FIG. 1

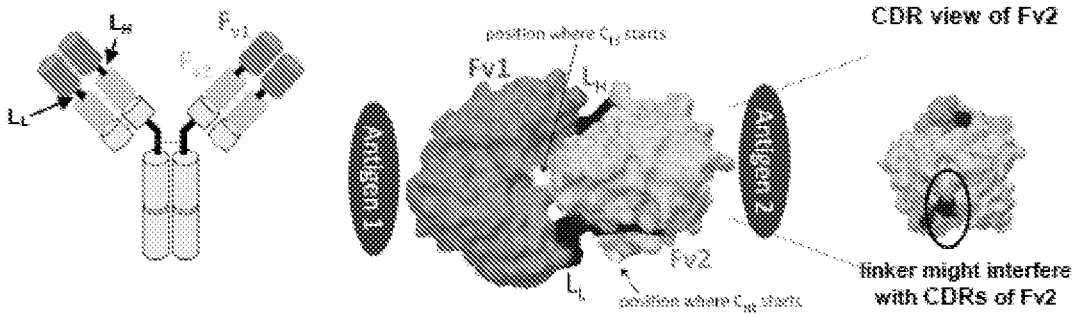

CDR view of Fv2
position where C_{H1} starts
Fv1
L_H
Antigen 1
Antigen 2
Fv2
L_L
position where C_H starts
linker might interfere
with CDRs of Fv2

FIG. 2

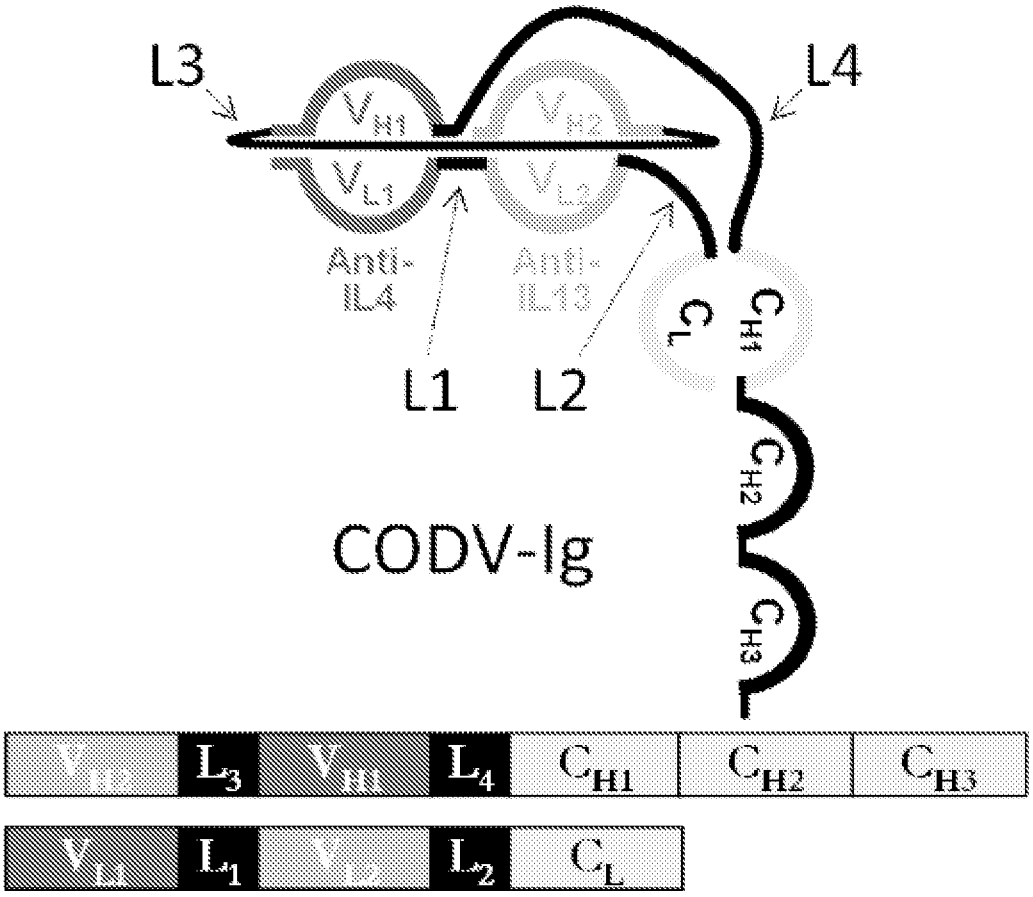

L3
L4
V_{H1}
V_{H2}
V_{L1}
V_{L2}
Anti-IL4
Anti-IL13
L1
L2
C_L
C_{H1}
C_{H2}
C_{H3}
CODV-Ig
V_{H2} L_3 V_{H1} L_4 C_{H1} C_{H2} C_{H3}
V_{L1} L_1 V_{L2} L_2 C_L

