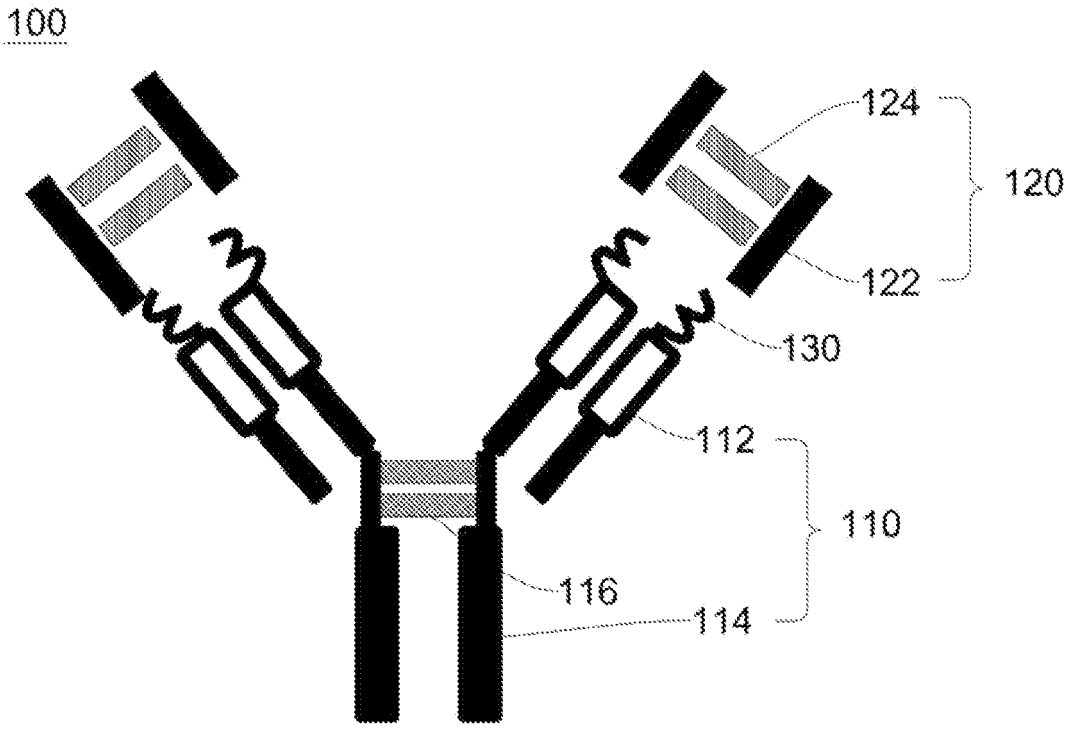


FIG. 1

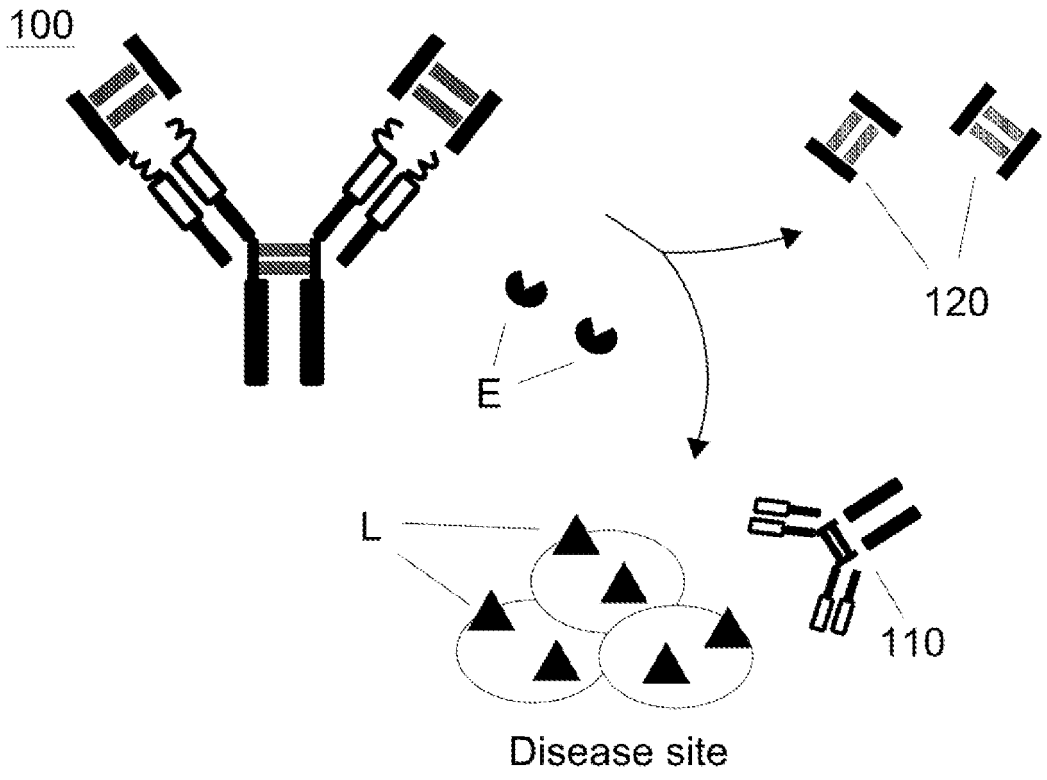


FIG. 2

