Figure 1.

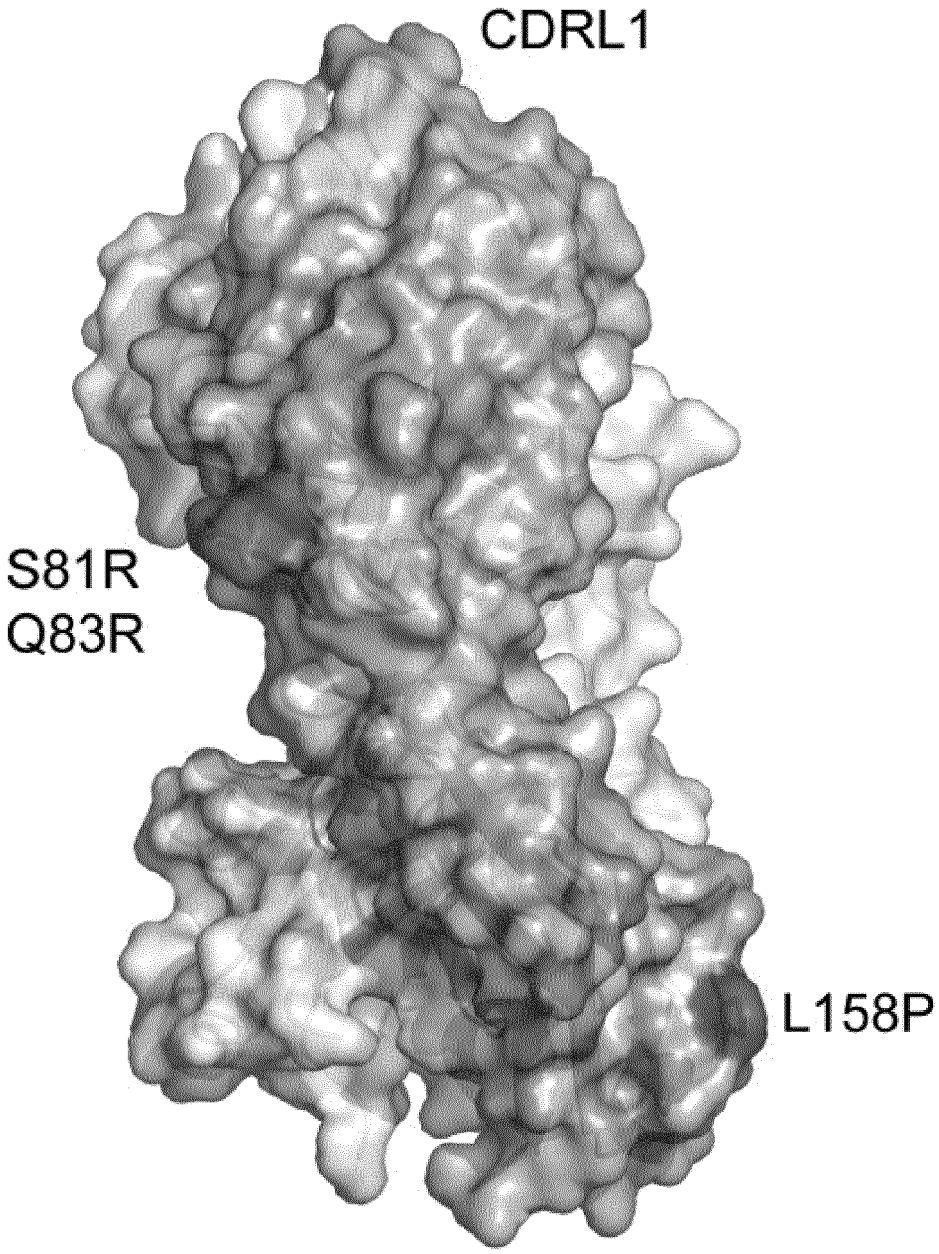


Figure 2.

