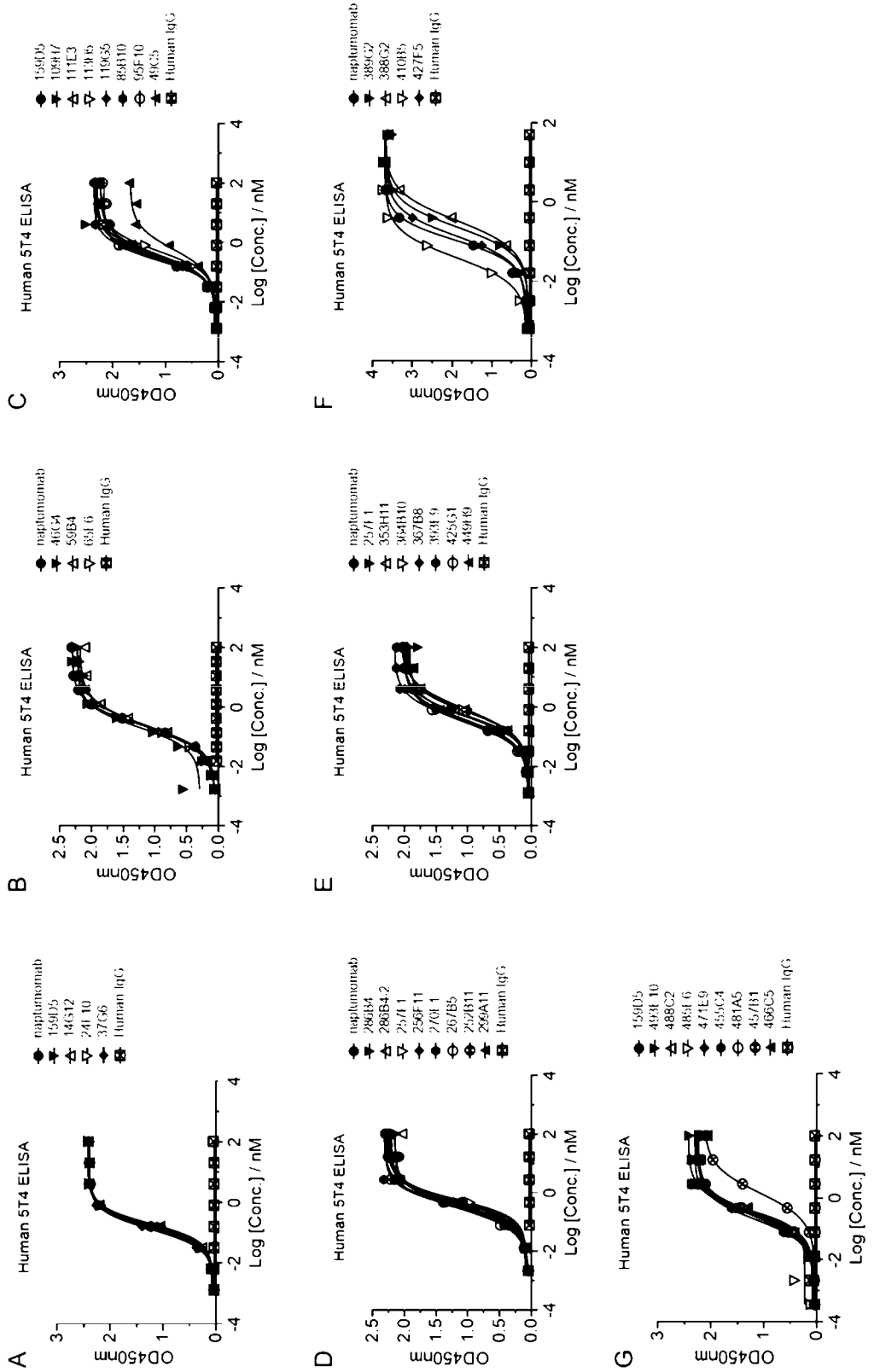

A
B
C
D
E
F
G
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
naptumomab
Human IgG

