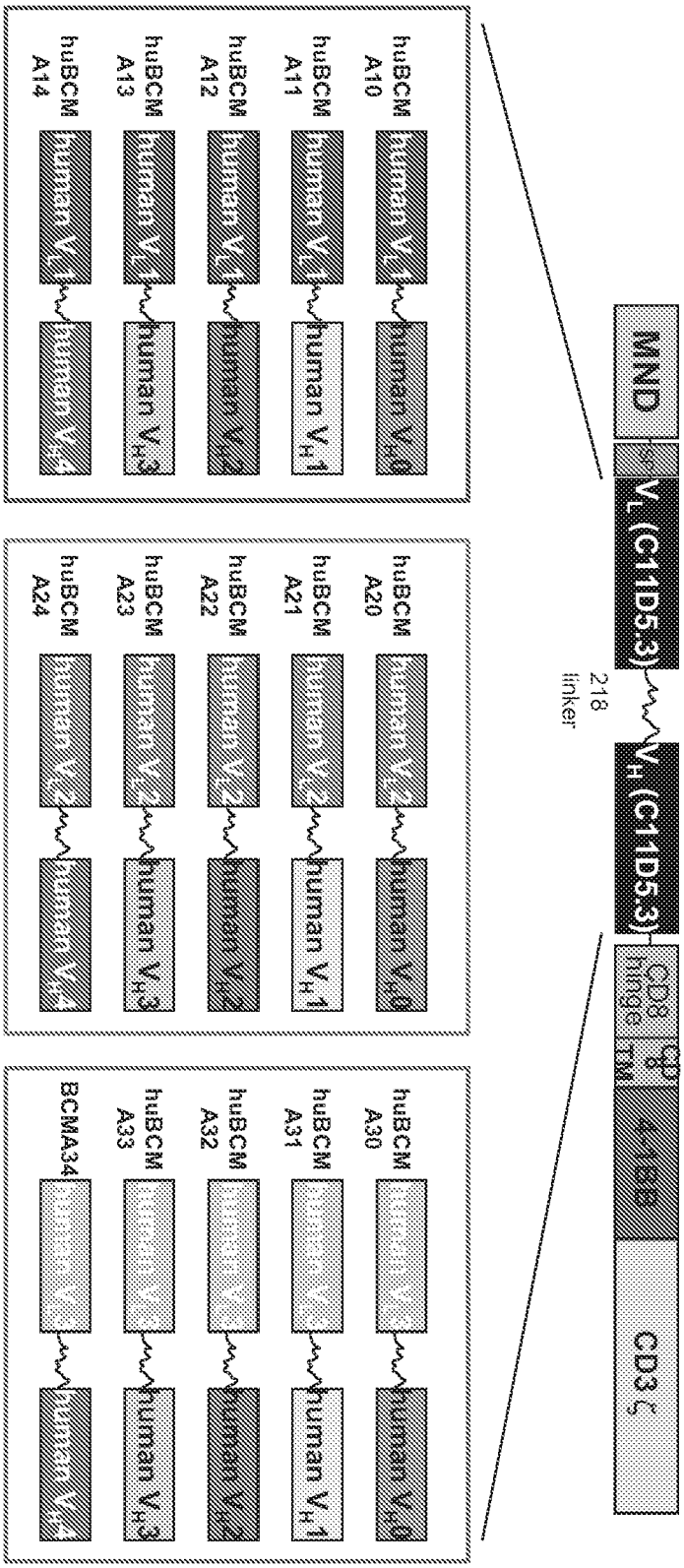

MND
VL (C11D5.3)
218 linker
VH (C11D5.3)
CD8 hinge
TM
4-1BB
CD3ζ
huBCM A10
human VH0
huBCM A11
human VH1
huBCM A12
human VH1
huBCM A13
human VH3
huBCM A14
human VL1
huBCM A20
human VH2
huBCM A21
human VH2
huBCM A22
human VH2
huBCM A23
human VH3
huBCM A24
human VL2
huBCM A30
human VH3
huBCM A31
human VH1
huBCM A32
human VH2
huBCM A33
human VH3
BCMA34
human VL1