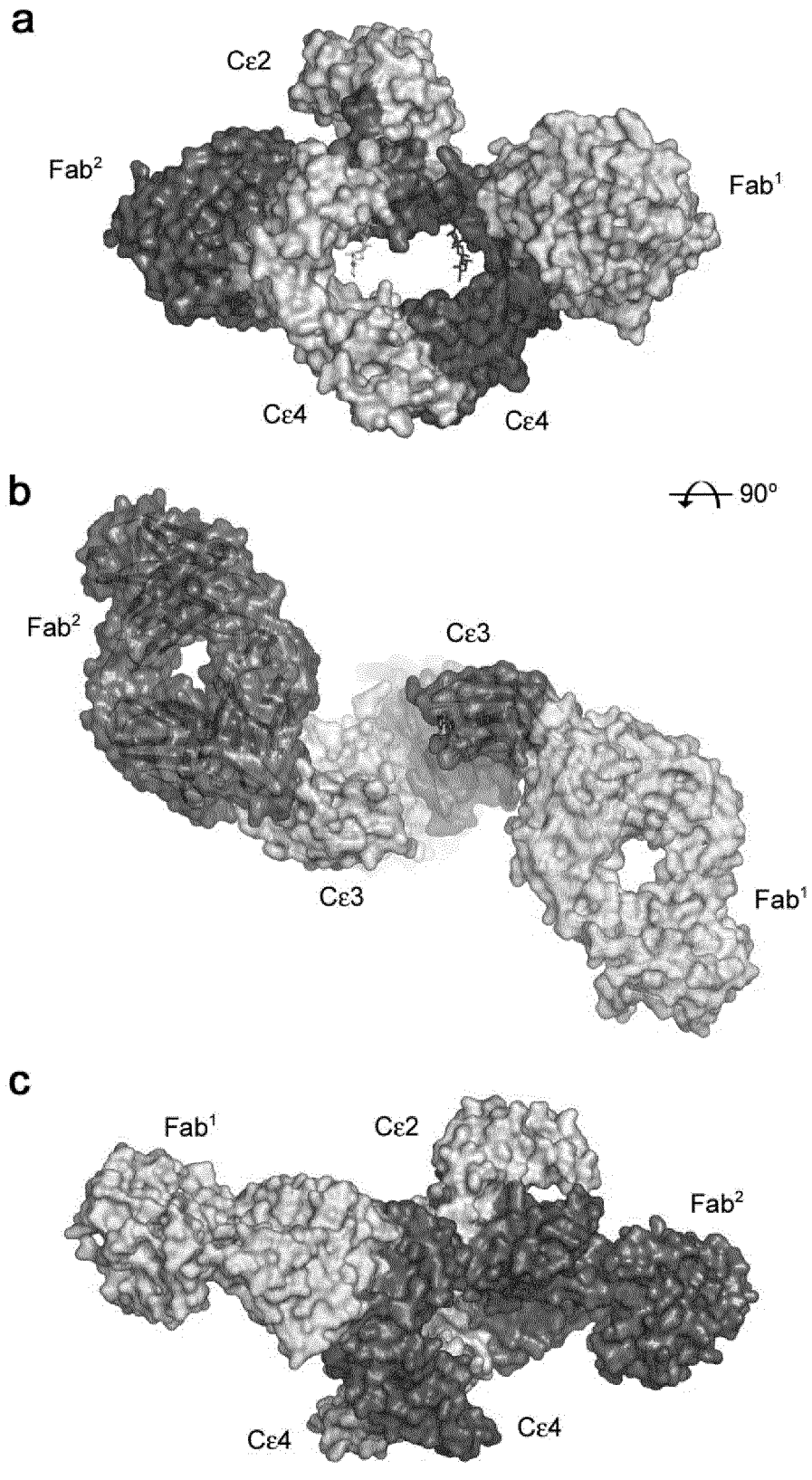

a
Cε2
Fab2
Fab1
Cε4
Cε4
b
90°
Fab2
Cε3
Cε3
Fab1
c
Fab1
Cε2
Fab2
Cε4
Cε4

Figure 3.

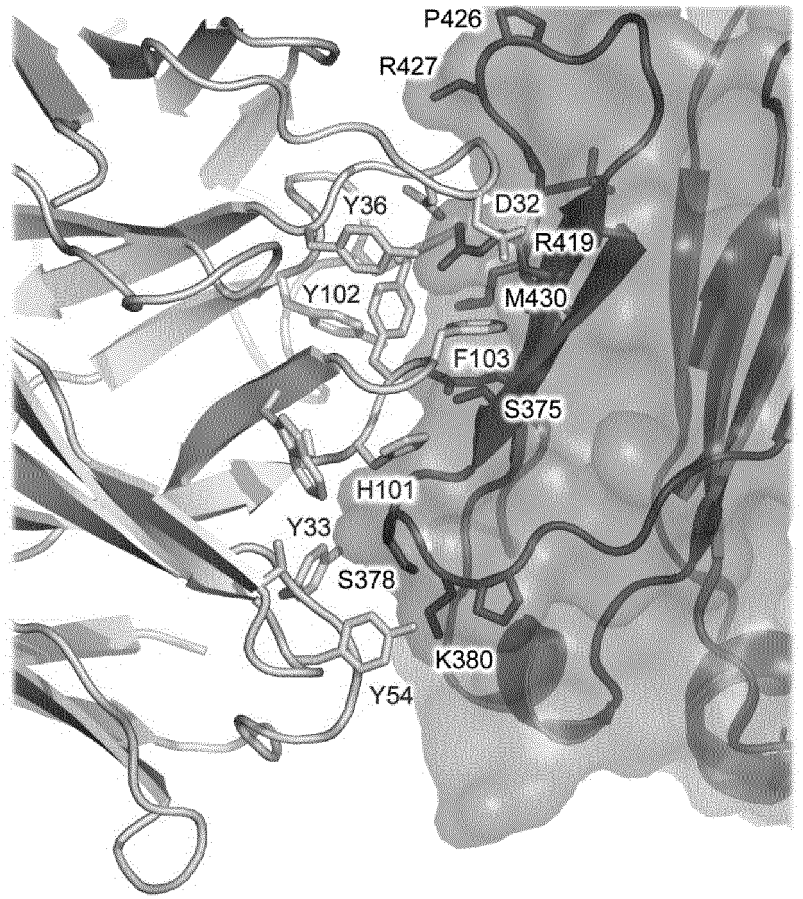

P426
R427
Y36
D32
R419
Y102
M430
F103
S375
H101
Y33
S378
K380
Y54

Figure 4.

