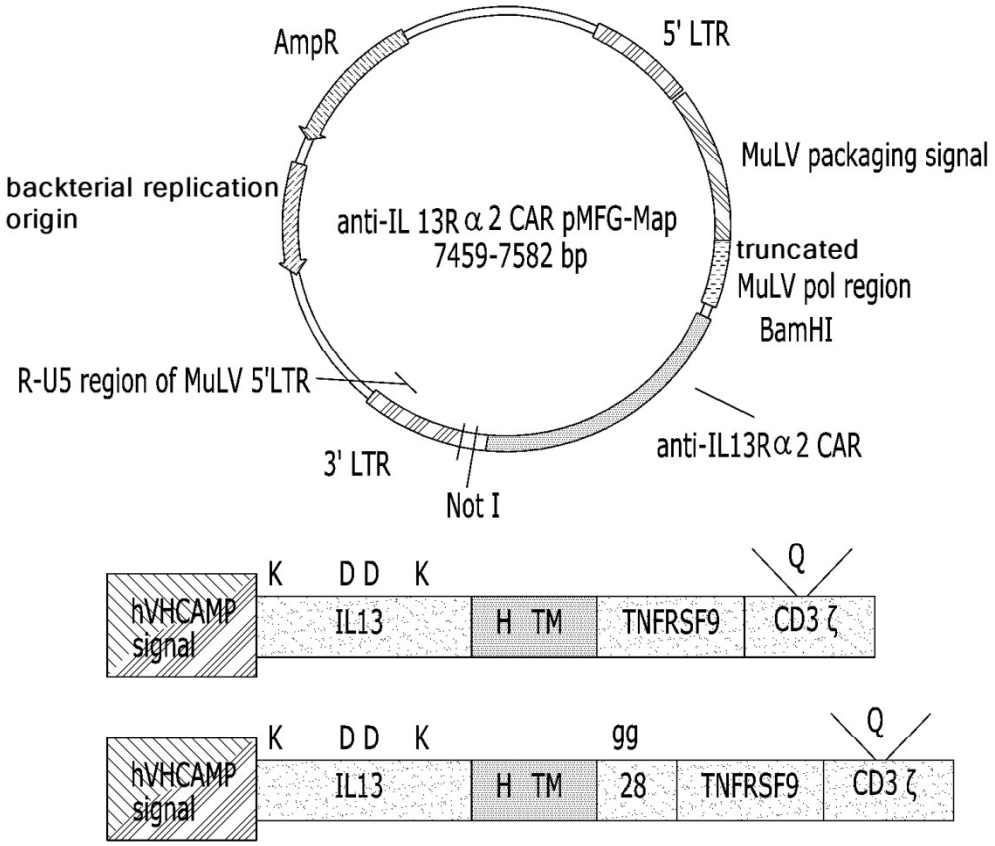
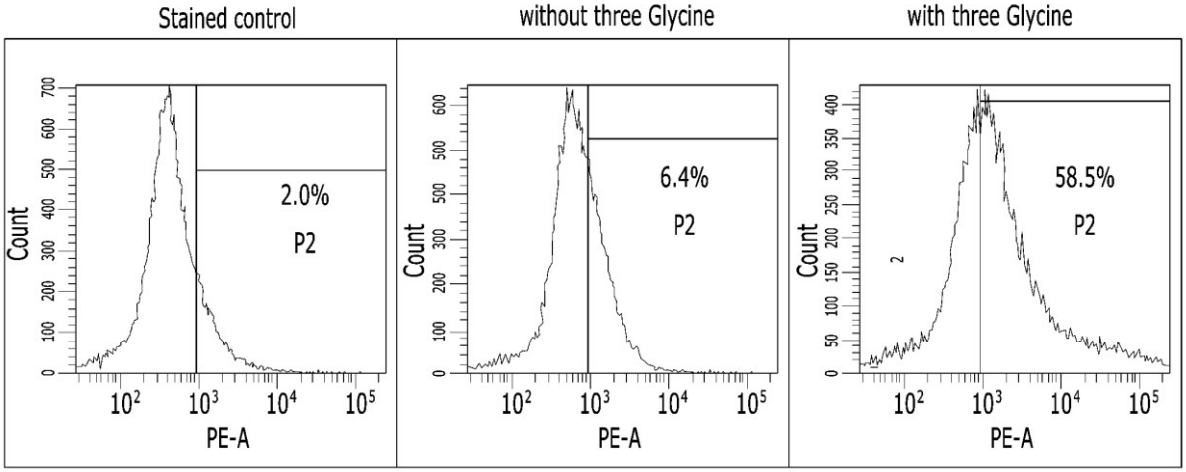
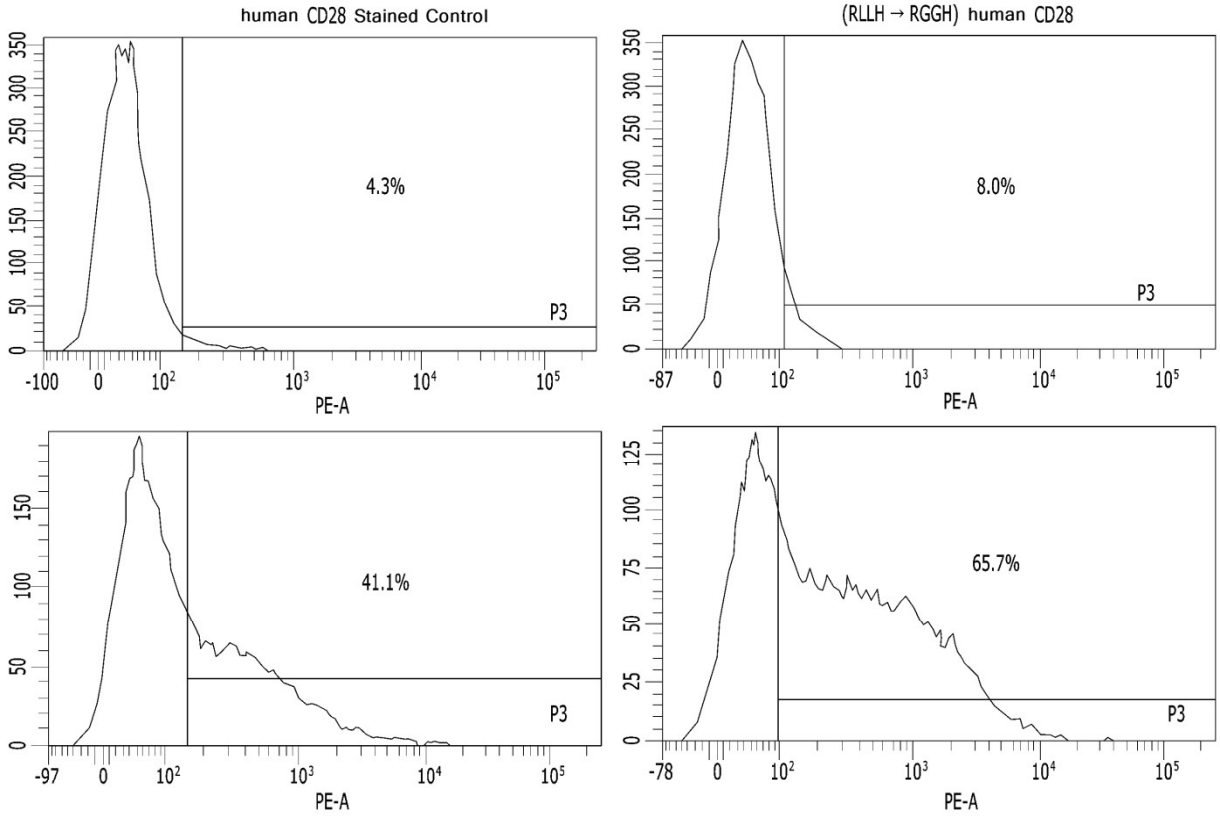
[Fig. 1]