FIG. 1

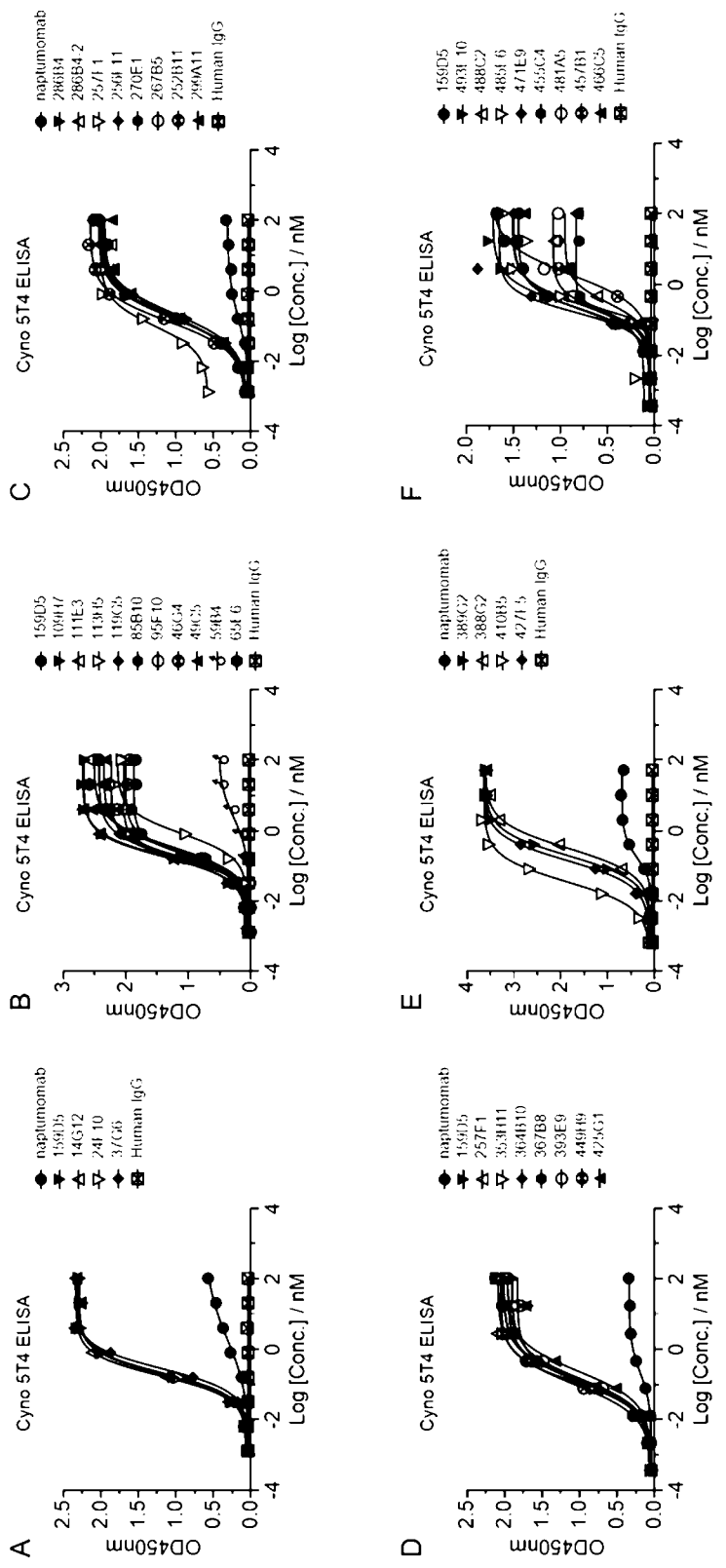

A
Cyno 5T4 ELISA
naptumomab
159D5
14G12
24F10
37G6
Human IgG
OD450nm
Log [Conc.] / nM
B
Cyno 5T4 ELISA
159D5
109H7
111E3
113H5
115G5
85B10
95F10
46G4
48C5
59B4
65F6
Human IgG
OD450nm
Log [Conc.] / nM
C
Cyno 5T4 ELISA
naptumomab
286B4
286B4-2
25F11
256F11
270E1
267B5
252B11
299A11
Human IgG
OD450nm
Log [Conc.] / nM
D
Cyno 5T4 ELISA
naptumomab
159D5
257F1
353H11
364B10
367B8
393E9
449H9
425G1
OD450nm
Log [Conc.] / nM
E
Cyno 5T4 ELISA
naptumomab
388G2
388G2
410B5
427F5
Human IgG
OD450nm
Log [Conc.] / nM
F
Cyno 5T4 ELISA
159D5
493F10
488G2
486F6
471E9
455G4
481A5
457B1
466G5
Human IgG
OD450nm
Log [Conc.] / nM