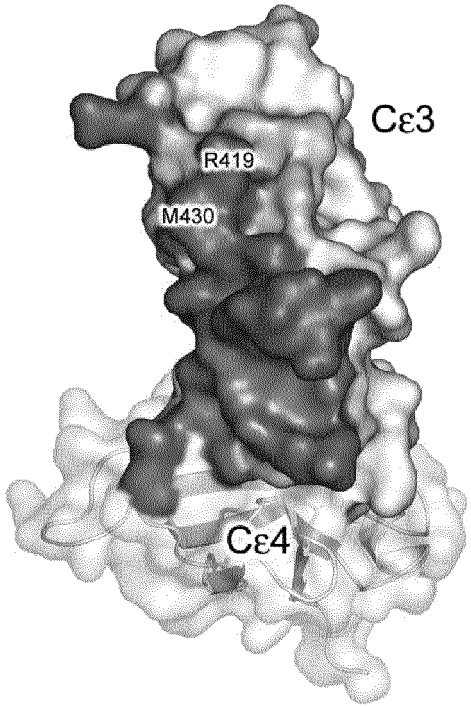


Figure 5.

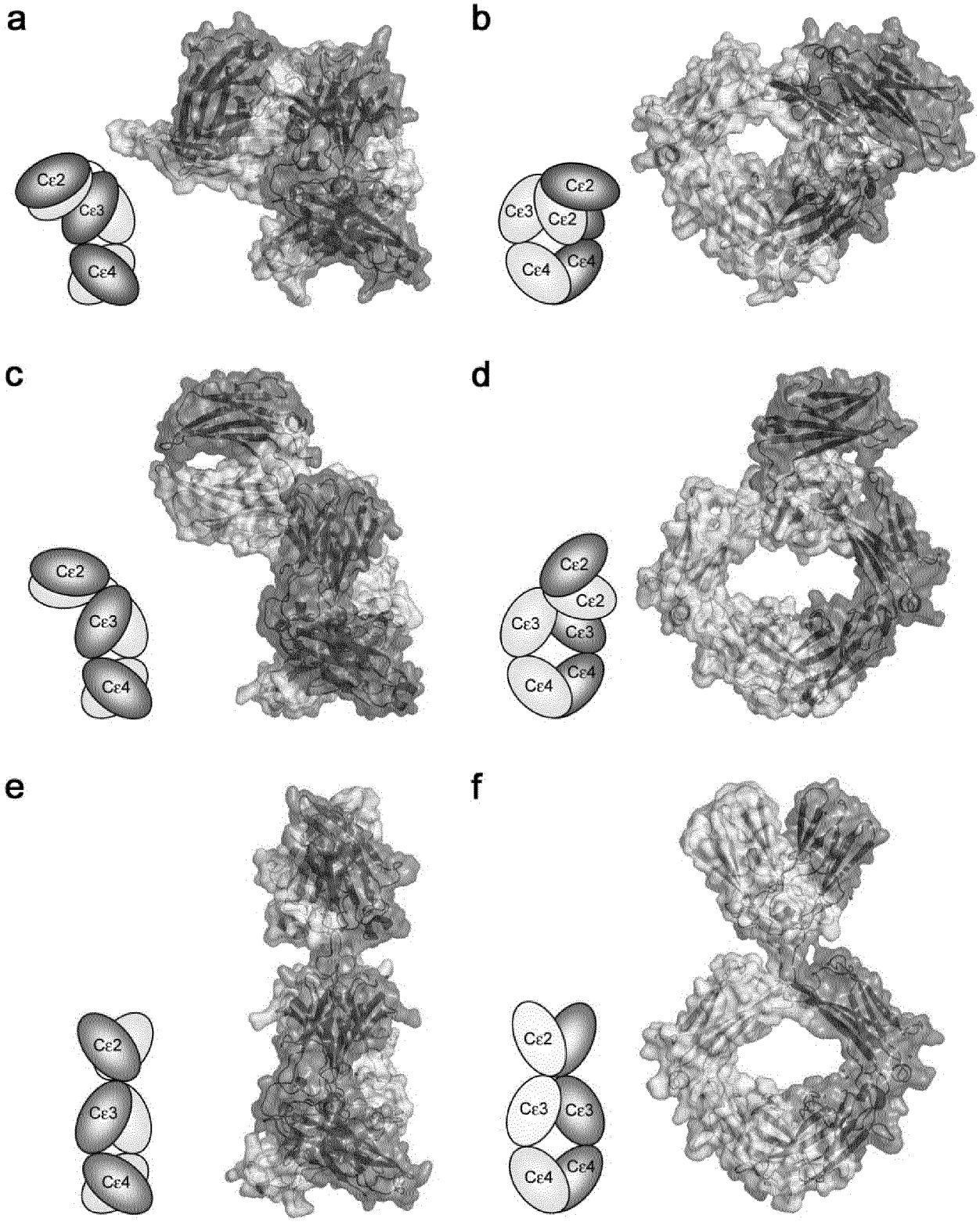

a
Cε2
Cε3
Cε4
b
Cε2
Cε3
Cε2
Cε4
Cε4
c
Cε2
Cε3
Cε4
d
Cε2
Cε2
Cε3
Cε3
Cε4
e
Cε2
Cε3
Cε4
f
Cε2
Cε3
Cε3
Cε4
Cε4

Figure 6.