AmpR
5' LTR
MuLV packaging signal
backterial replication origin
anti-IL 13R α 2 CAR pMFG-Map
7459-7582 bp
truncated MuLV pol region
BamHI
R-U5 region of MuLV 5'LTR
anti-IL13R α 2 CAR
3' LTR
Not I
K
D D
K
Q
hVHCAMP signal
IL13
H
TM
TNFRSF9
CD3 ζ
K
D D
K
gg
Q
hVHCAMP signal
IL13
H
TM
28
TNFRSF9
CD3 ζ

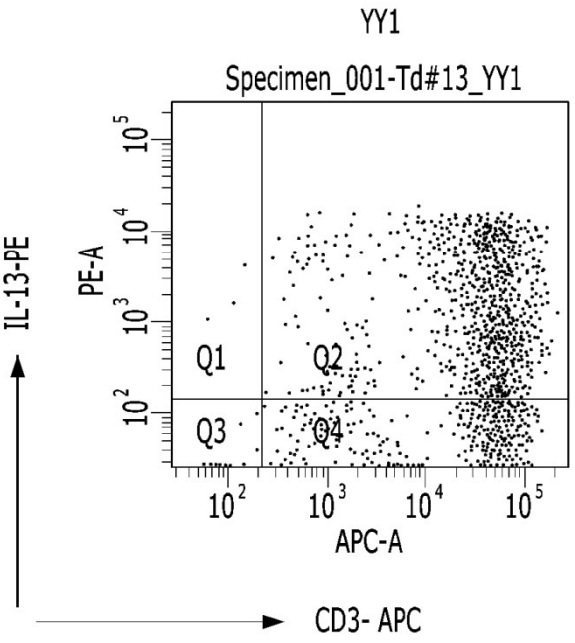
[Fig. 2]


Stained control
without three Glycine
with three Glycine
Count
2.0%
P2
6.4%
P2
58.5%
P2
PE-A

[Fig. 3]

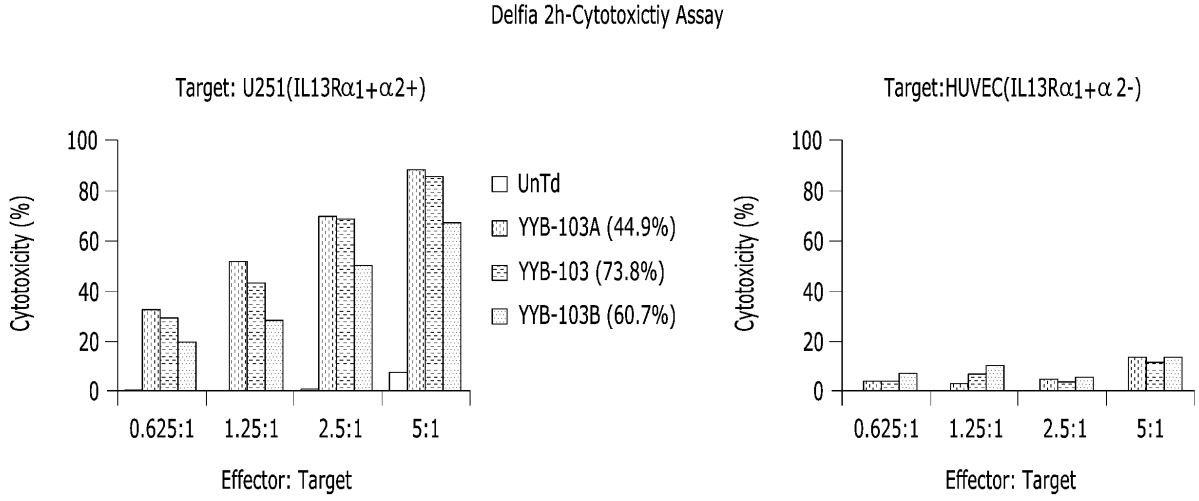

human CD28 Stained Control
(RLLH → RGGH) human CD28
4.3%
8.0%
41.1%
65.7%
P3
PE-A