FIG. 3

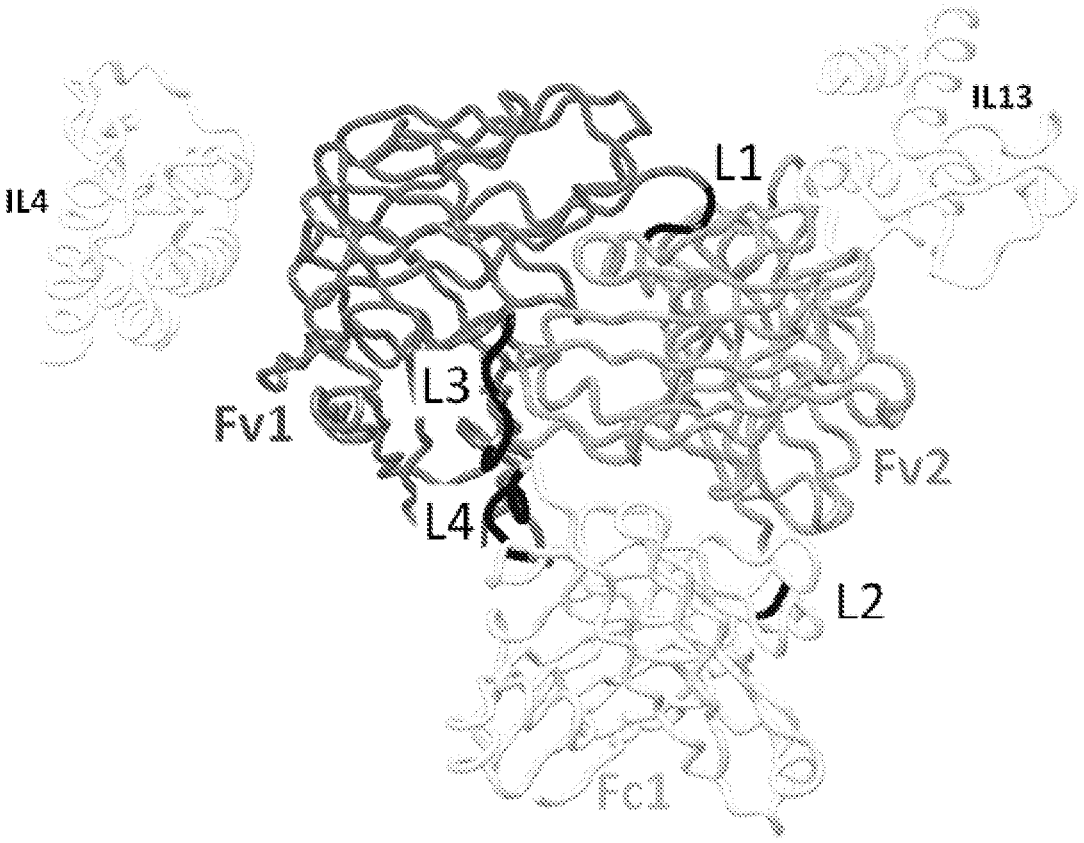


FIG. 4

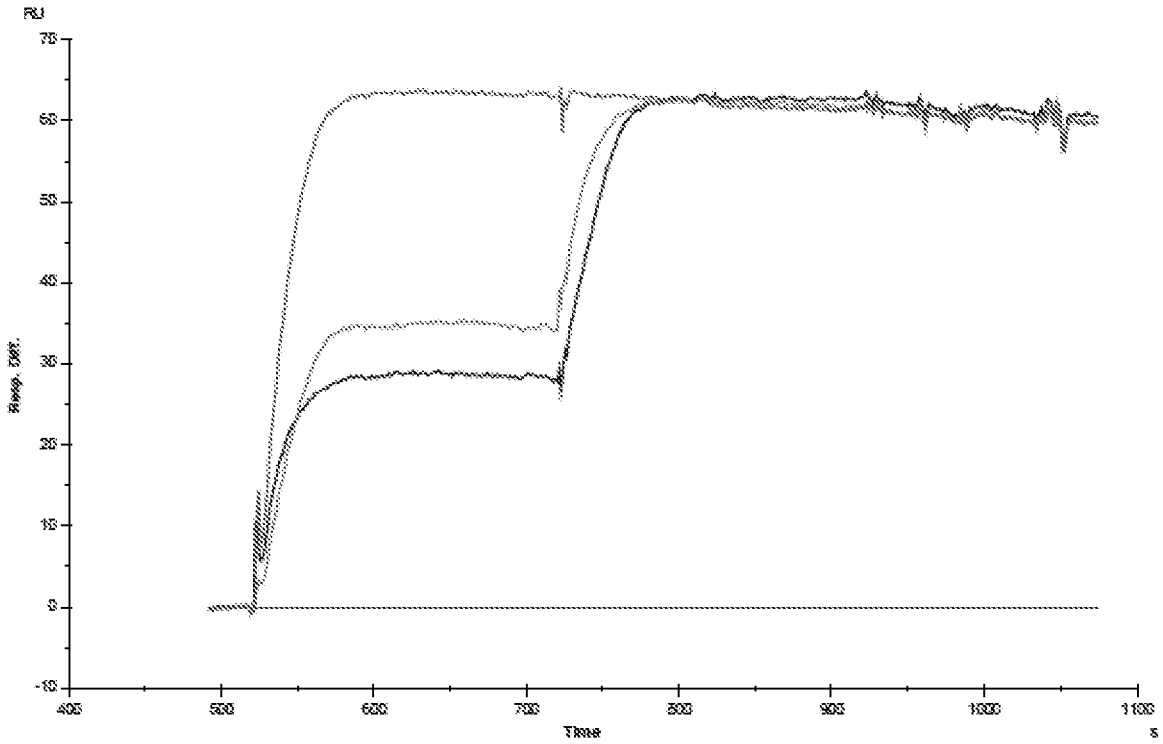


FIG. 5

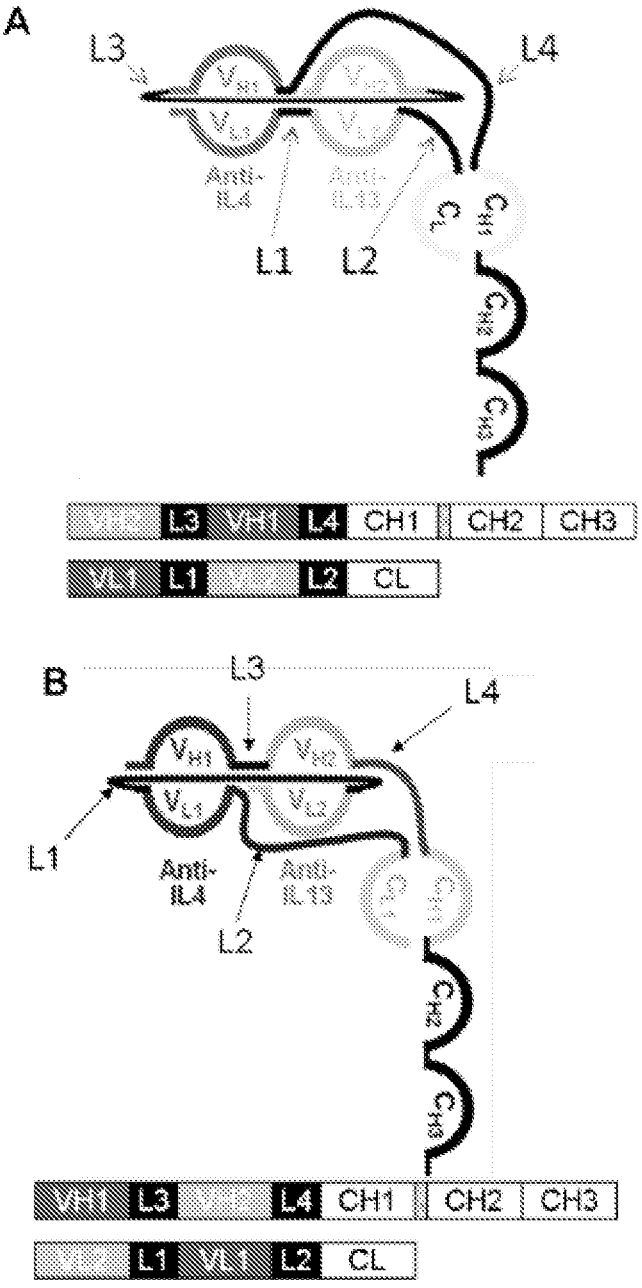

A
L3
L4
Anti-IL4
Anti-IL13
L1
L2
CH1
CH2
CH3
L3
L4
CH1
CH2
CH3
L1
L2
CL
B
L3
L4
L1
Anti-IL4
Anti-IL13
L2
CH1
CH2
CH3
L3
L4
CH1
CH2
CH3
L1
L2
CL