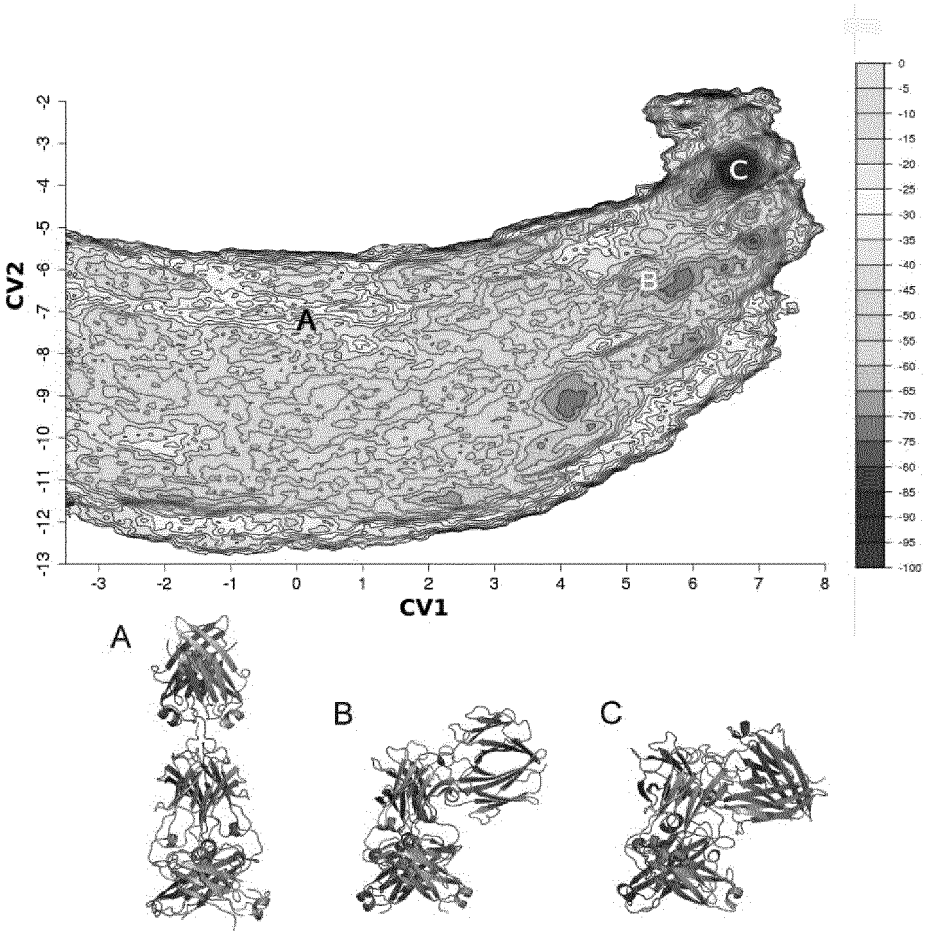


Figure 7.

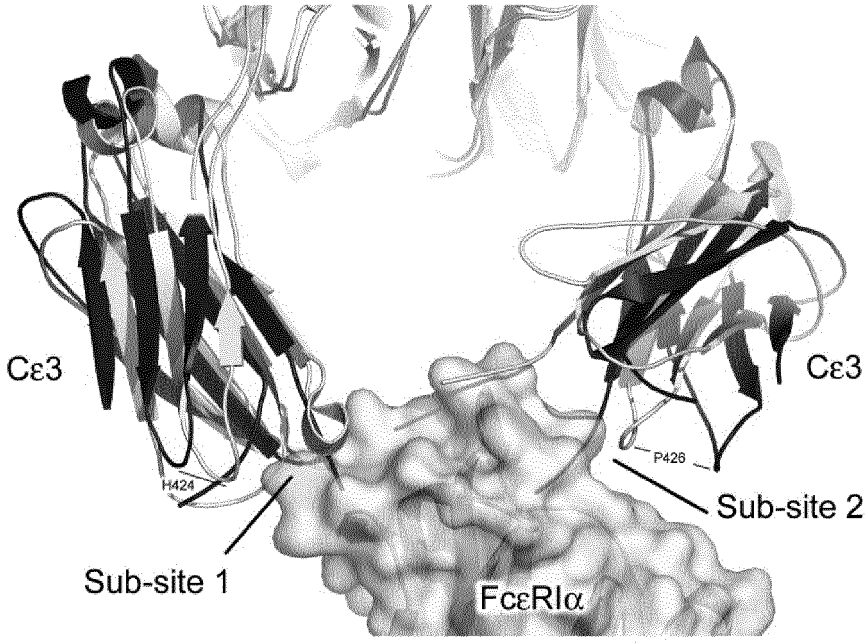


Figure 8.

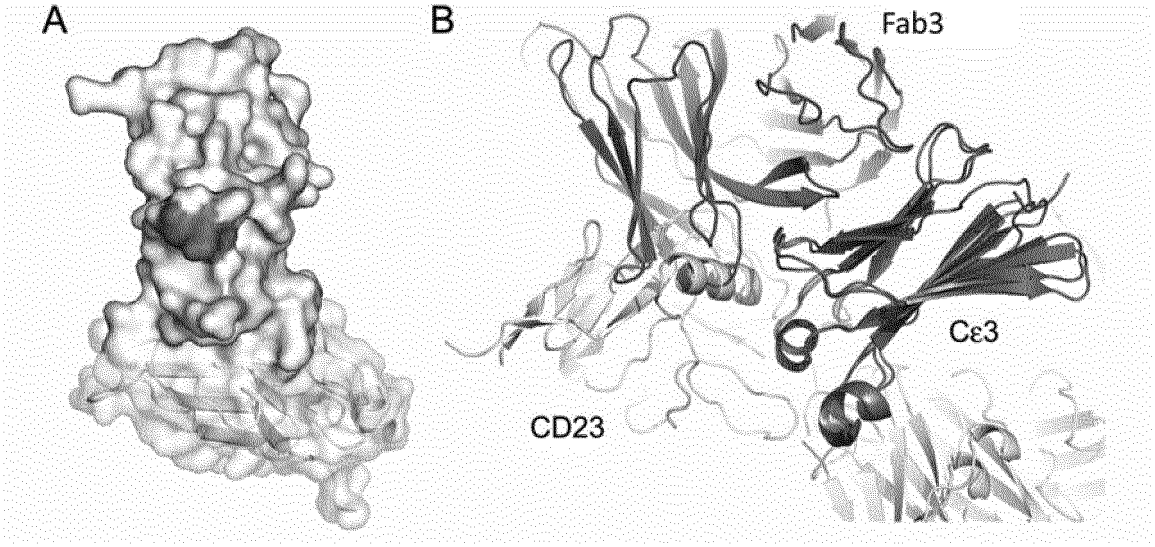


Figure 9.