FIG. 1

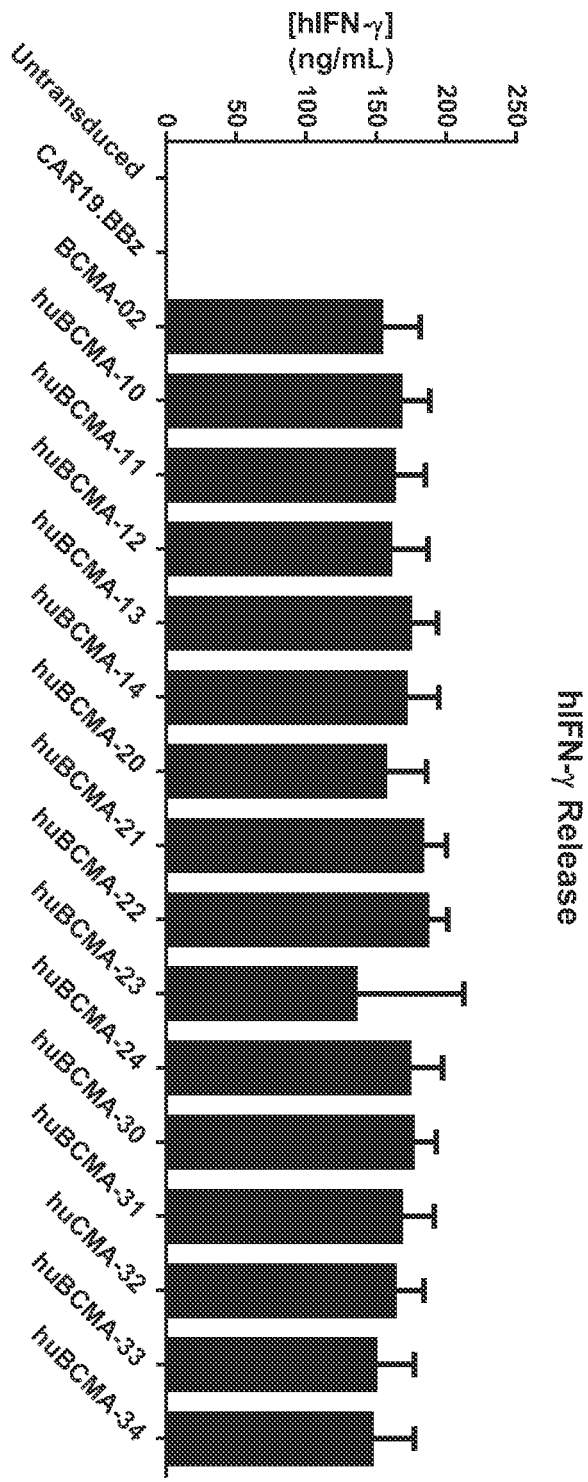

[hIFN-γ]
(ng/mL)
0
50
100
150
200
250
Untransduced
CAR19.BBz
BCMA-02
huBCMA-10
huBCMA-11
huBCMA-12
huBCMA-13
huBCMA-14
huBCMA-20
huBCMA-21
huBCMA-22
huBCMA-23
huBCMA-24
huBCMA-30
huBCMA-31
huCMA-32
huBCMA-33
huBCMA-34
hIFN-γ Release