[Fig. 4]

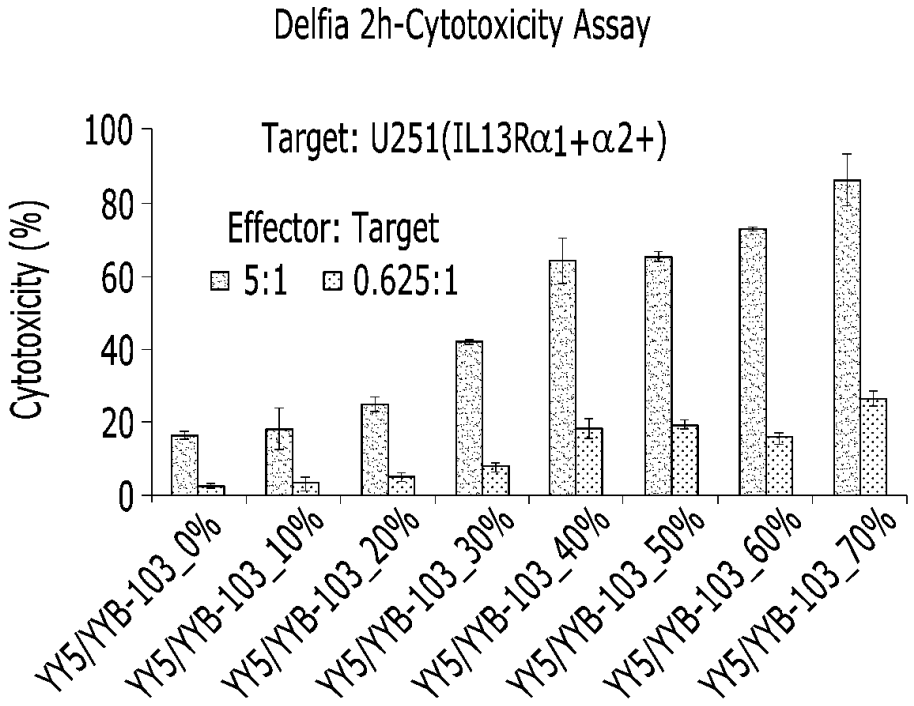


	1st - YY1
CAR gene expression rate	91.8%
T cell purity	99.8%

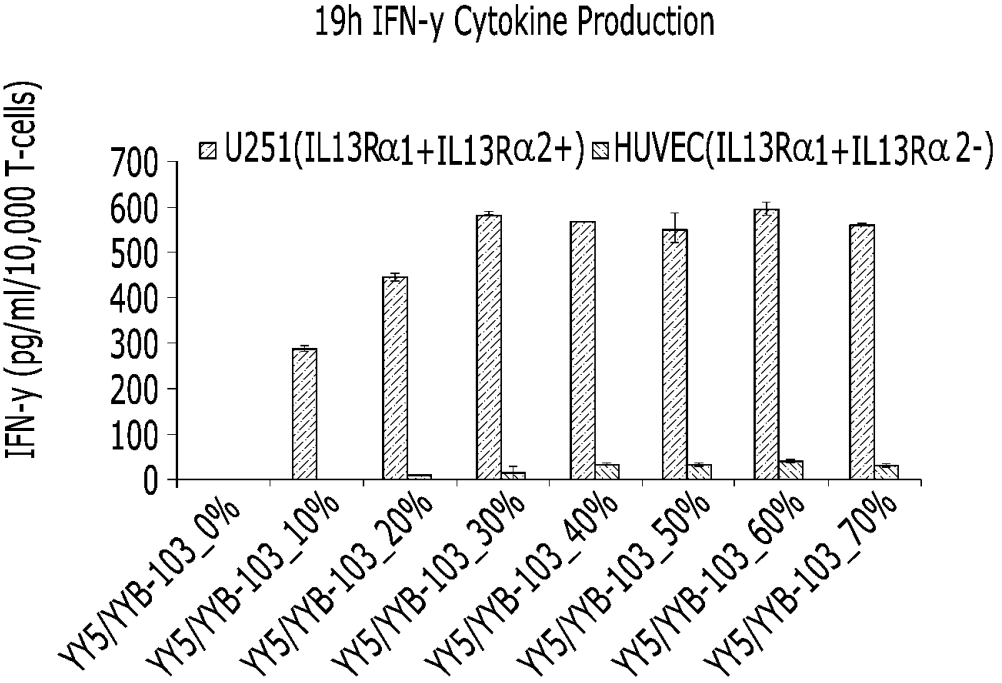
[Fig. 5]