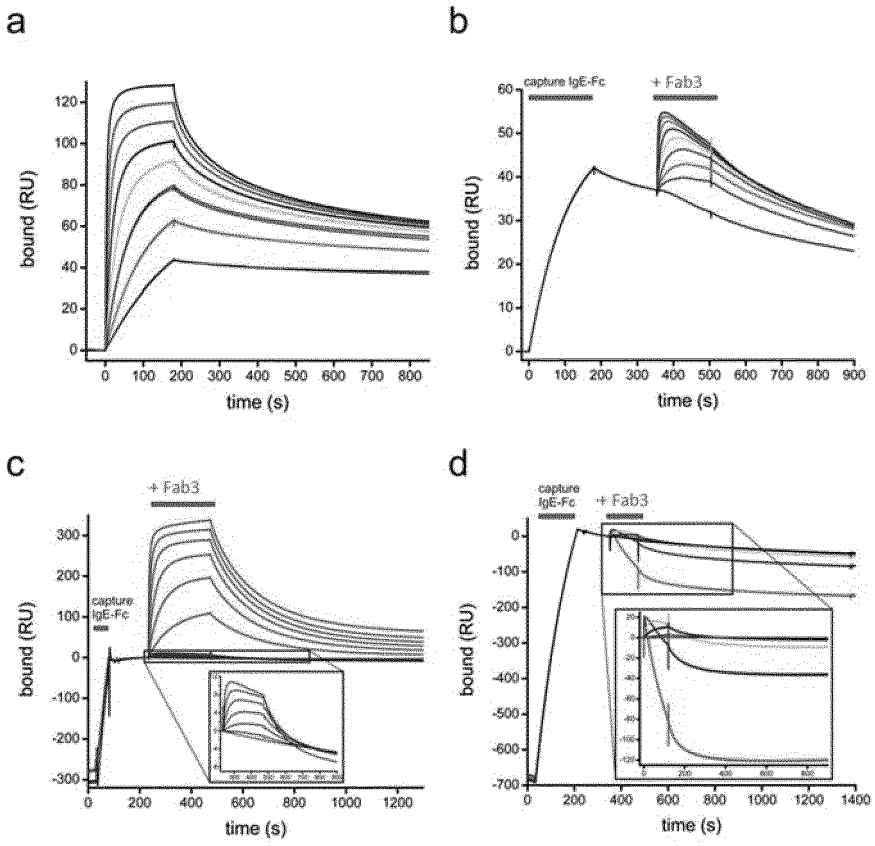


Figure 10.