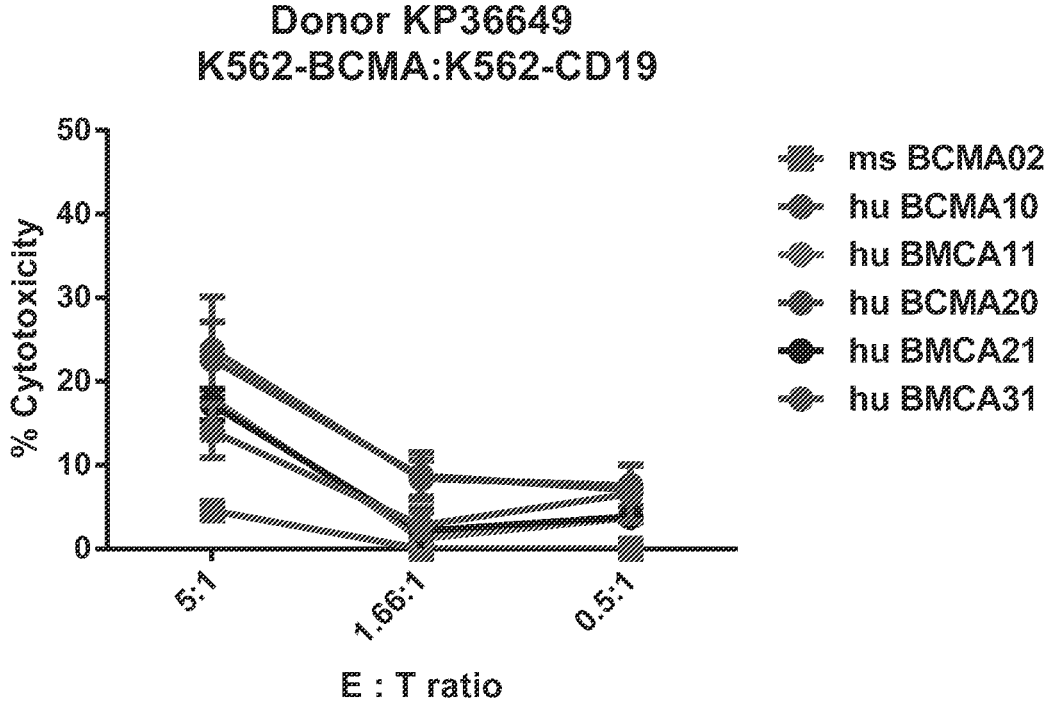
FIG. 2

FIG. 3

Day 18

BCMA expression established with flow cytometry

$BCMA^{pos}$ tumor	$BCMA^{neg}$ tumor
K562-BCMA (bulk)	K562-CD19



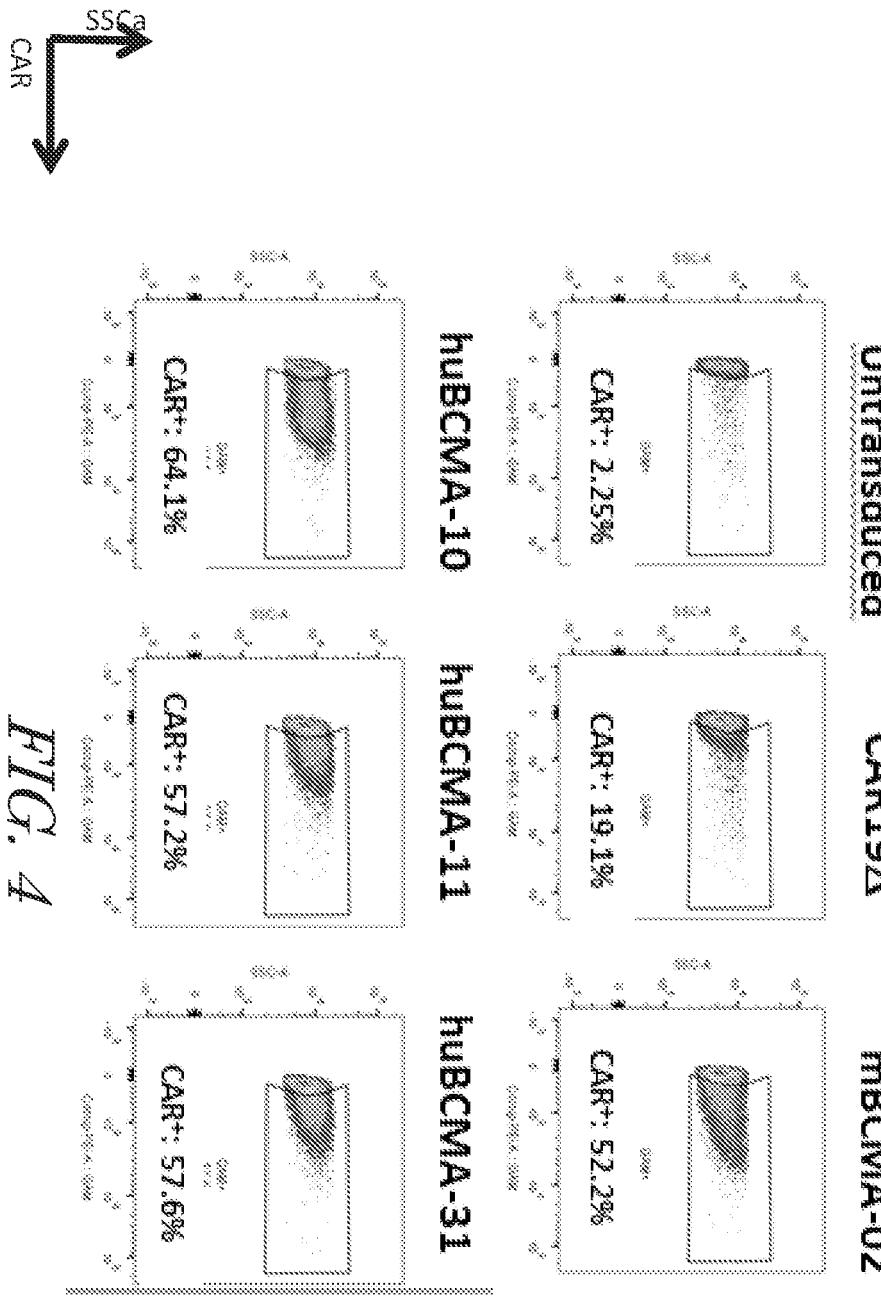

Donor 801269 (GaM+)
Untransduced
CAR19Δ
mBCMA-02
huBCMA-10
huBCMA-11
huBCMA-31
CAR+: 2.25%
CAR+: 19.1%
CAR+: 52.2%
CAR+: 64.1%
CAR+: 57.2%
CAR+: 57.6%
SSC
CAR