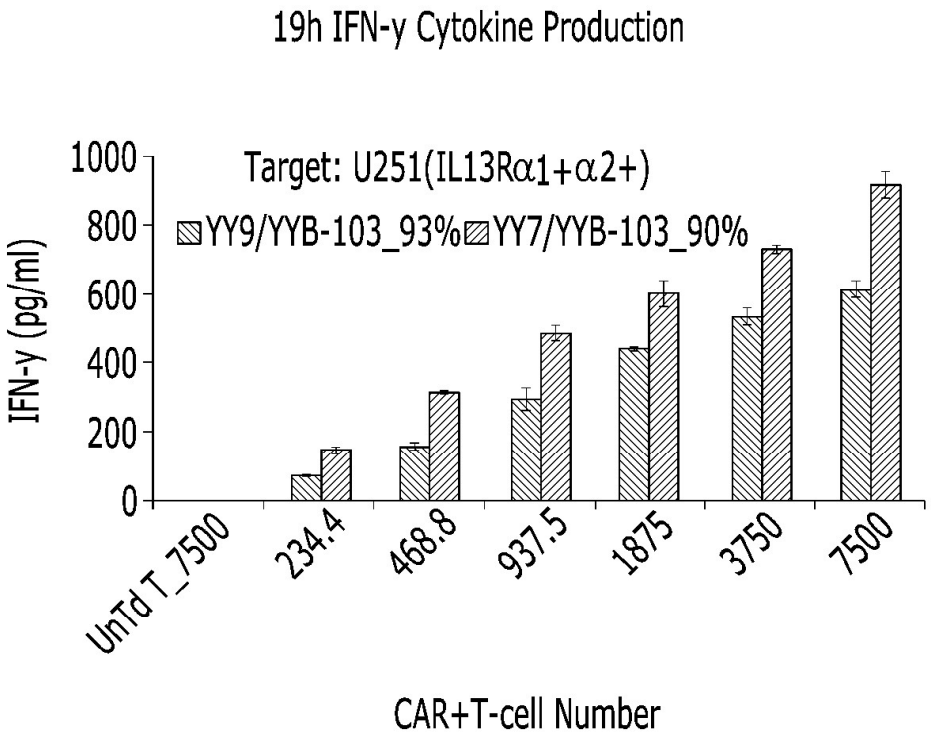
[Fig. 6]


Delfia 2h-Cytotoxicity Assay
Target: U251(IL13Rα1+α2+)
Effector: Target
5:1
0.625:1
Cytotoxicity (%)
100
80
60
40
20
0
YY5/YYB-103_0%
YY5/YYB-103_10%
YY5/YYB-103_20%
YY5/YYB-103_30%
YY5/YYB-103_40%
YY5/YYB-103_50%
YY5/YYB-103_60%
YY5/YYB-103_70%

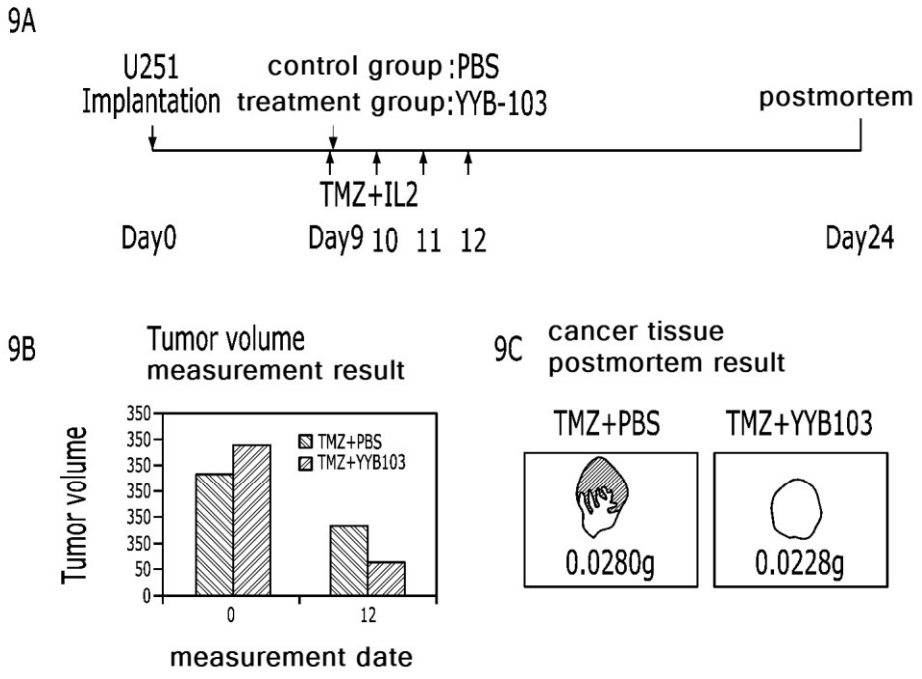
[Fig. 7]


19h IFN-γ Cytokine Production
U251(IL13Rα1+IL13Rα2+)
HUVEC(IL13Rα1+IL13Rα2-)
IFN-γ (pg/ml/10,000 T-cells)
700
600
500
400
300
200
100
0
YY5/YYB-103_0%
YY5/YYB-103_10%
YY5/YYB-103_20%
YY5/YYB-103_30%
YY5/YYB-103_40%
YY5/YYB-103_50%
YY5/YYB-103_60%
YY5/YYB-103_70%