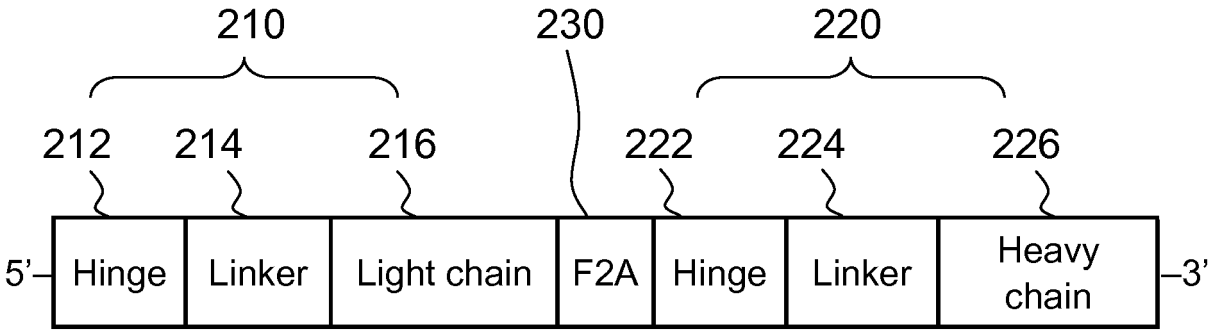

210
230
220
212
214
216
222
224
226
5'
Hinge
Linker
Light chain
F2A
Hinge
Linker
Heavy chain
3'