FIG. 4

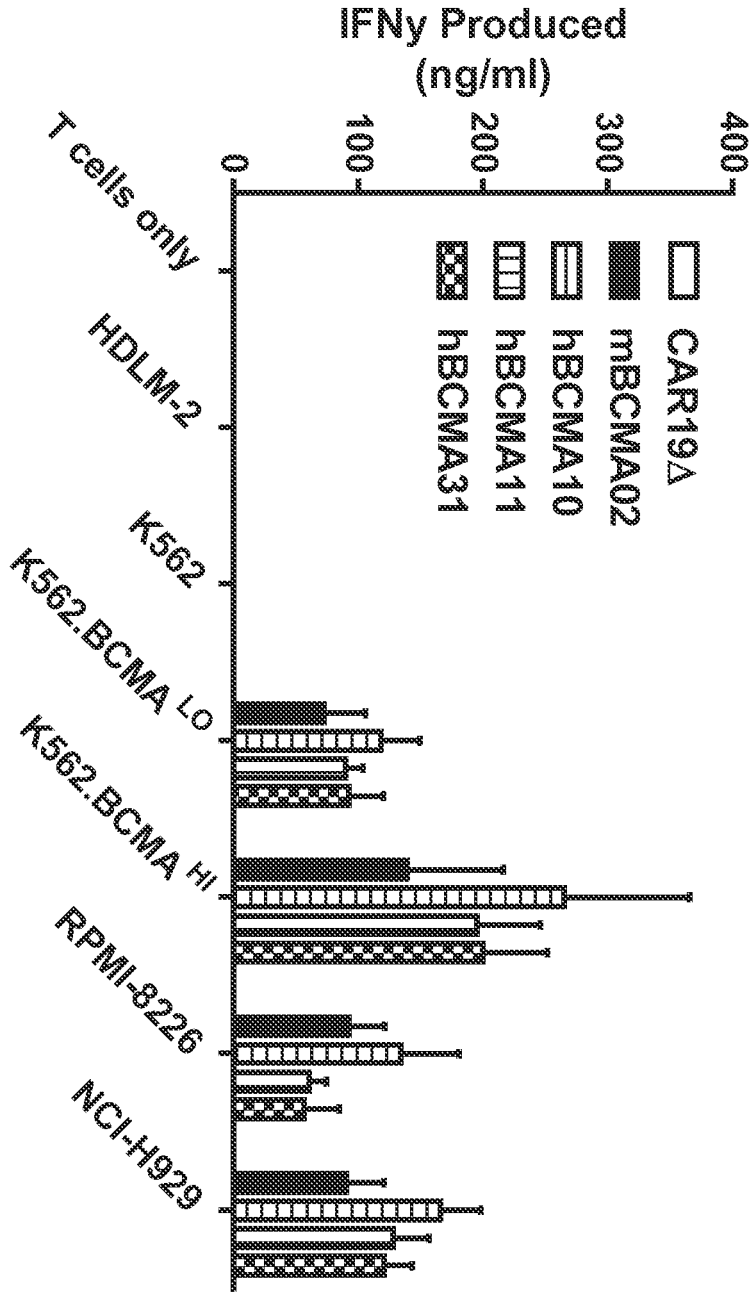

IFNγ Produced
(ng/ml)
0
100
200
300
400
CAR19Δ
mBCMA02
hBCMA10
hBCMA11
hBCMA31
T cells only
HDLM-2
K562
K562.BCMA LO
K562.BCMA HI
RPMI-8226
NCI-H929