FIG. 2

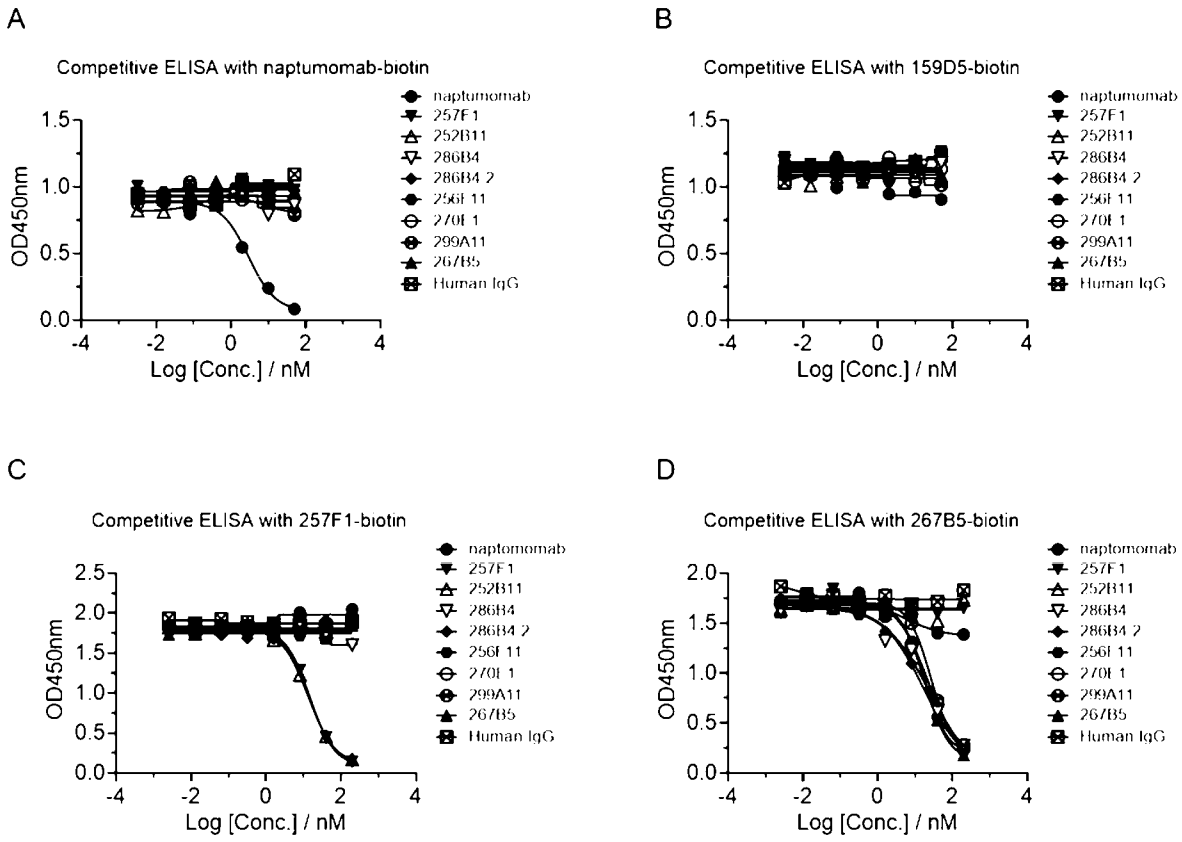

A
Competitive ELISA with naptumomab-biotin
OD450nm
Log [Conc.] / nM
B
Competitive ELISA with 159D5-biotin
OD450nm
Log [Conc.] / nM
C
Competitive ELISA with 257F1-biotin
OD450nm
Log [Conc.] / nM
D
Competitive ELISA with 267B5-biotin
OD450nm
Log [Conc.] / nM
naptumomab
257F1
252B11
286B4
286B4 2
256F 11
270E 1
299A11
267B5
Human IgG

FIG. 3

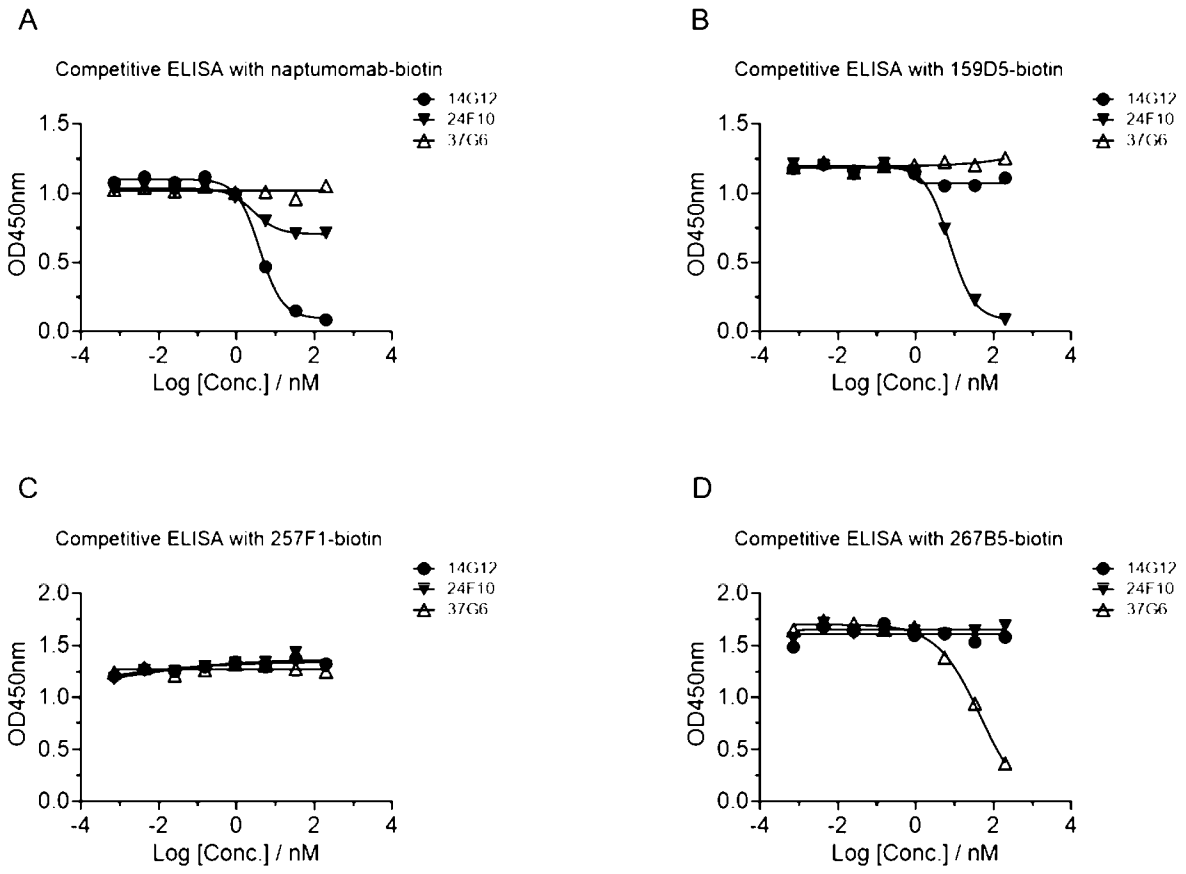

A
Competitive ELISA with naptumomab-biotin
14G12
24F10
37G6
OD450nm
Log [Conc.] / nM
B
Competitive ELISA with 159D5-biotin
14G12
24F10
37G6
OD450nm
Log [Conc.] / nM
C
Competitive ELISA with 257F1-biotin
14G12
24F10
37G6
OD450nm
Log [Conc.] / nM
D
Competitive ELISA with 267B5-biotin
14G12
24F10
37G6
OD450nm
Log [Conc.] / nM