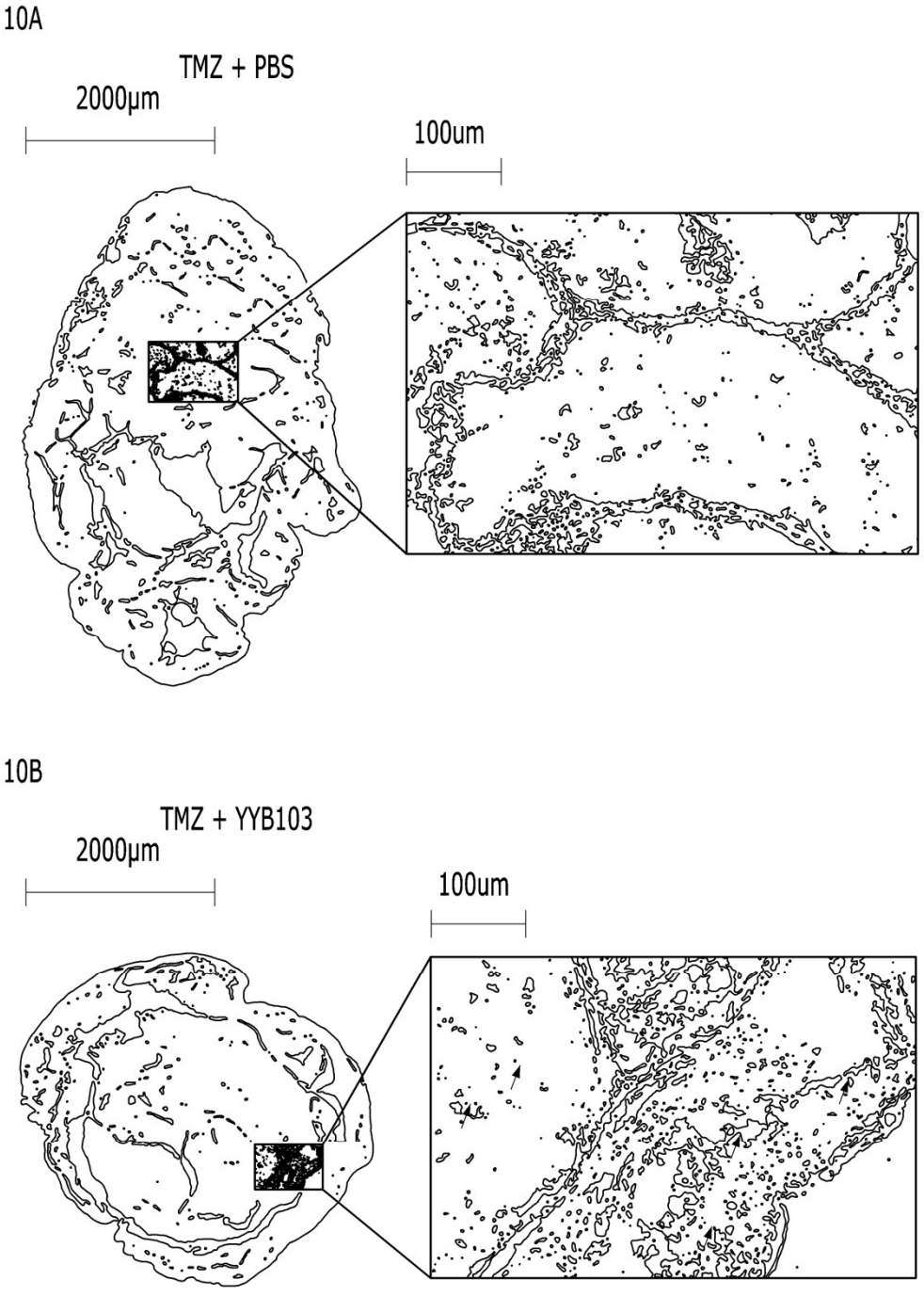
[Fig. 8]


19h IFN-y Cytokine Production
Target: U251(IL13Rα1+α2+)
YY9/YYB-103_93%
YY7/YYB-103_90%
IFN-y (pg/ml)
1000
800
600
400
200
0
UnTd T_7500
234.4
468.8
937.5
1875
3750
7500
CAR+T-cell Number

[Fig. 9]

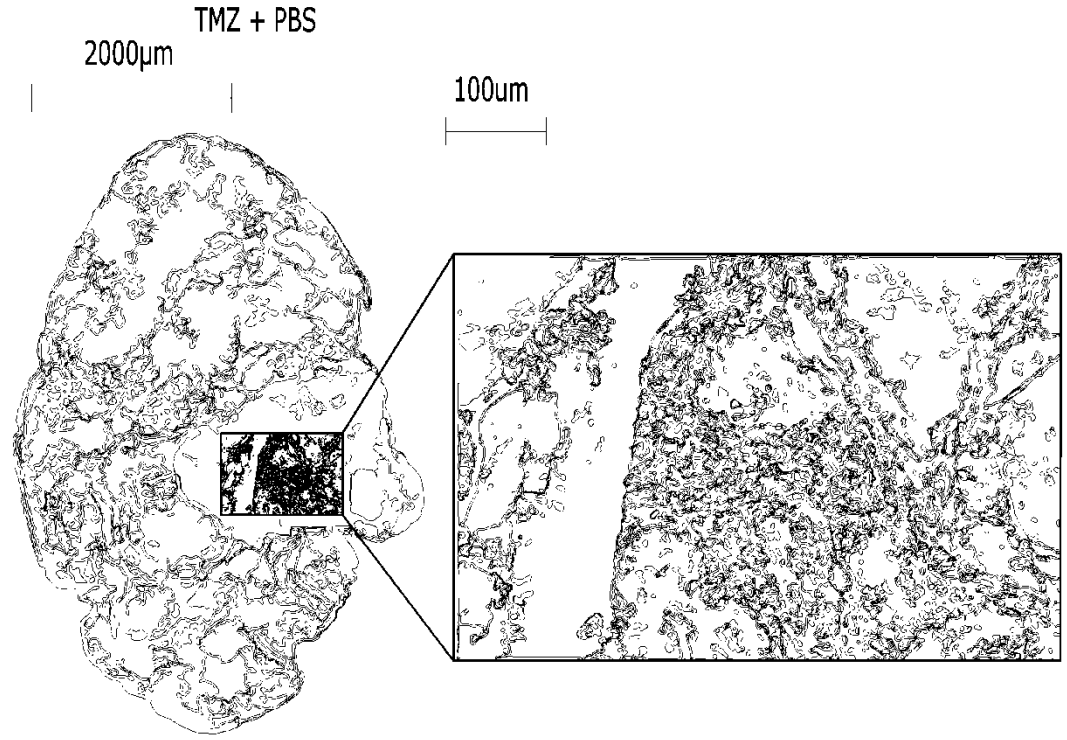

9A
U251
Implantation
control group:PBS
treatment group:YYB-103
postmortem
TMZ+IL2
Day0
Day9 10 11 12
Day24
9B
Tumor volume
measurement result
Tumor volume
TMZ+PBS
TMZ+YYB103
350
350
350
350
350
350
50
0
0
12
measurement date
9C
cancer tissue
postmortem result
TMZ+PBS
TMZ+YYB103
0.0280g
0.0228g