FIG. 5

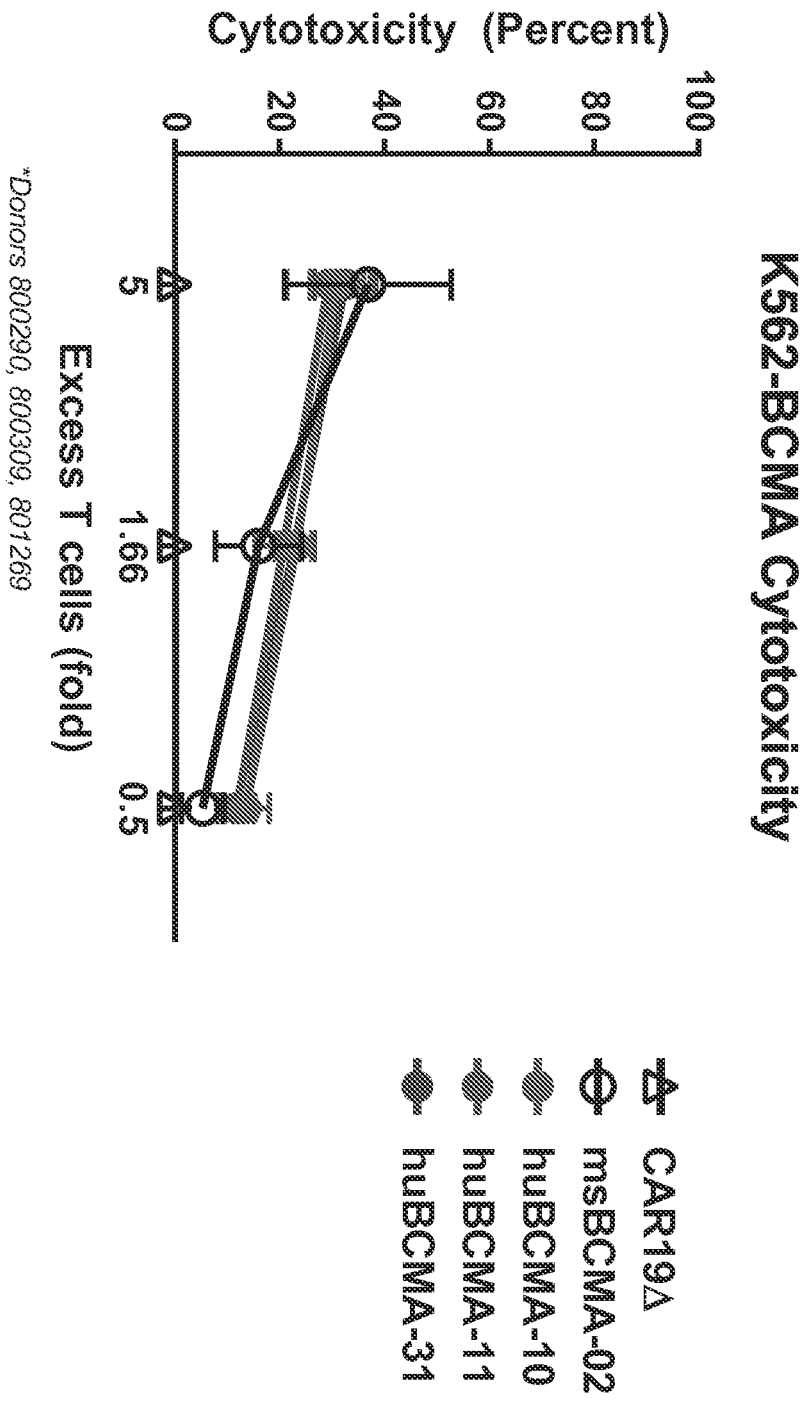

K562-BCMA Cytotoxicity
Cytotoxicity (Percent)
0
20
40
60
80
100
Excess T cells (fold)
5
1.66
0.5
CAR19Δ
msBCMA-02
huBCMA-10
huBCMA-11
huBCMA-31
*Donors 800290, 800309, 801269