FIG. 3

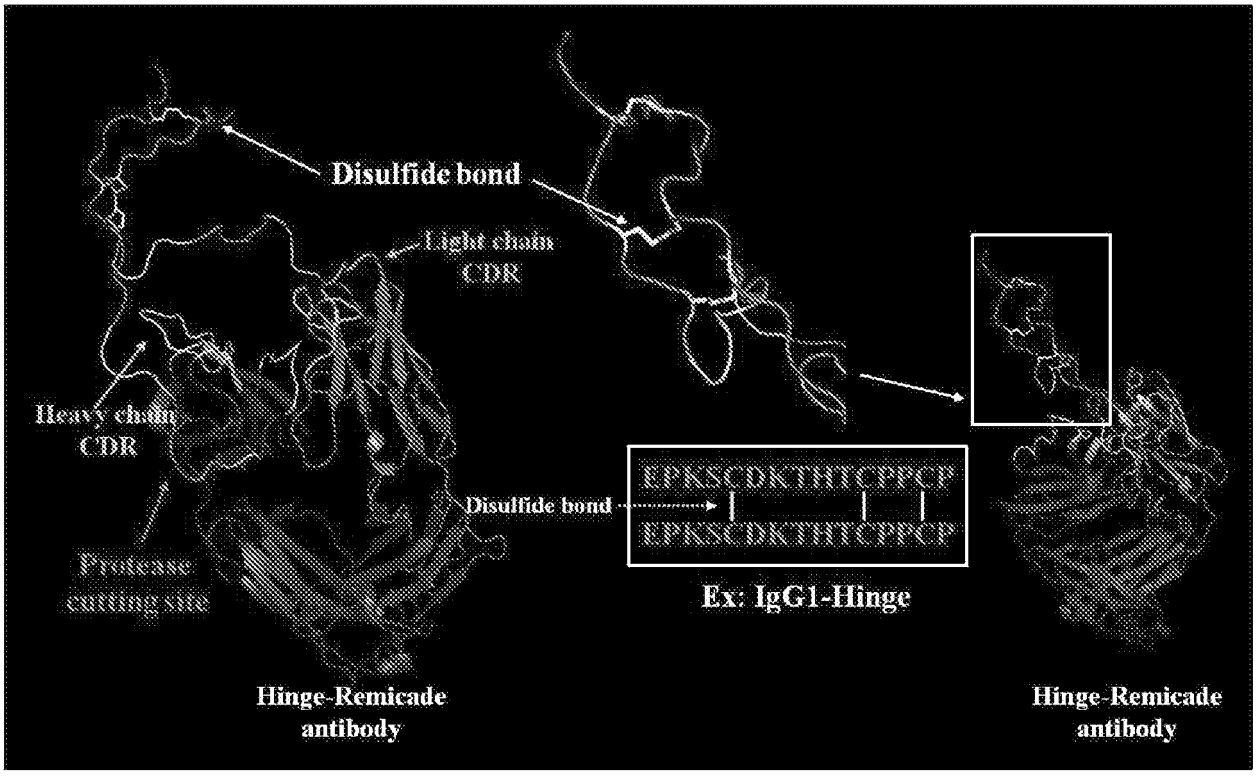

Disulfide bond
Light chain CDR
Heavy chain CDR
Protease cutting site
Disulfide bond
EPKSCDKTHTCPPCP
EPKSCDKTHTCPPCP
Ex: IgG1-Hinge
Hinge-Remicade antibody
Hinge-Remicade antibody

FIG. 4

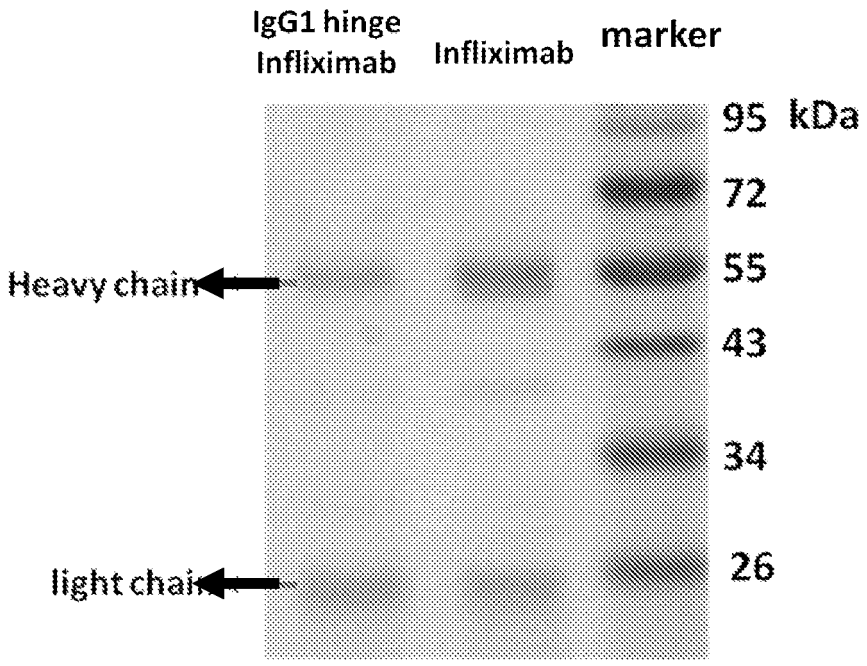

IgG1 hinge Infliximab
Infliximab
marker
95 kDa
72
55
43
34
26
Heavy chain
light chain