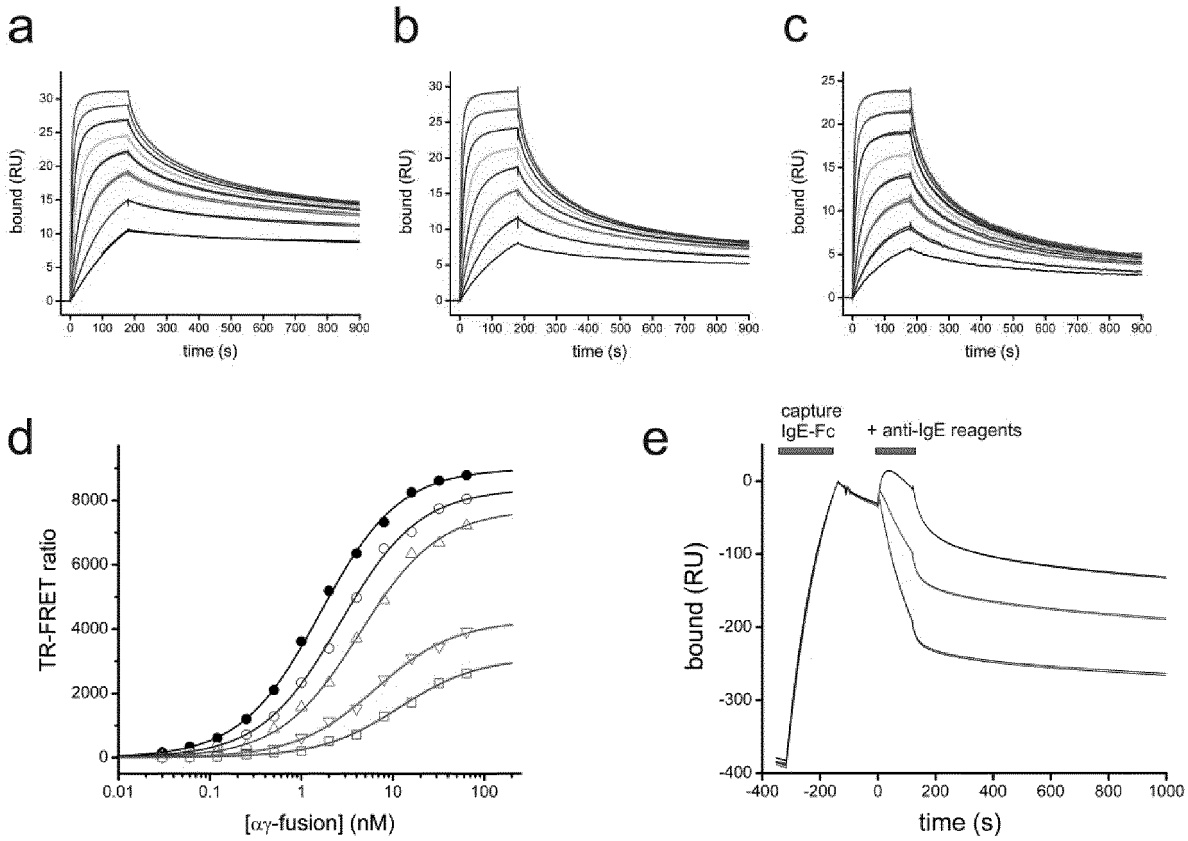

a
b
c
bound (RU)
time (s)
d
TR-FRET ratio
[αγ-fusion] (nM)
e
capture
IgE-Fc
+ anti-IgE reagents
bound (RU)
time (s)

Figure 11.

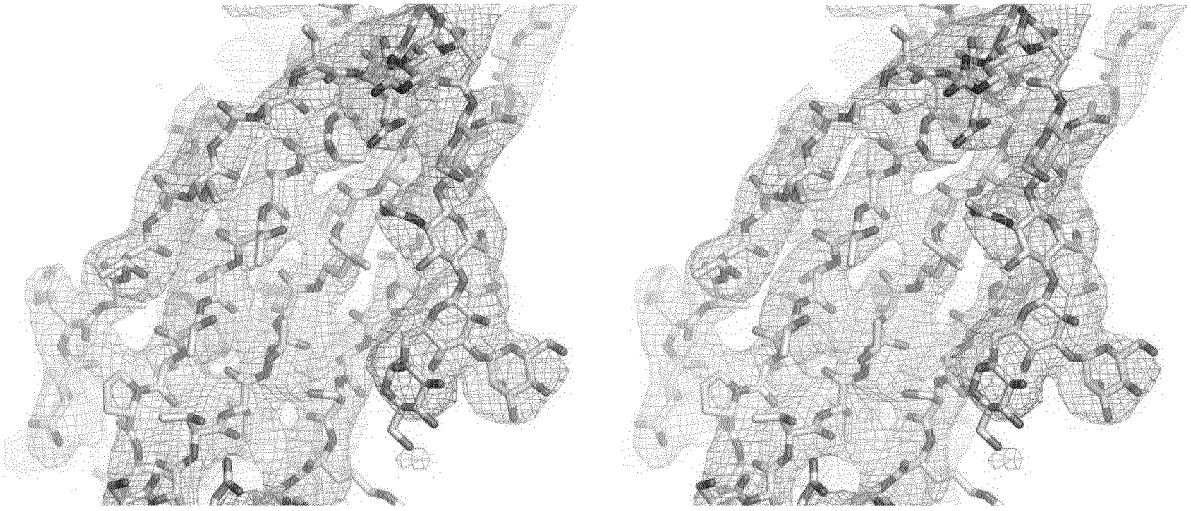


Figure 12

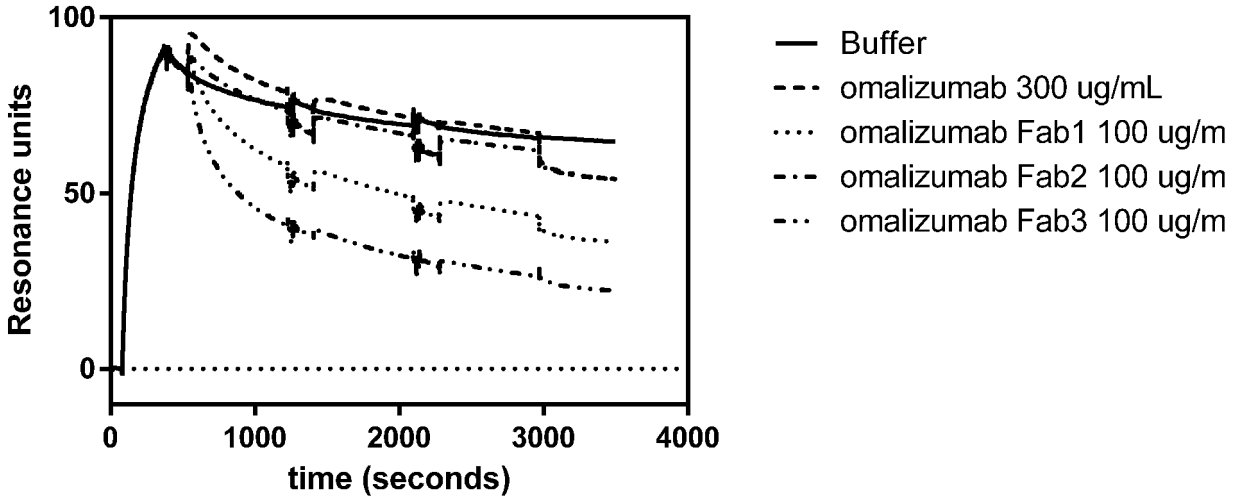

100
50
0
Resonance units
0
1000
2000
3000
4000
time (seconds)
Buffer
omalizumab 300 ug/mL
omalizumab Fab1 100 ug/m
omalizumab Fab2 100 ug/m
omalizumab Fab3 100 ug/m