FIG. 6

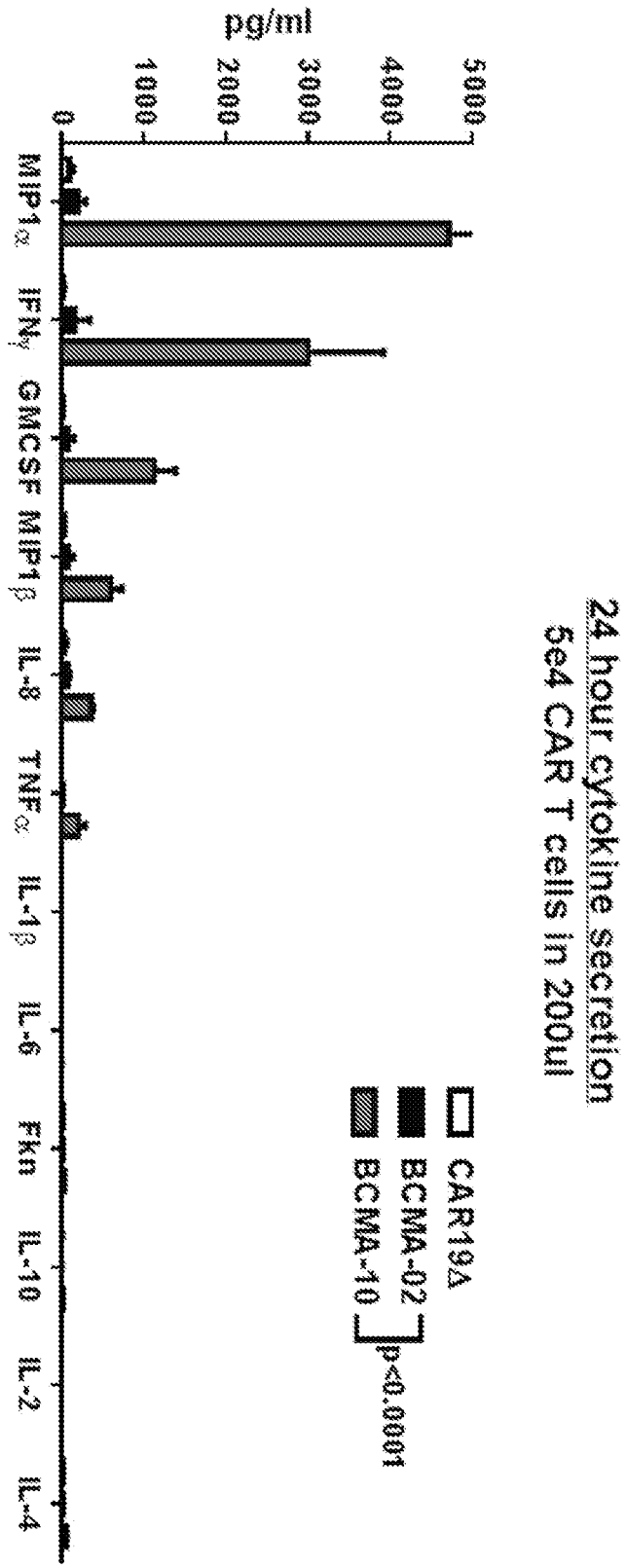

24 hour cytokine secretion
5e4 CAR T cells in 200ul
pg/ml
0
1000
2000
3000
4000
5000
CAR19Δ
BCMA-02
BCMA-10
p<0.0001
MIP1α
IFNγ
GMCSF
MIP1β
IL-8
TNFα
IL-1β
IL-6
Fkn
IL-10
IL-2
IL-4