FIG. 5

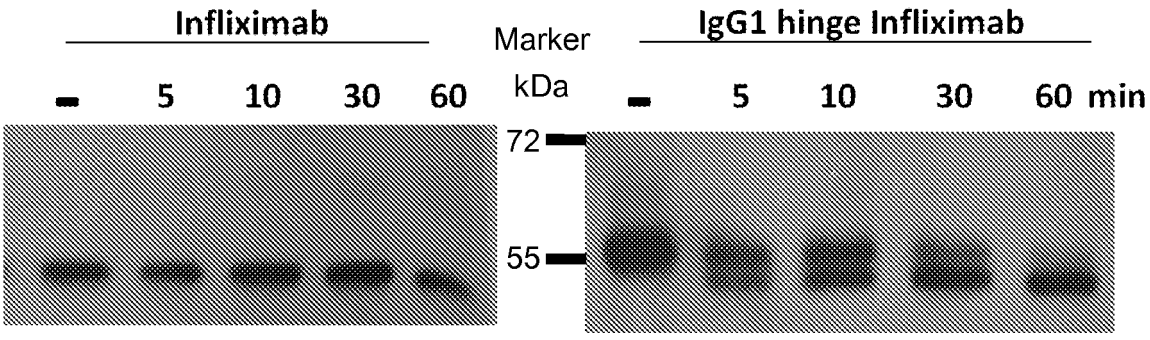

Infliximab
Marker
kDa
IgG1 hinge Infliximab
- 5 10 30 60
- 5 10 30 60 min
72
55

FIG. 6

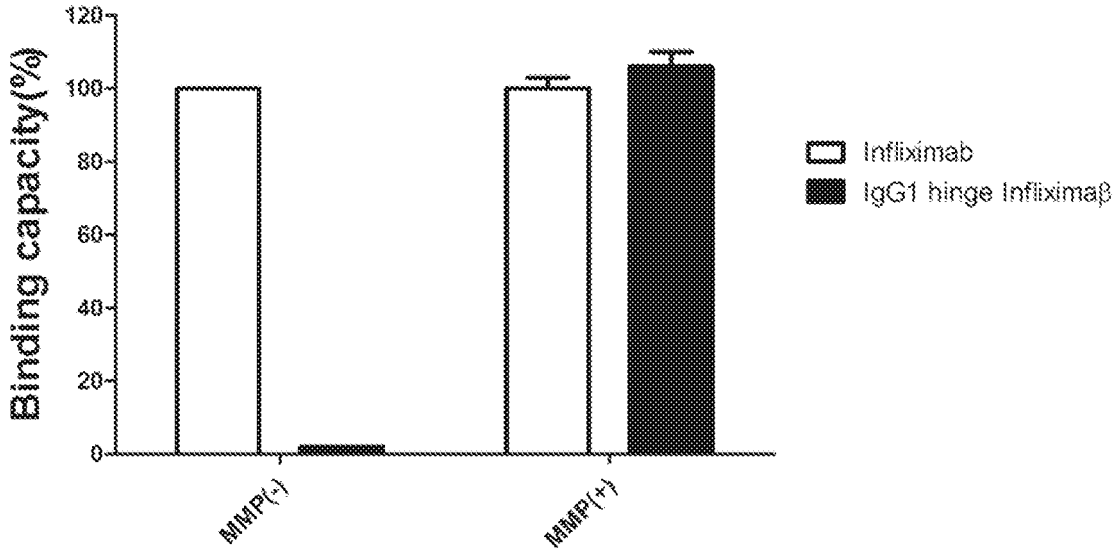

Binding capacity(%)
120
100
80
60
40
20
0
MMP(-)
MMP(+)
Infliximab
IgG1 hinge Infliximaβ