Figure 13

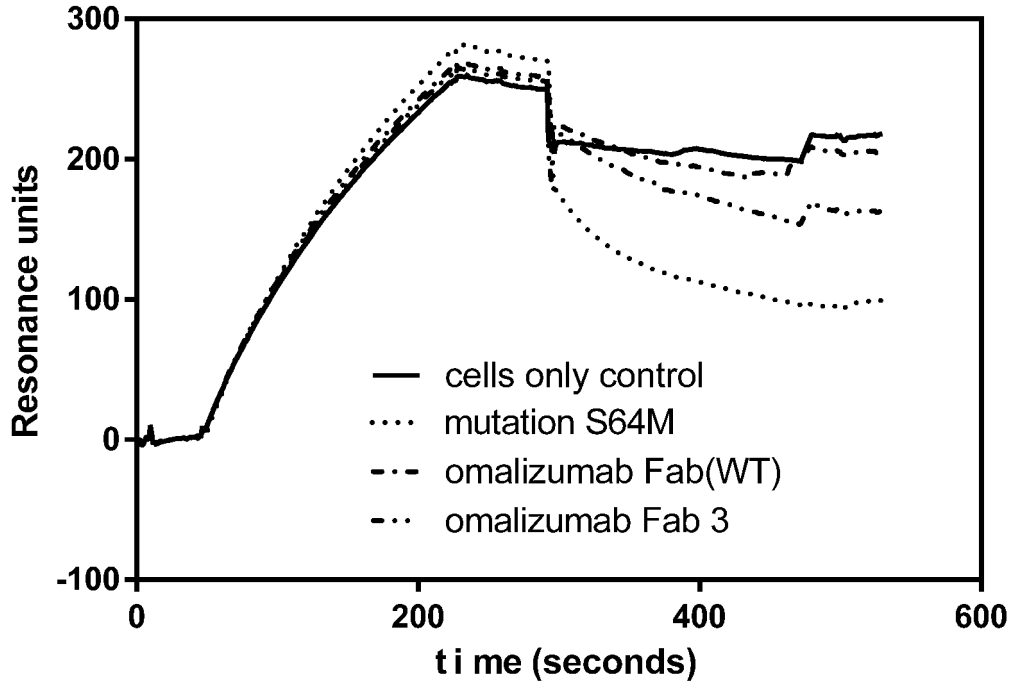

300
200
100
0
-100
Resonance units
0
200
400
600
time (seconds)
cells only control
mutation S64M
omalizumab Fab(WT)
omalizumab Fab 3