FIG. 6

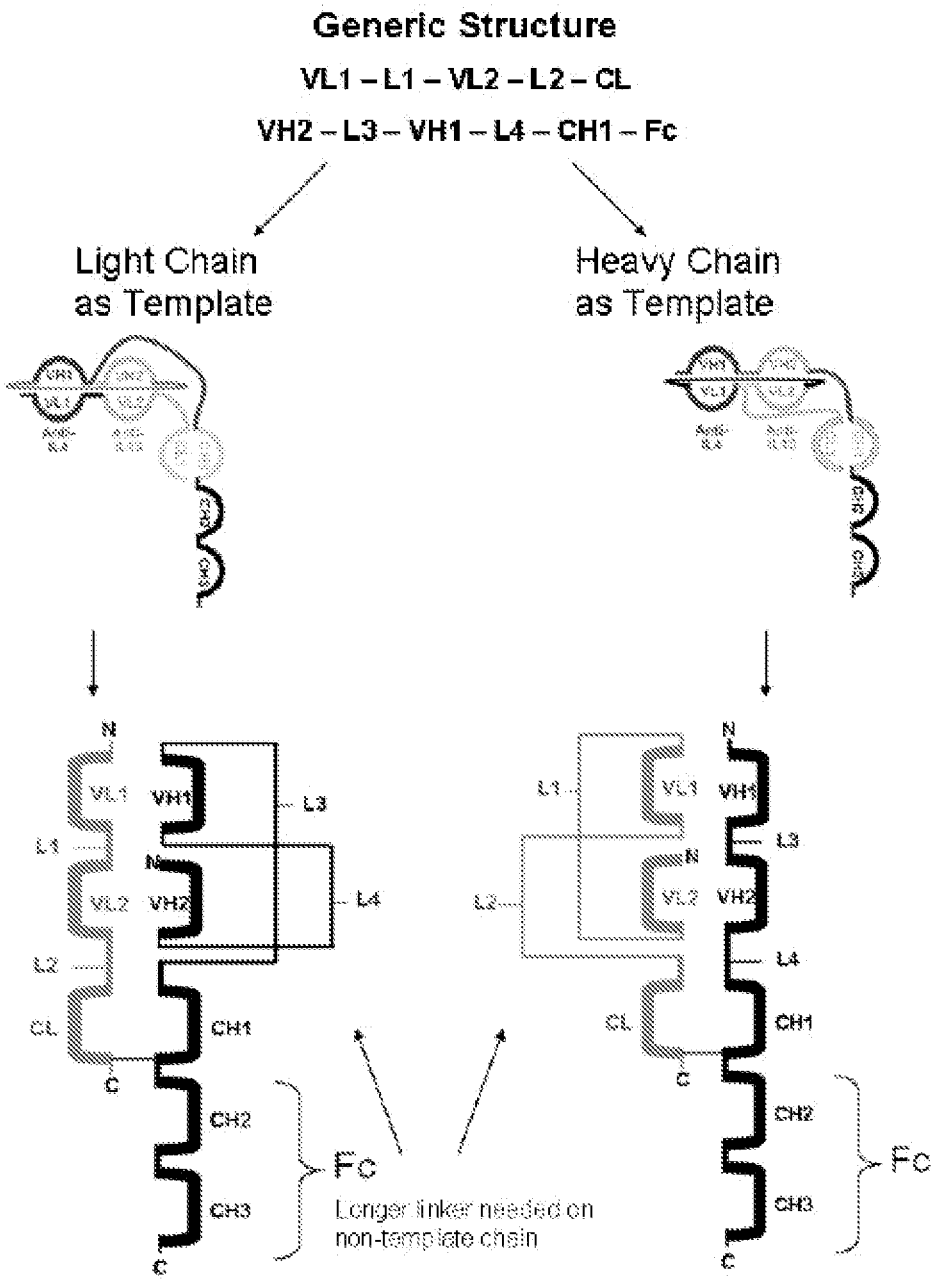
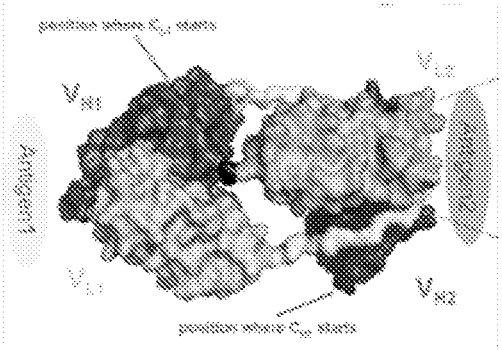
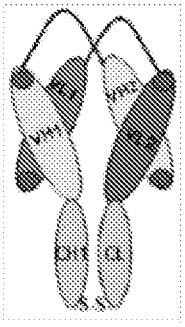
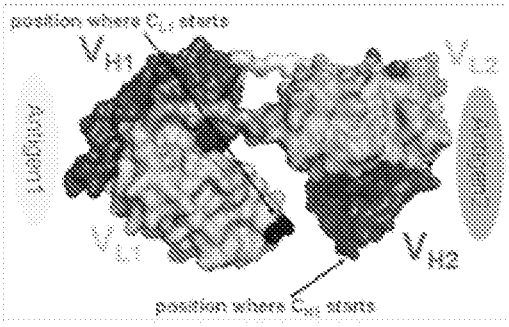