FIG. 7

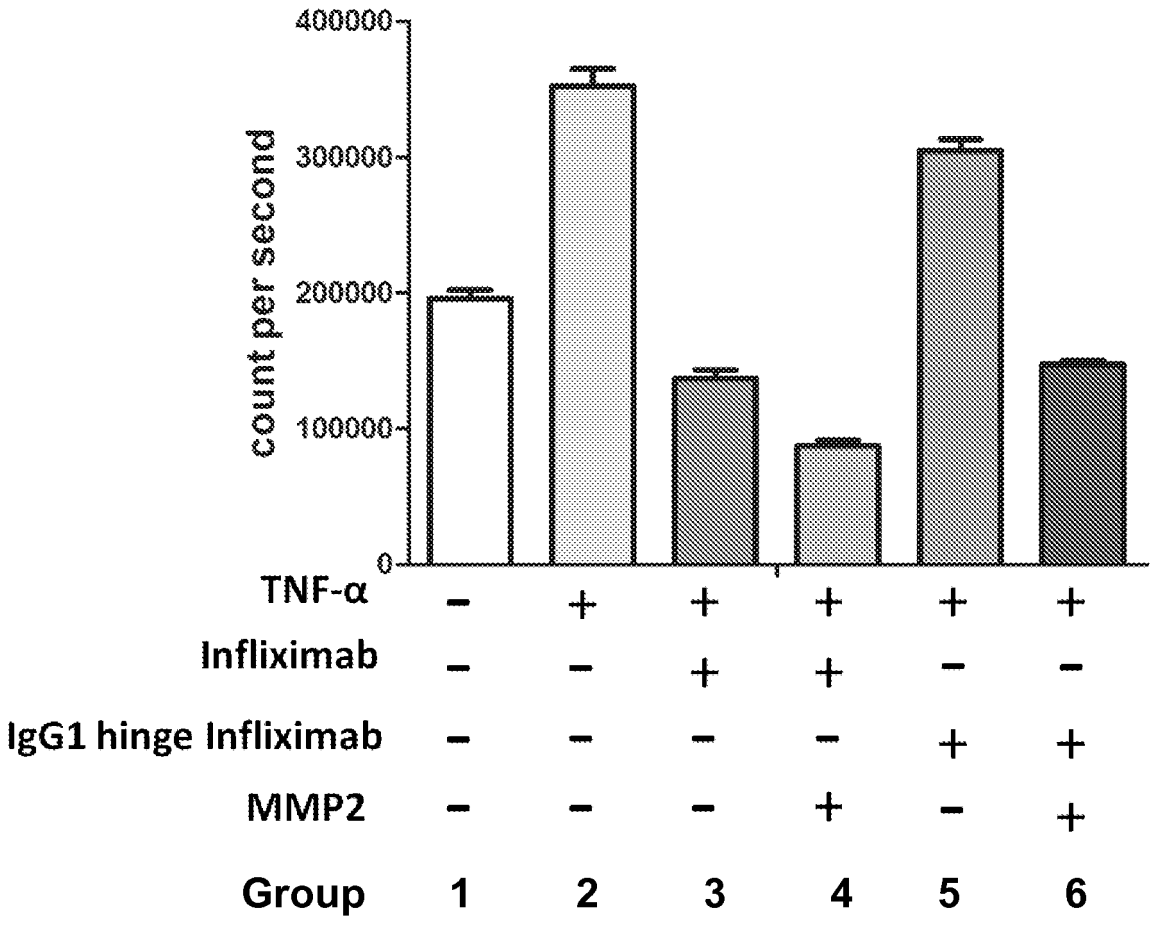

count per second
400000
300000
200000
100000
0
TNF-α - + + + + +
Infliximab - - + + - -
IgG1 hinge Infliximab - - - - + +
MMP2 - - - + - +
Group 1 2 3 4 5 6