[Fig. 10]

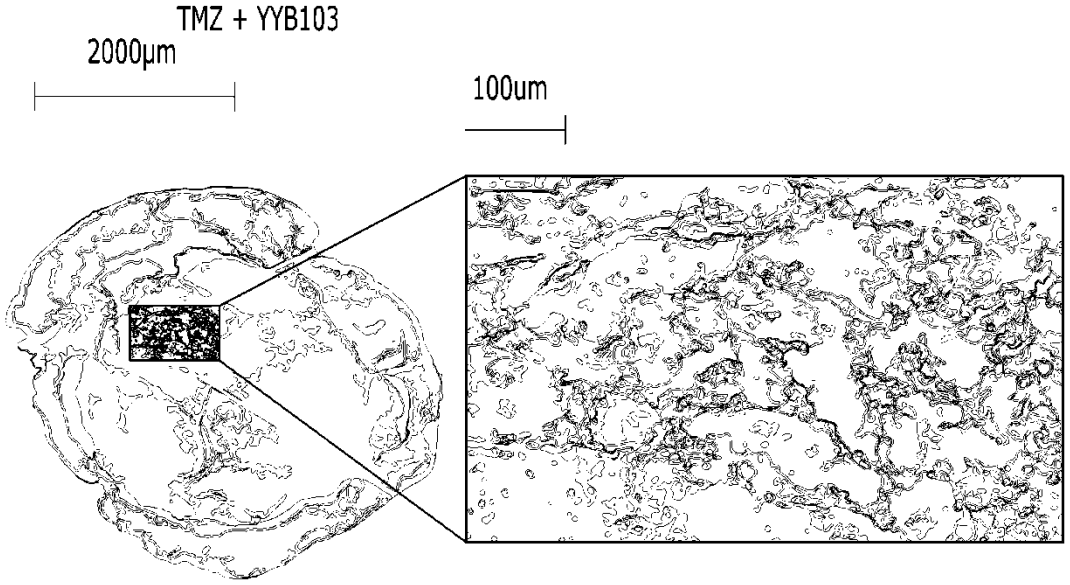


[Fig. 11]

11A

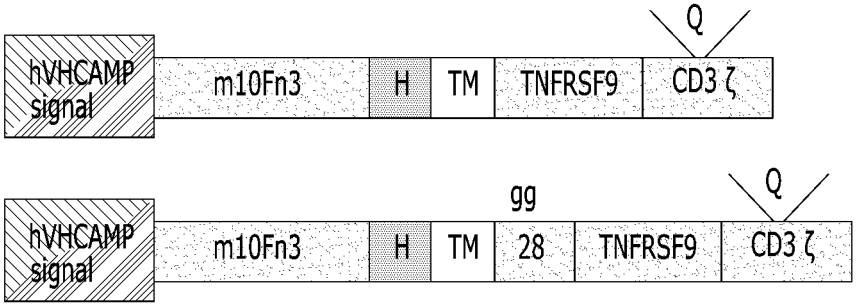


11B

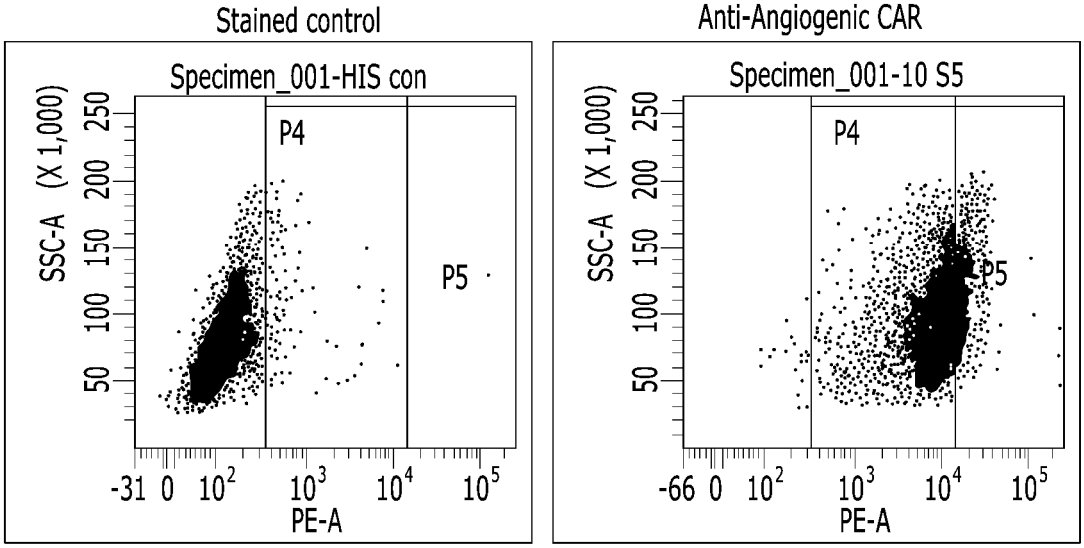


[Fig. 12]