Generic Structure
VL1 – L1 – VL2 – L2 – CL
VH2 – L3 – VH1 – L4 – CH1 – Fc
Light Chain as Template
Heavy Chain as Template
N
VL1
VH1
L3
L1
VL2
VH2
L4
L2
CL
CH1
C
CH2
CH3
Fc
Longer linker needed on non-template chain

FIG. 7



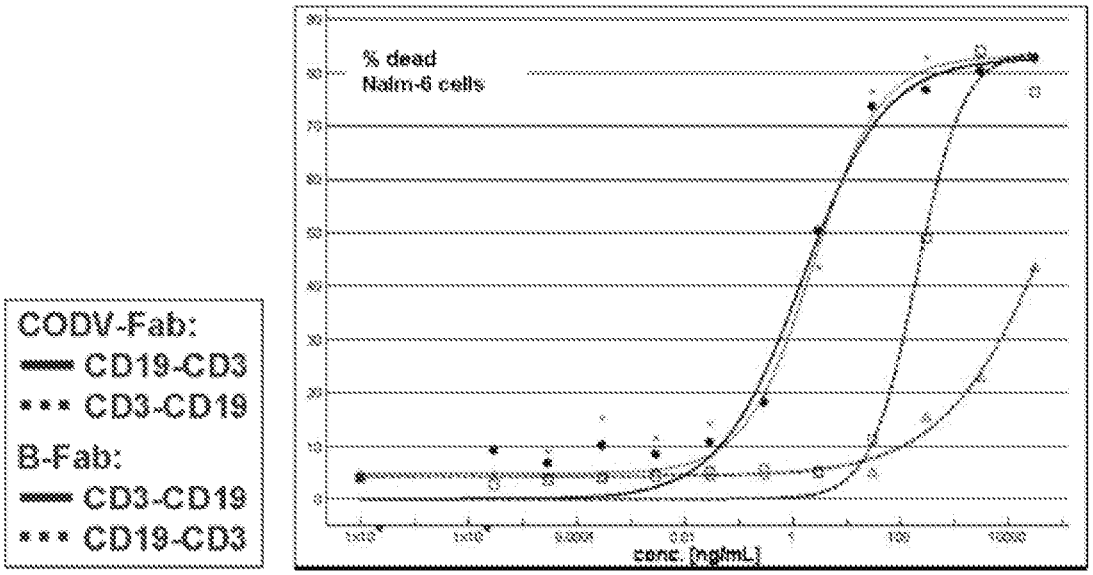
	On-rate [1/Ms]	Off-rate [1/s]	KD [M]
Parental anti-IL4 mAb	2.43E+07	1.95E-04	7.83E-12
Parental anti-IL13 mAb	1.69E+06	1.30E-04	9.19E-11
TBTI (IL4)	6.70E+06	1.50E-04	2.63E-11
TBTI (IL13)	3.29E+06	1.70E-04	5.18E-11





	On-rate [1/Ms]	Off-rate [1/s]	KD [M]
Parental anti-IL4 mAb	2.43E+07	1.95E-04	7.83E-12
Parental anti-IL13 mAb	1.69E+06	1.30E-04	9.19E-11
CODH (IL4)	3.16E+07	2.89E-04	9.14E-12
CODH (IL13)	1.20E+06	1.12E-04	9.34E-11

FIG. 8


% dead
Nalm-6 cells
conc. [ng/mL]
CODV-Fab:
CD19-CD3
CD3-CD19
B-Fab:
CD3-CD19
CD19-CD3