FIG. 4

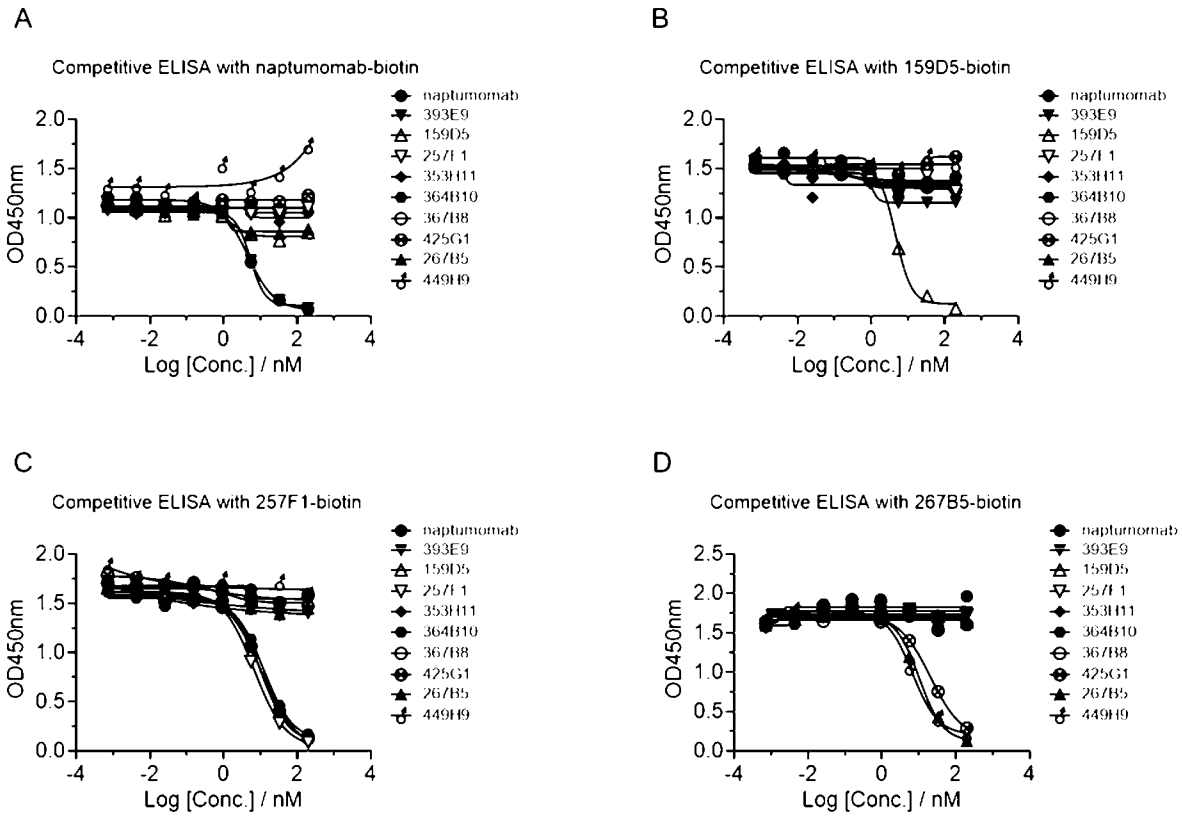

A
Competitive ELISA with naptumomab-biotin
OD450nm
Log [Conc.] / nM
B
Competitive ELISA with 159D5-biotin
OD450nm
Log [Conc.] / nM
C
Competitive ELISA with 257F1-biotin
OD450nm
Log [Conc.] / nM
D
Competitive ELISA with 267B5-biotin
OD450nm
Log [Conc.] / nM
naptumomab
393E9
159D5
257F1
353H11
364B10
367B8
425G1
267B5
449H9