FIG. 8

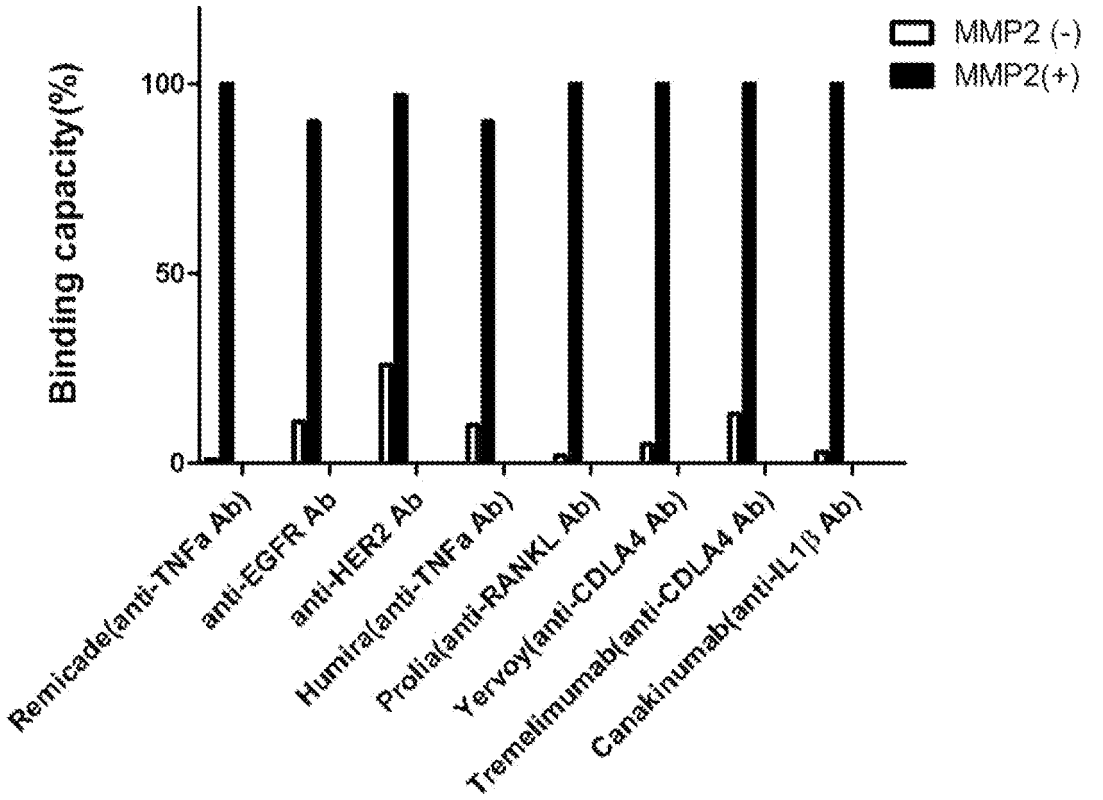

MMP2 (-)
MMP2(+)
Binding capacity(%)
100
50
0
Remicade(anti-TNFa Ab)
anti-EGFR Ab
anti-HER2 Ab
Humira(anti-TNFa Ab)
Prolia(anti-RANKL Ab)
Yervoy(anti-CDLA4 Ab)
Tremelimumab(anti-CDLA4 Ab)
Canakinumab(anti-IL1β Ab)