FIG. 7

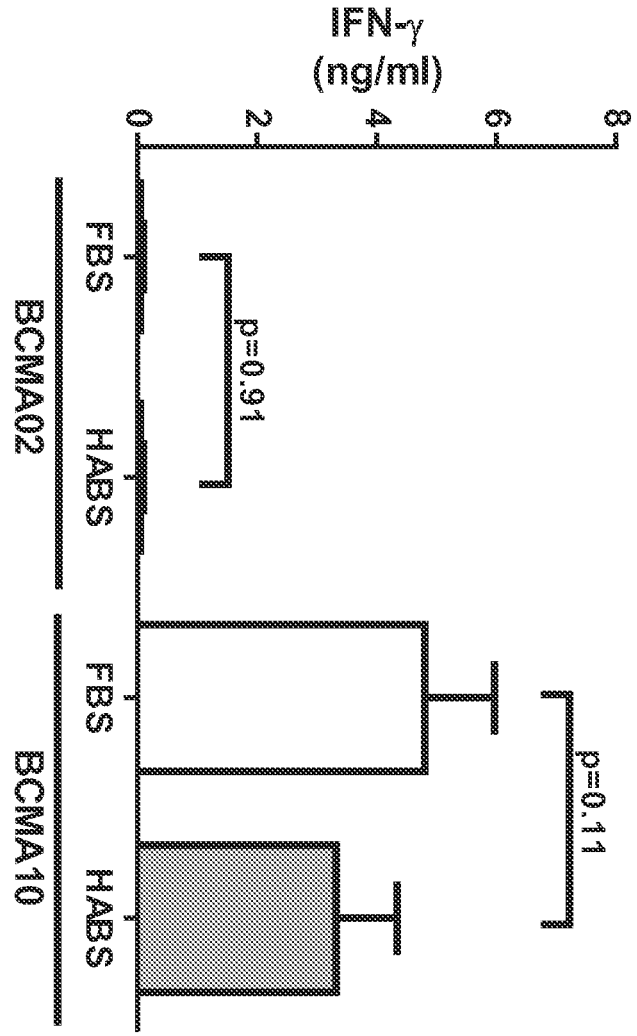


FIG. 8

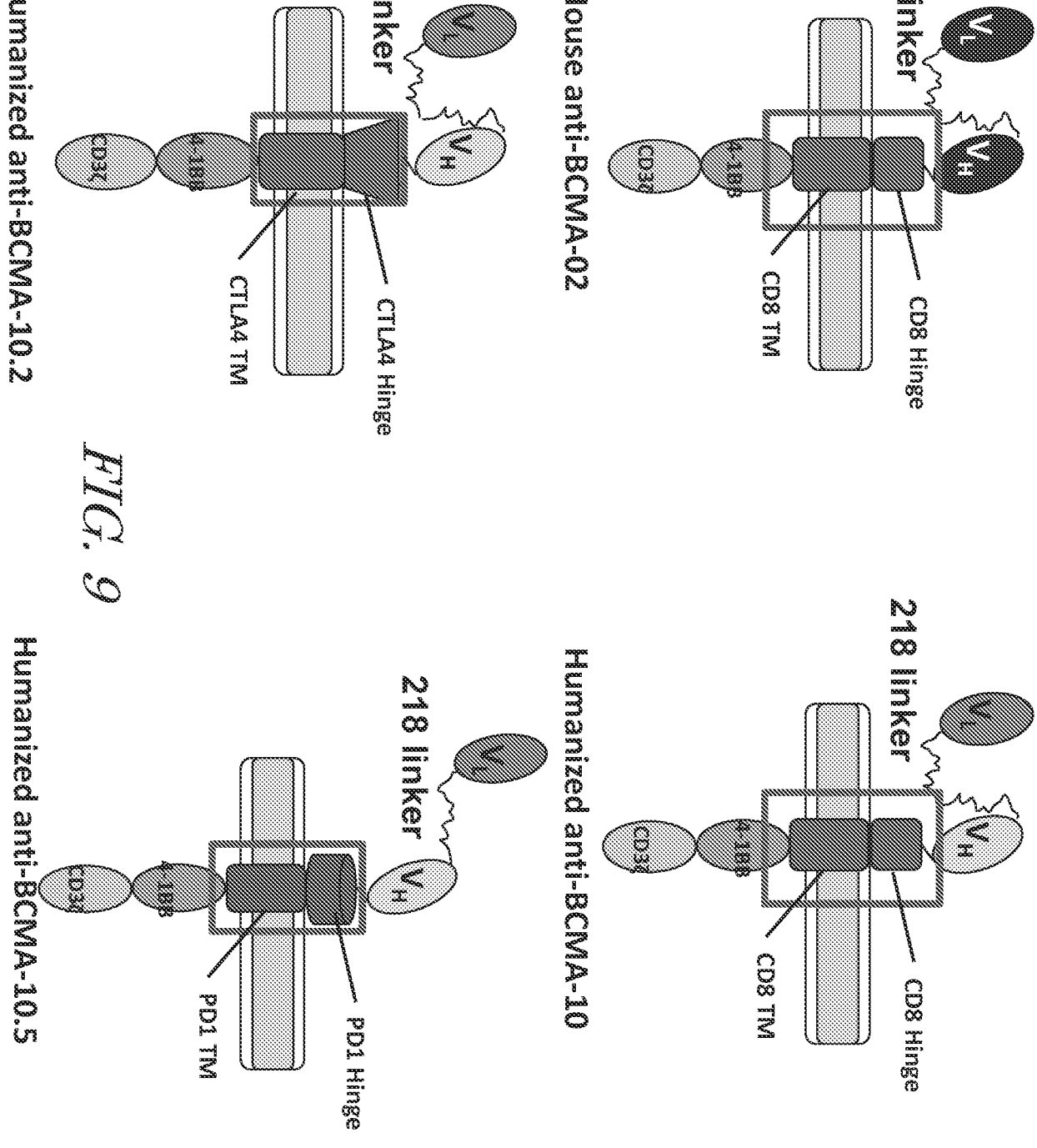

Mouse anti-BCMA-02
218 linker
CD8 Hinge
CD8 TM
4-1BB
CD3ζ
Humanized anti-BCMA-10.2
CTLA4 Hinge
CTLA4 TM
Humanized anti-BCMA-10
PD1 Hinge
PD1 TM
Humanized anti-BCMA-10.5