FIG. 5

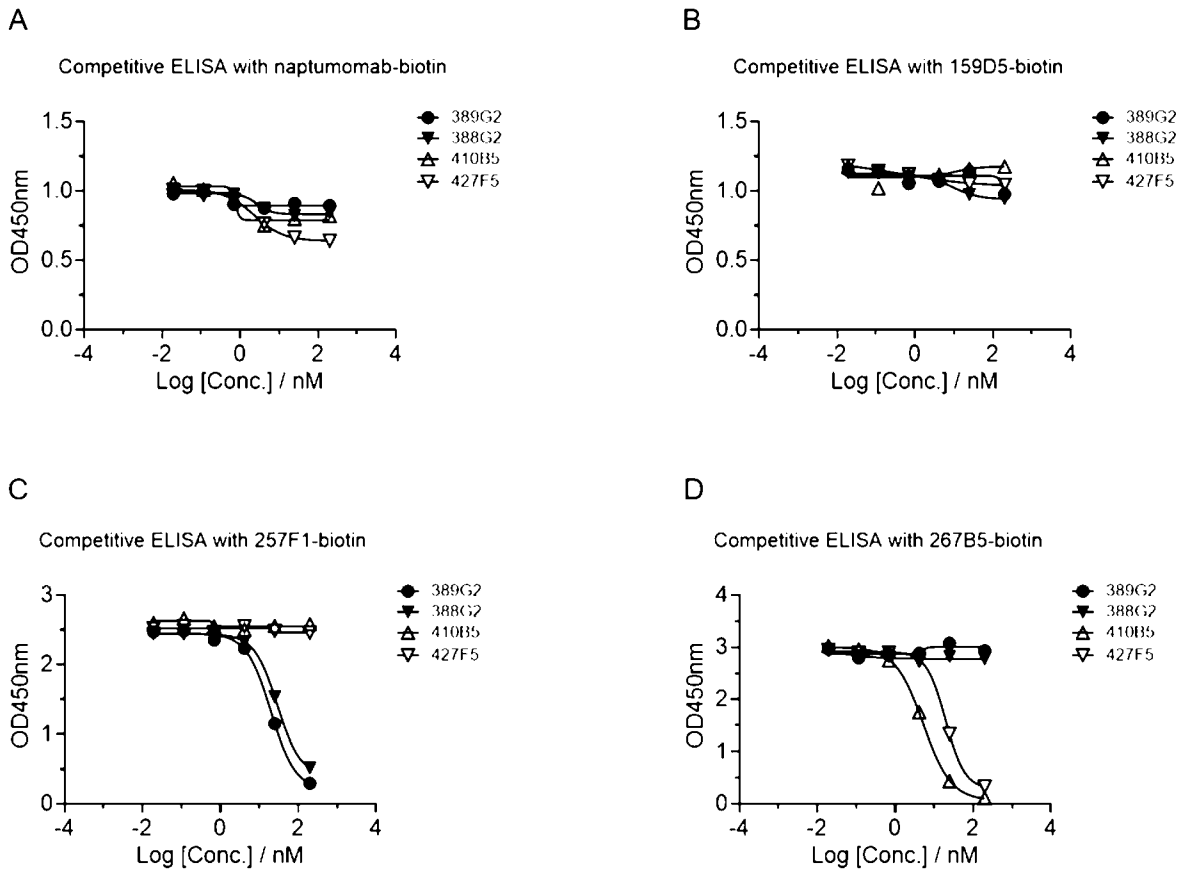

A
Competitive ELISA with naptumomab-biotin
OD450nm
Log [Conc.] / nM
389G2
388G2
410B5
427F5
B
Competitive ELISA with 159D5-biotin
OD450nm
Log [Conc.] / nM
389G2
388G2
410B5
427F5
C
Competitive ELISA with 257F1-biotin
OD450nm
Log [Conc.] / nM
389G2
388G2
410B5
427F5
D
Competitive ELISA with 267B5-biotin
OD450nm
Log [Conc.] / nM
389G2
388G2
410B5
427F5

FIG. 6

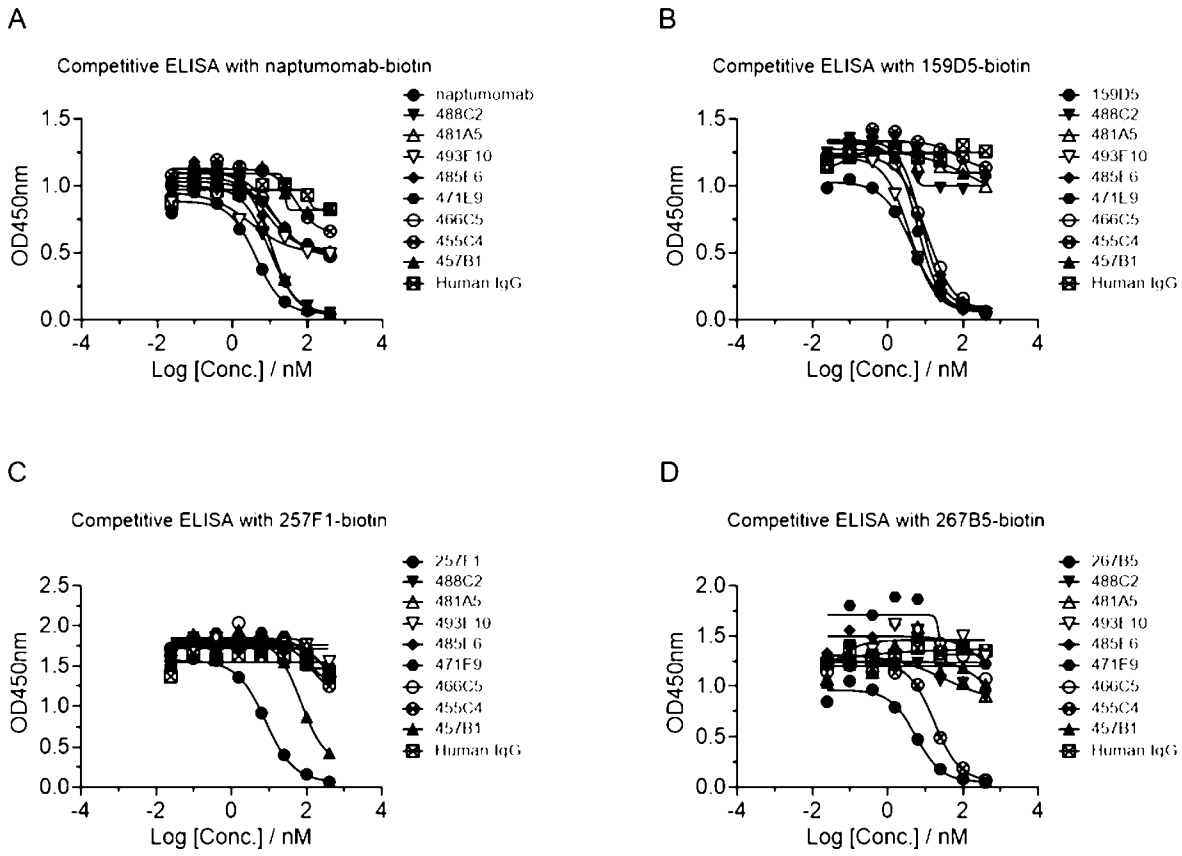

A
Competitive ELISA with naptumomab-biotin
naptumomab
488C2
481A5
493F10
485E6
471E9
466C5
455C4
457B1
Human IgG
OD450nm
Log [Conc.] / nM
B
Competitive ELISA with 159D5-biotin
159D5
488C2
481A5
493F10
485E6
471E9
466C5
455C4
457B1
Human IgG
OD450nm
Log [Conc.] / nM
C
Competitive ELISA with 257F1-biotin
257F1
488C2
481A5
493E10
485E6
471E9
466C5
455C4
457B1
Human IgG
OD450nm
Log [Conc.] / nM
D
Competitive ELISA with 267B5-biotin
267B5
488C2
481A5
493E10
485E6
471E9
466C5
455C4
457B1
Human IgG
OD450nm
Log [Conc.] / nM