FIG. 9

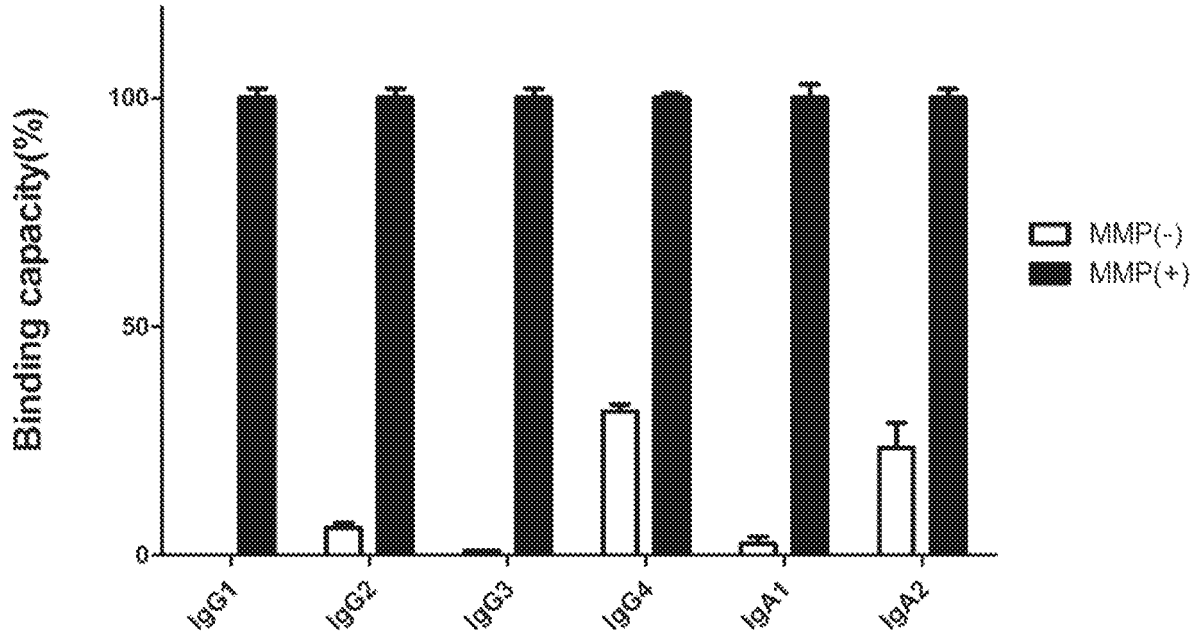

Binding capacity(%)
100
50
0
MMP(-)
MMP(+)
IgG1
IgG2
IgG3
IgG4
IgA1
IgA2

FIG. 10

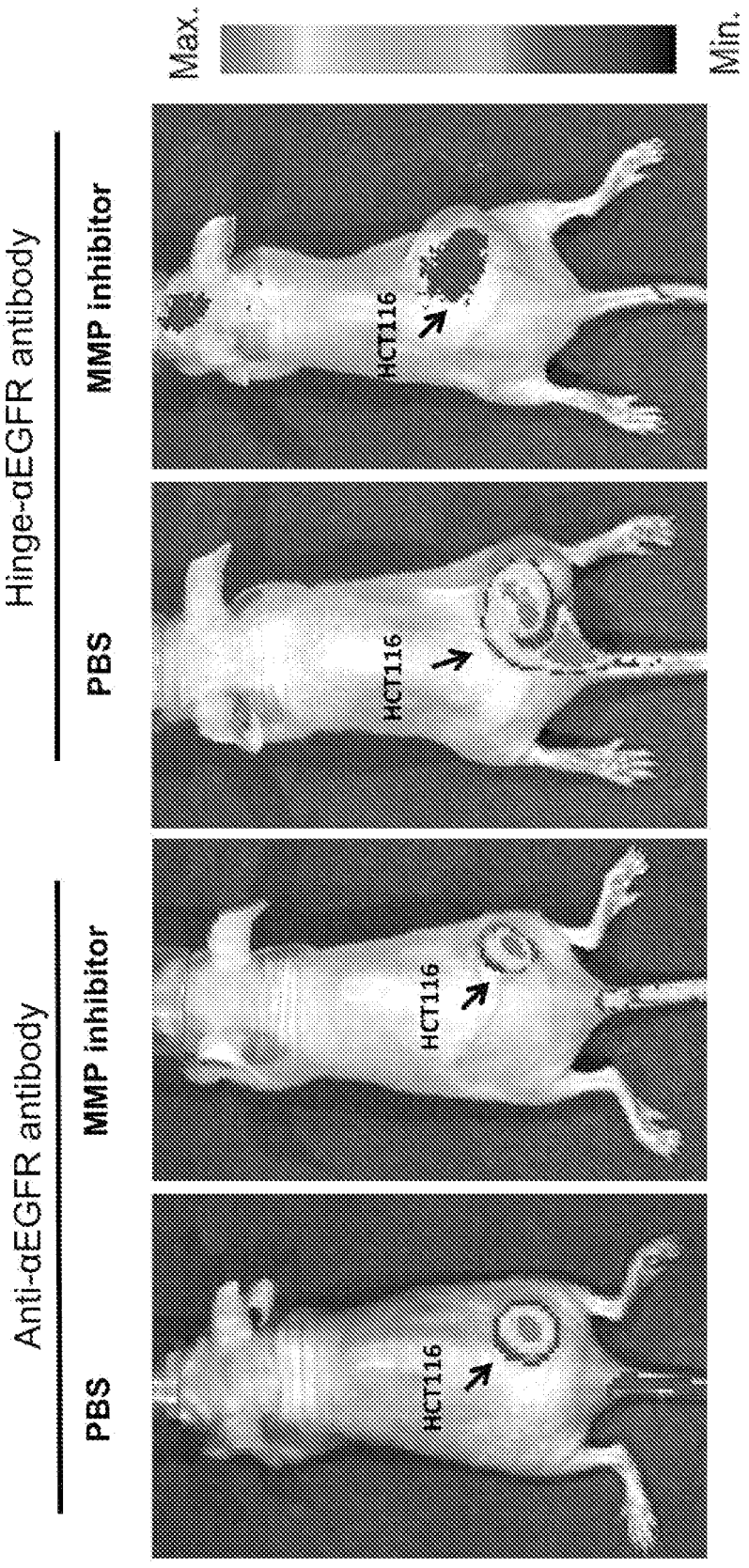

Max.
Min.
Anti-αEGFR antibody
Hinge-αEGFR antibody
PBS
MMP inhibitor
