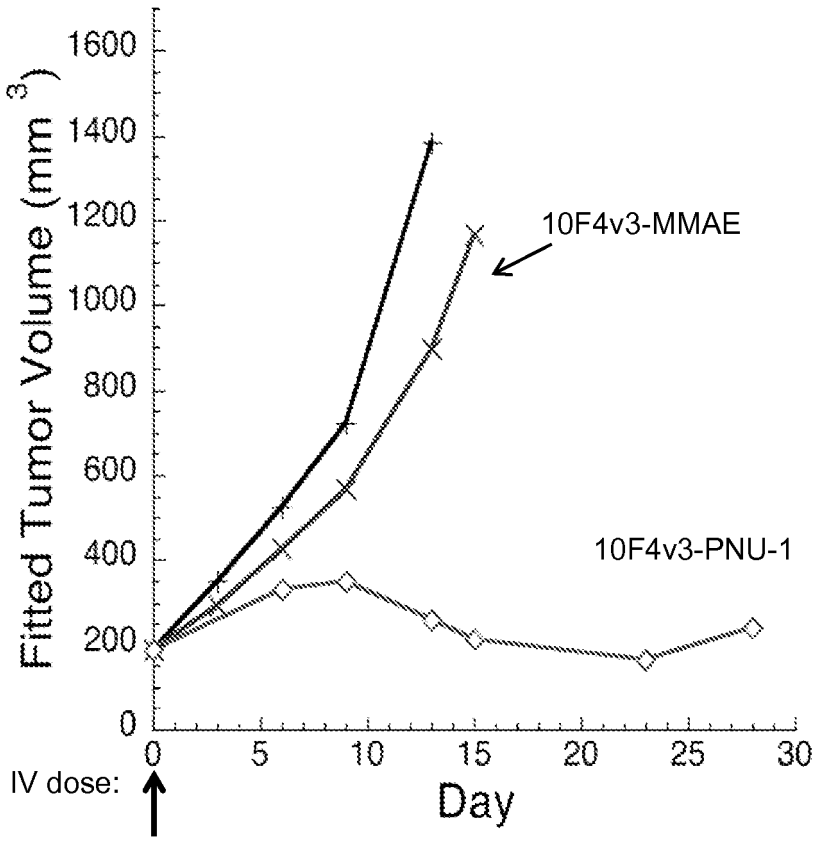

Fitted Tumor Volume (mm 3)
1600
1400
1200
1000
800
600
400
200
0
10F4v3-MMAE
10F4v3-PNU-1
0
5
10
15
20
25
30
Day
IV dose:

FIG.14