FIG. 7

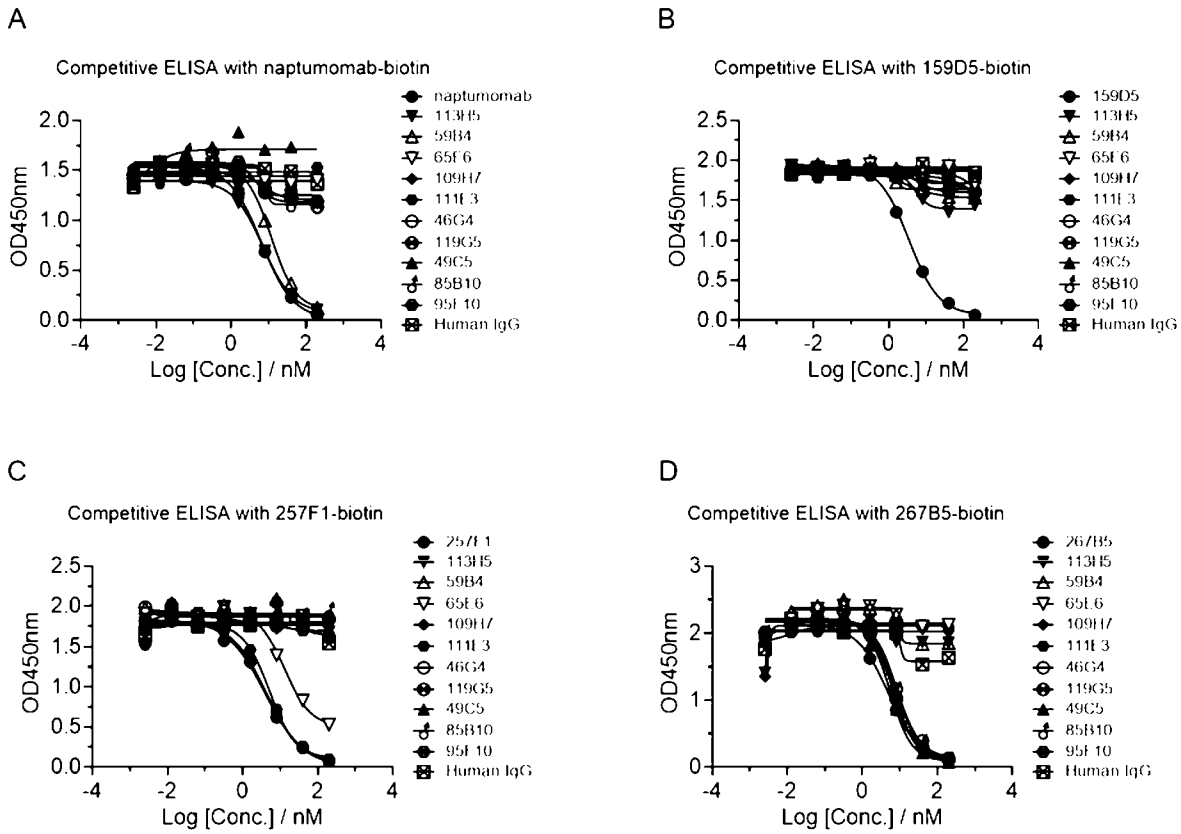

A
Competitive ELISA with naptumomab-biotin
OD450nm
Log [Conc.] / nM
naptumomab
113H5
59B4
65E6
109H7
111E3
46G4
119G5
49C5
85B10
95F10
Human IgG
B
Competitive ELISA with 159D5-biotin
OD450nm
Log [Conc.] / nM
159D5
113H5
59B4
65E6
109H7
111E3
46G4
119G5
49C5
85B10
95F10
Human IgG
C
Competitive ELISA with 257F1-biotin
OD450nm
Log [Conc.] / nM
257F1
113H5
59B4
65E6
109H7
111E3
46G4
119G5
49C5
85B10
95F10
Human IgG
D
Competitive ELISA with 267B5-biotin
OD450nm
Log [Conc.] / nM
267B5
113H5
59B4
65E6
109H7
111E3
46G4
119G5
49C5
85B10
95F10
Human IgG