PBS
MMP inhibitor
HCT116
HCT116
HCT116
HCT116

FIG. 11

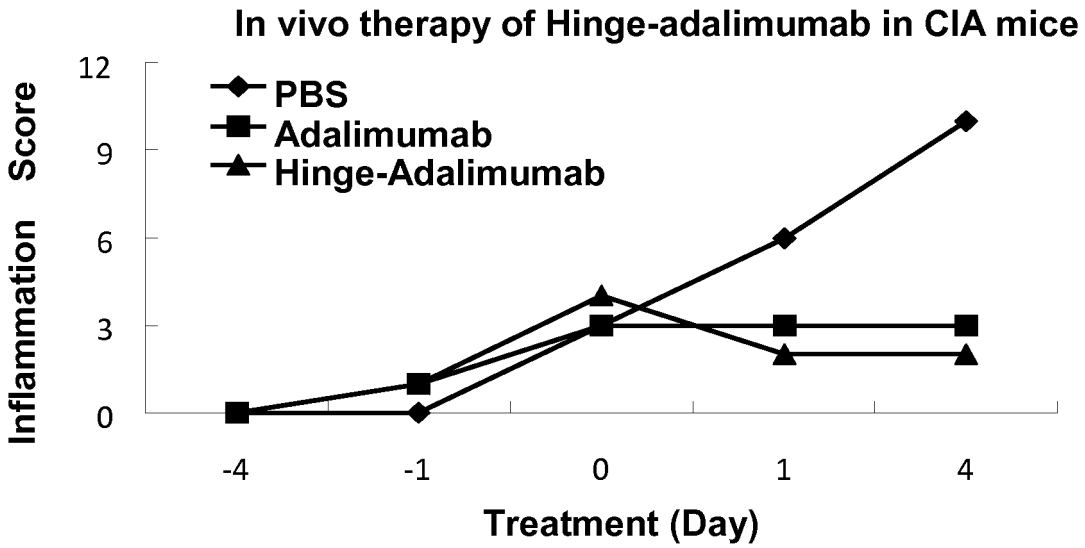

In vivo therapy of Hinge-adalimumab in CIA mice
Inflammation Score
12
9
6
3
0
PBS
Adalimumab
Hinge-Adalimumab
-4
-1
0
1
4
Treatment (Day)

FIG. 12