FIG. 9

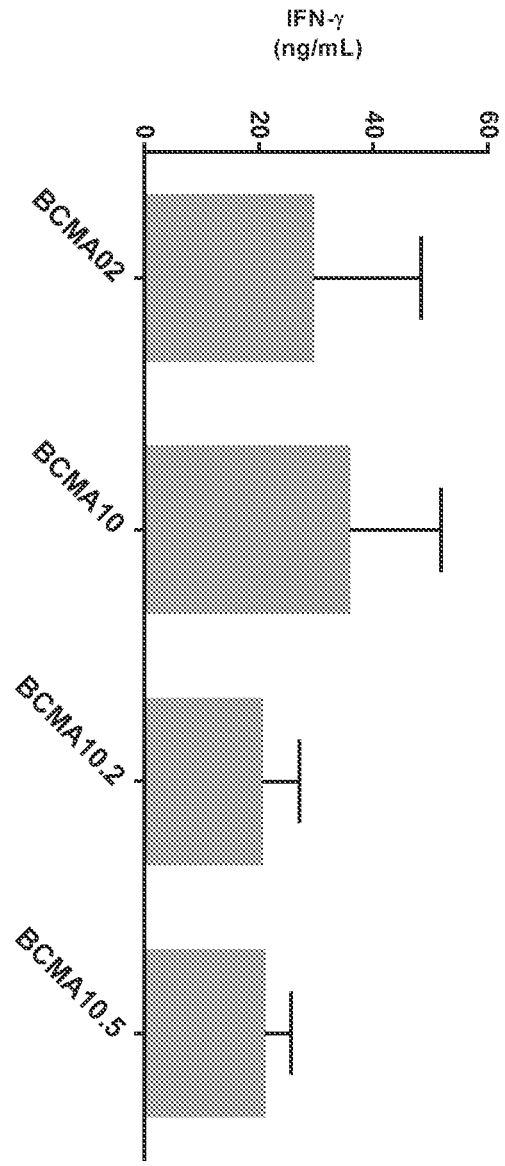
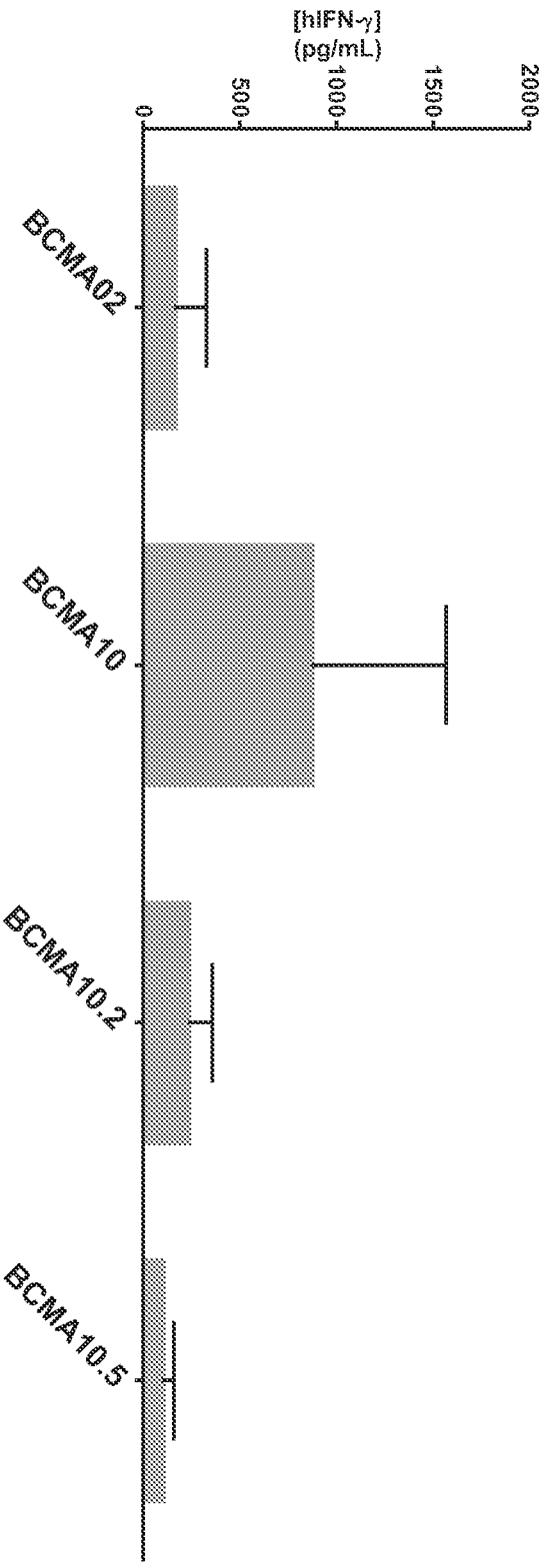


FIG. 10

FIG. 11


[hIFN-γ]
(pg/mL)
0
500
1000
1500
2000
BCMA02
BCMA10
BCMA10.2
BCMA10.5