Figure 14

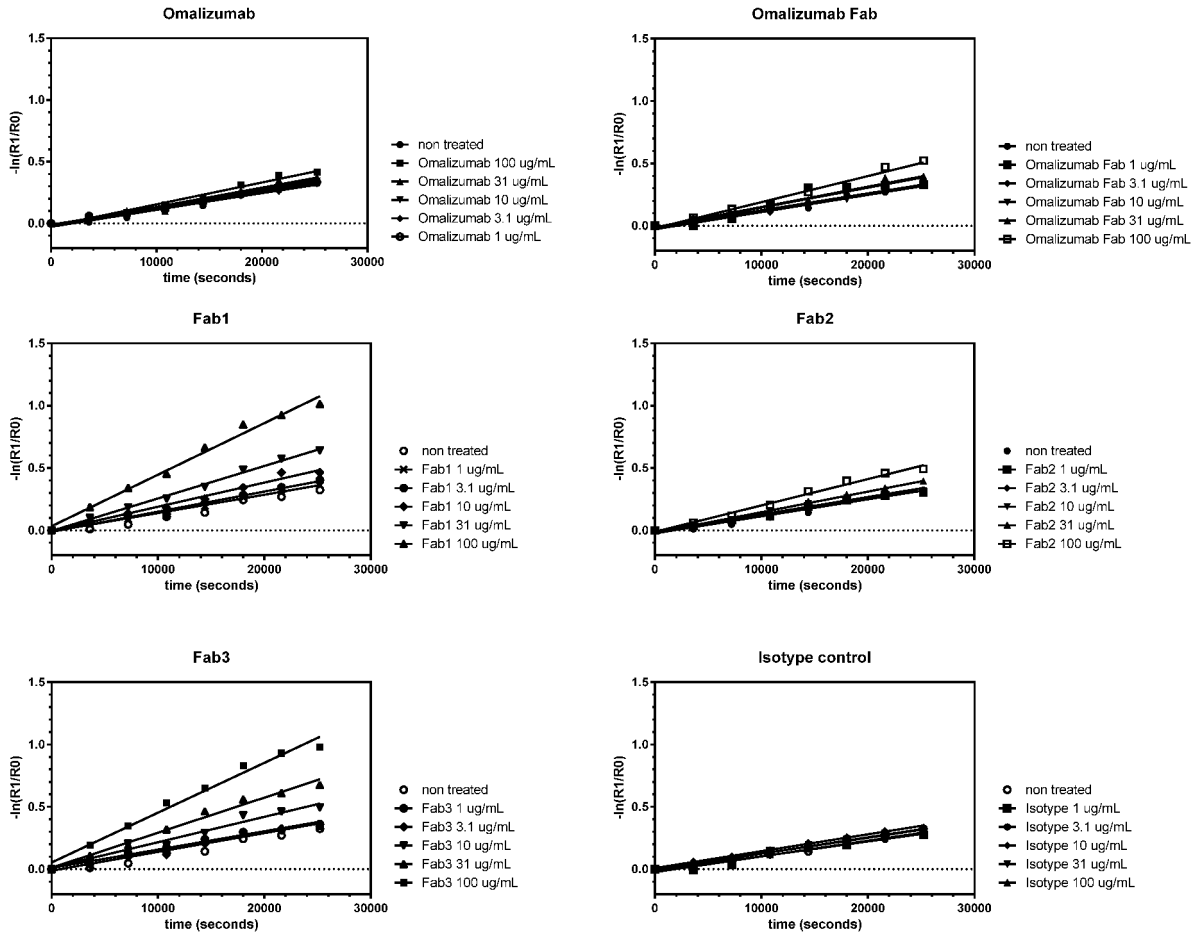
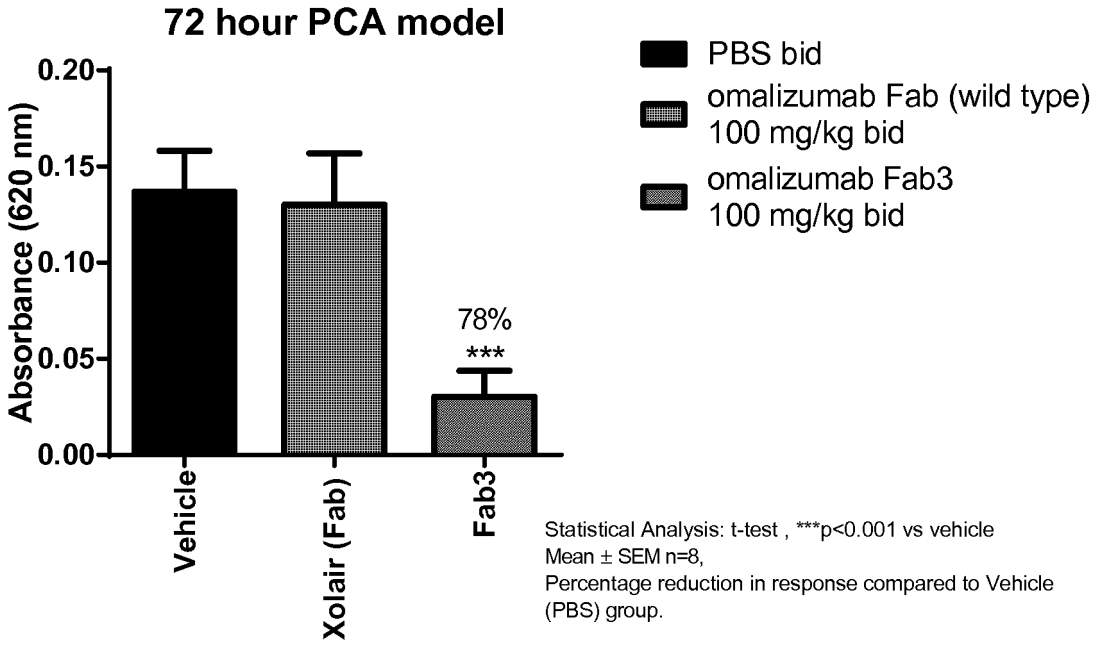

Omalizumab
-ln(R1/R0)
time (seconds)
non treated
Omalizumab 100 ug/mL
Omalizumab 31 ug/mL
Omalizumab 10 ug/mL
Omalizumab 3.1 ug/mL
Omalizumab 1 ug/mL
Omalizumab Fab
non treated
Omalizumab Fab 1 ug/mL
Omalizumab Fab 3.1 ug/mL
Omalizumab Fab 10 ug/mL
Omalizumab Fab 31 ug/mL
Omalizumab Fab 100 ug/mL
Fab1
non treated
Fab1 1 ug/mL
Fab1 3.1 ug/mL
Fab1 10 ug/mL
Fab1 31 ug/mL
Fab1 100 ug/mL
Fab2
non treated
Fab2 1 ug/mL
Fab2 3.1 ug/mL
Fab2 10 ug/mL
Fab2 31 ug/mL
Fab2 100 ug/mL
Fab3
non treated
Fab3 1 ug/mL
Fab3 3.1 ug/mL
Fab3 10 ug/mL
Fab3 31 ug/mL
Fab3 100 ug/mL
Isotype control
non treated
Isotype 1 ug/mL
Isotype 3.1 ug/mL
Isotype 10 ug/mL
Isotype 31 ug/mL
Isotype 100 ug/mL

Figure 15



Statistical Analysis: t-test , ***p<0.001 vs vehicle
Mean ± SEM n=8,
Percentage reduction in response compared to Vehicle (PBS) group.

Figure 16.

SEQ ID NO: 108

224
VASRDFTPPT VKILQSSCDG GGHFPPTIQL LCLVSGYTPG TINITWLEDG QVMDVDLSTA
****
STTQEGELAS TQSELTLSQK HWLSDRTYTC QVTYQGHTFE DSTKKCADSN PRGVSAYLSR
*
PSPFDLFIRK SPTITCLVVD LAPSKGTVNL TWSRASGKPV NHSTRKEEKQ RNGTLTVTST
****
LPVGTRDWIE GETYQCRVTH PHLPRALMRS TTKTSGPRAA PEVYAFATPE WPGSRDKRTL
*** *** * *
ACLIQNFMPE DISVQWLHNE VQLPDARHST TQPRKTKGSG FFVFSRLEVT RAEWEQKDEF

ICRAVHEAAS PSQTVQRAVS VNPG**K**
547