12A

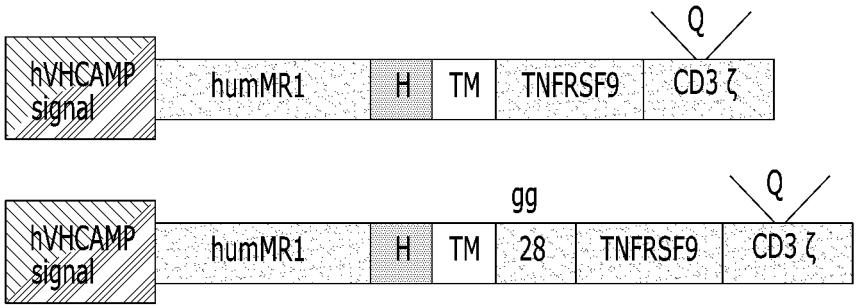


12B

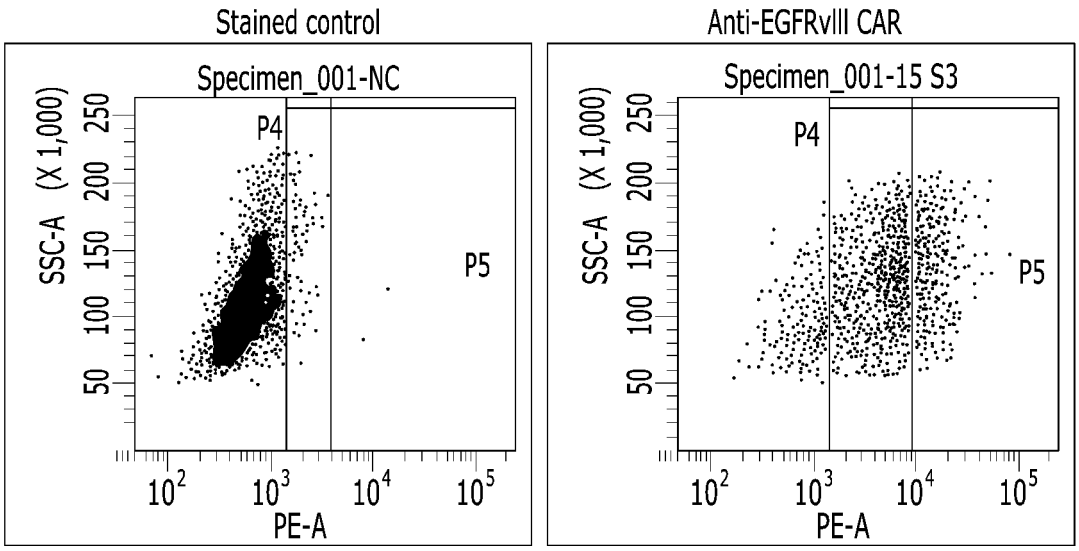


[Fig. 13]

13A

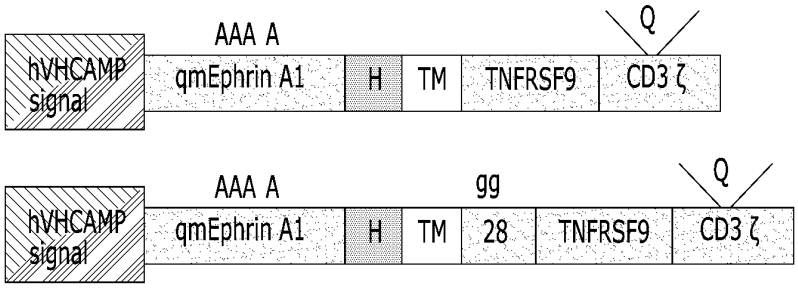


13B

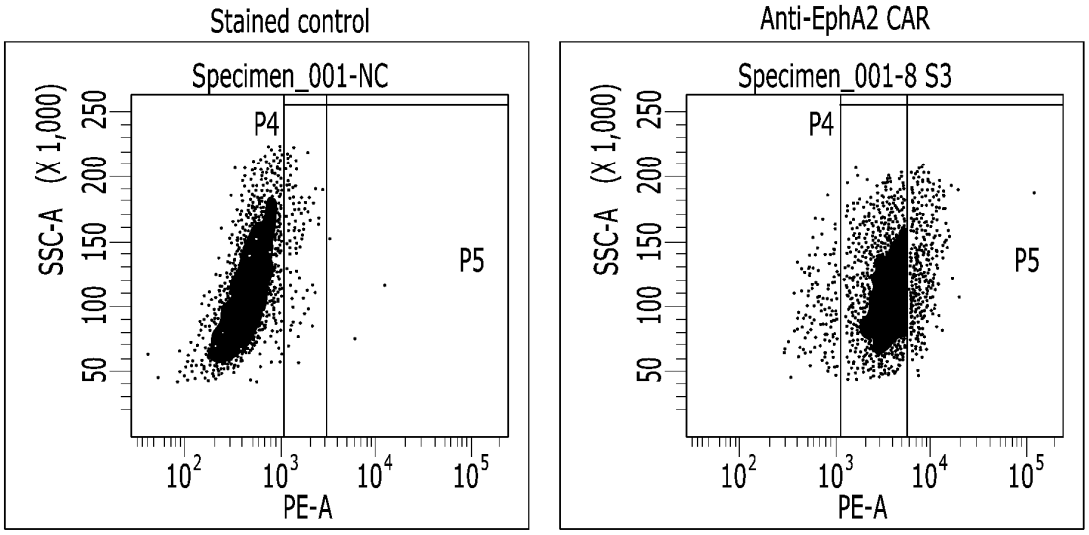


[Fig. 14]