FIG. 8

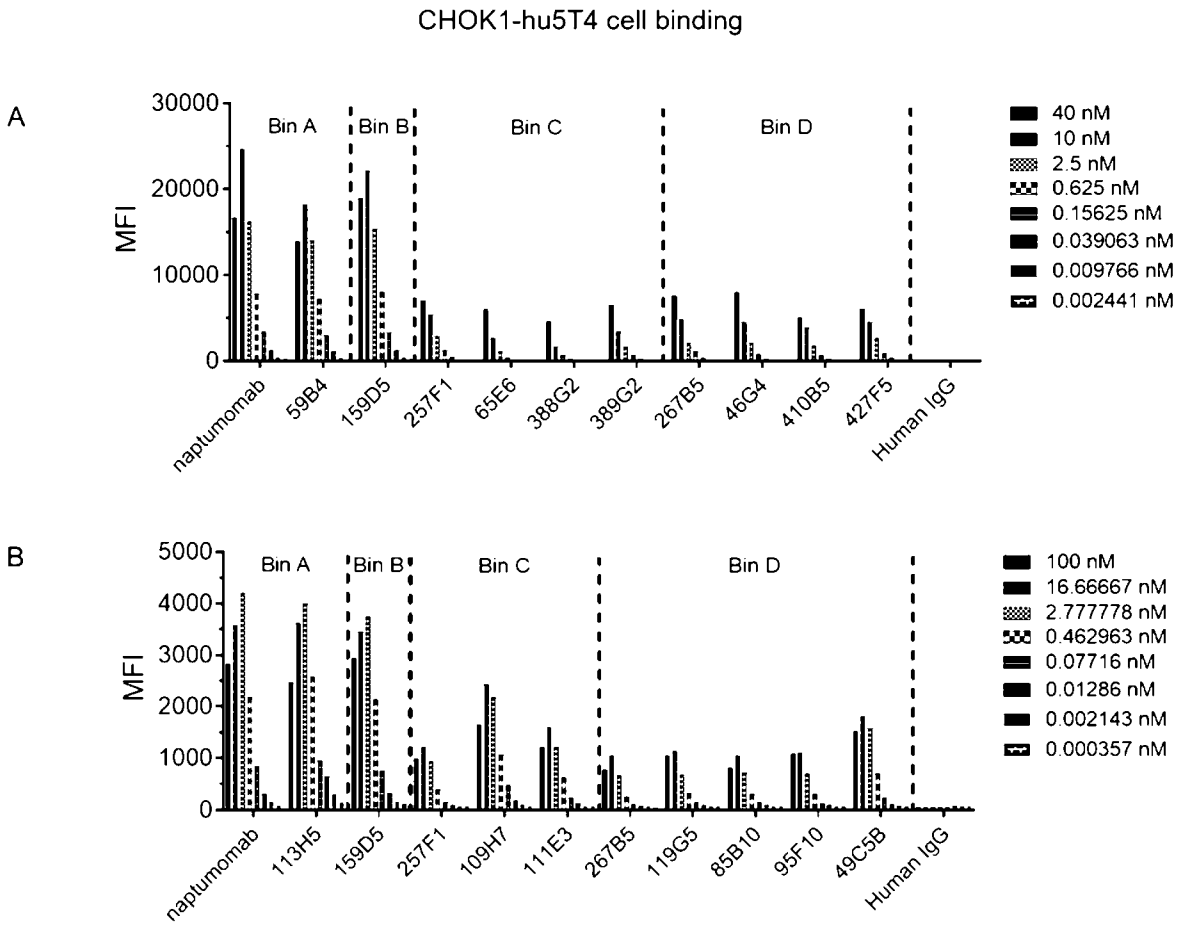

CHOK1-hu5T4 cell binding
A
MFI
30000
20000
10000
0
Bin A
Bin B
Bin C
Bin D
40 nM
10 nM
2.5 nM
0.625 nM
0.15625 nM
0.039063 nM
0.009766 nM
0.002441 nM
naptumomab
59B4
159D5
257F1
65E6
388G2
389G2
267B5
46G4
410B5
427F5
Human IgG
B
MFI
5000
4000
3000
2000
1000
0
Bin A
Bin B
Bin C
Bin D
100 nM
16.66667 nM
2.777778 nM
0.462963 nM
0.07716 nM
0.01286 nM
0.002143 nM
0.000357 nM
naptumomab
113H5
159D5
257F1
109H7
111E3
267B5
119G5
85B10
95F10
49C5B
Human IgG