14A

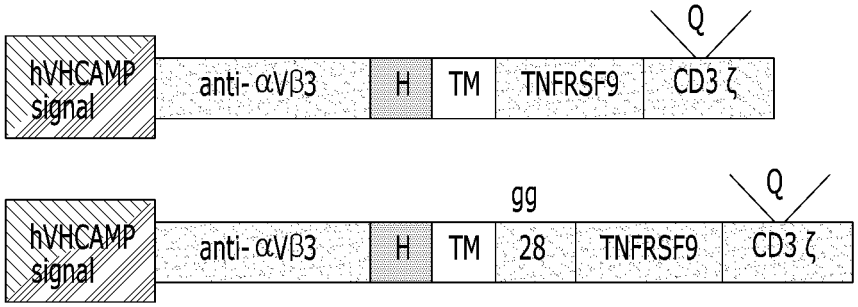


14B

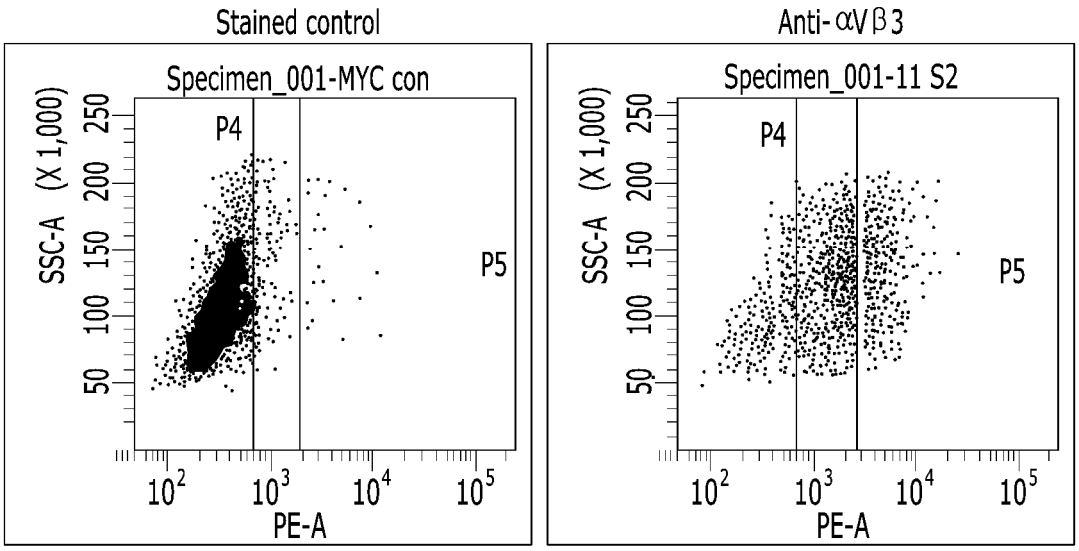


[Fig. 15]

15A

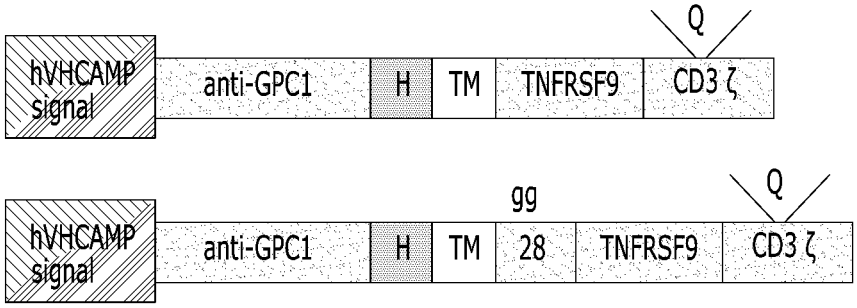
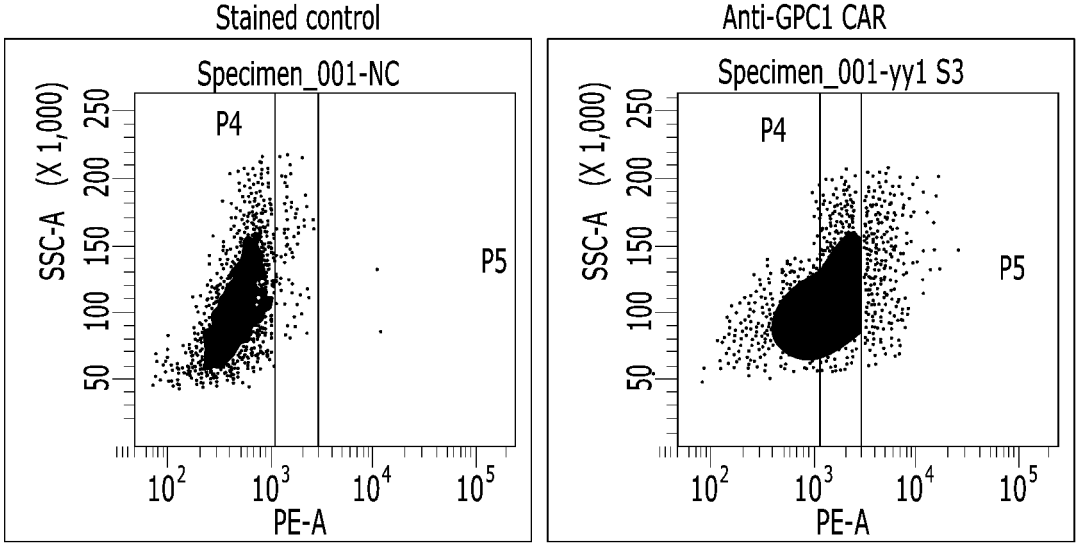


15B



[Fig. 16]

16A



16B