FIG. 9

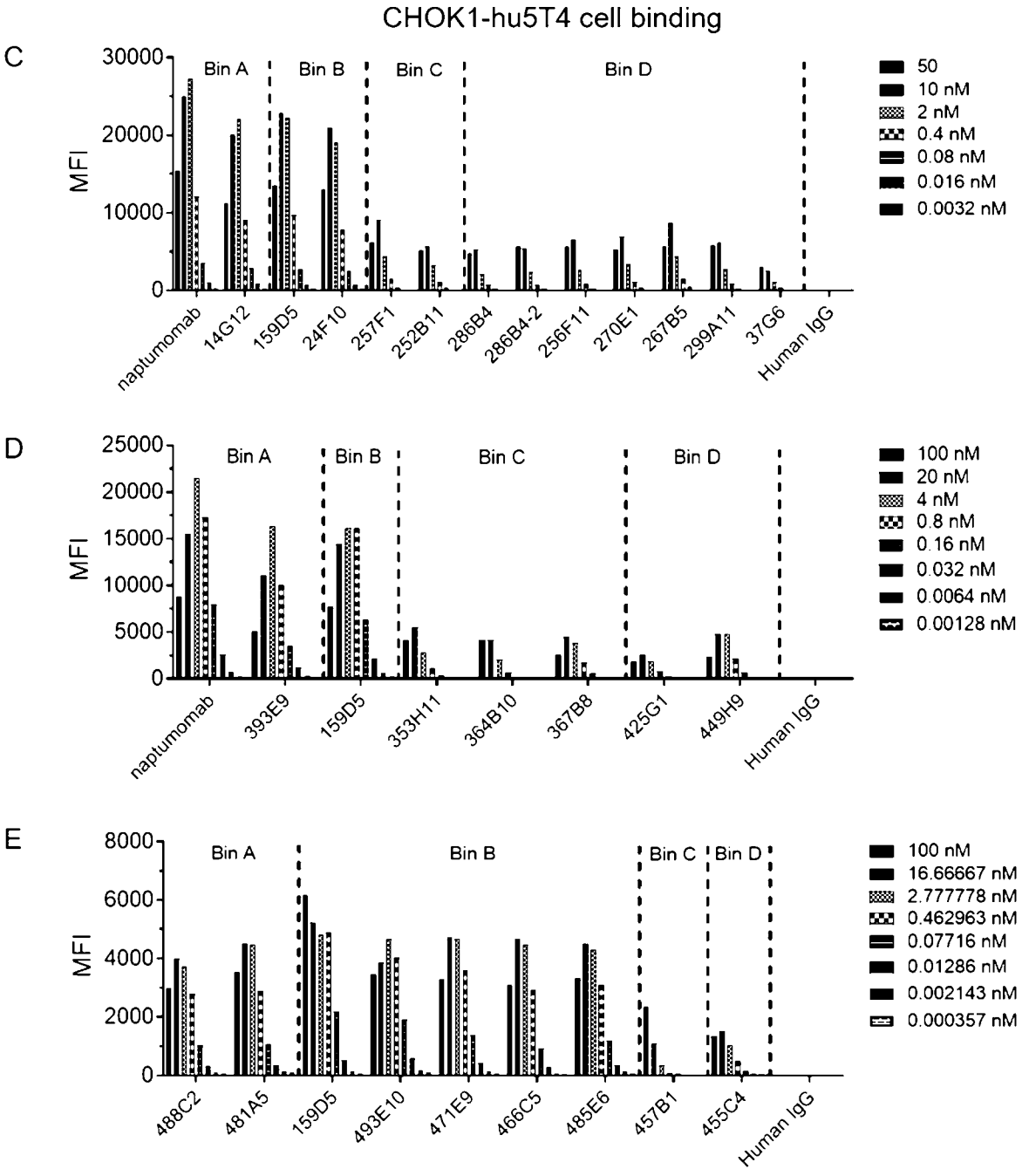


FIG. 9 (Continued)

14G12 humanization ELISA

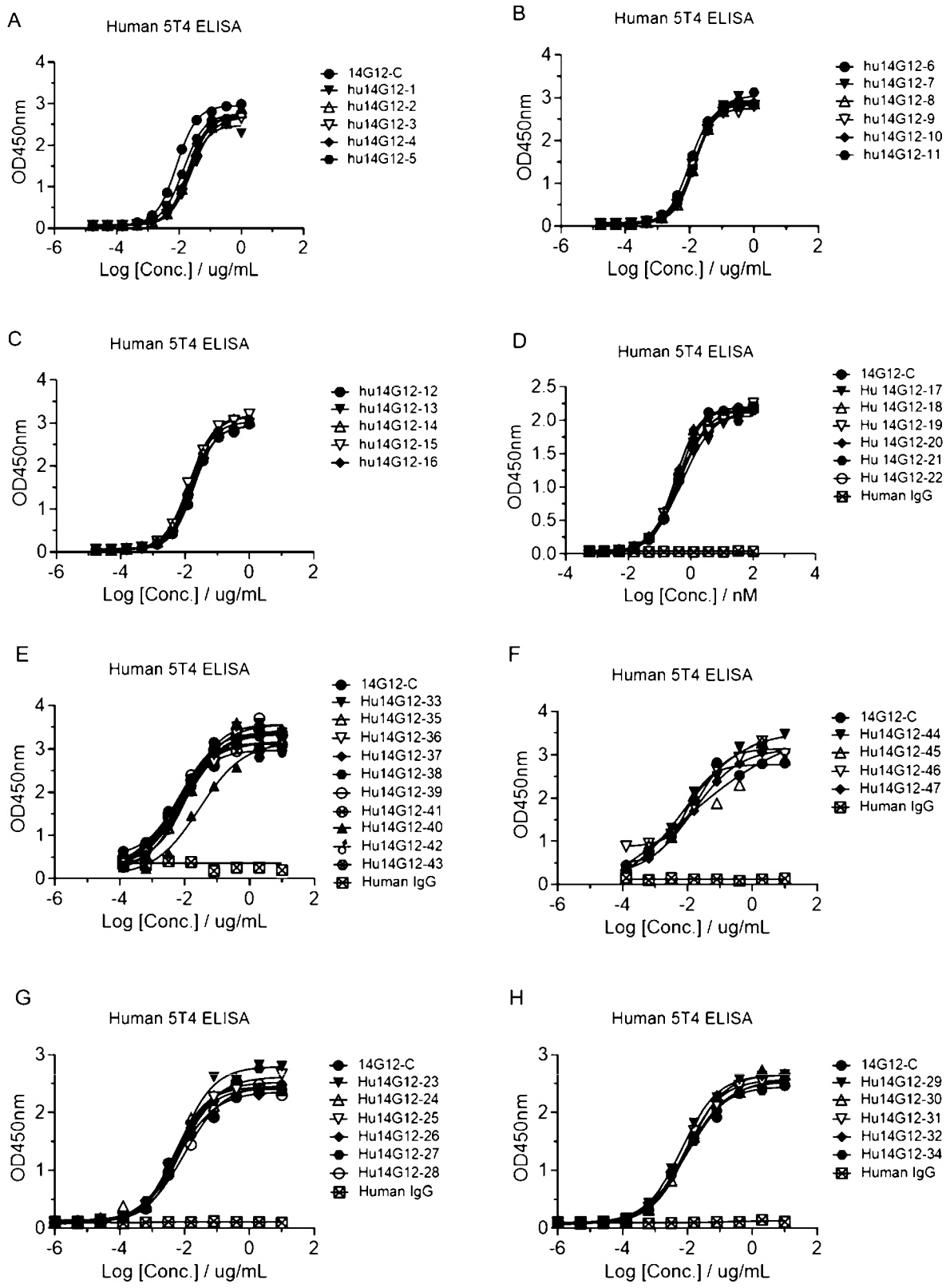


FIG. 10

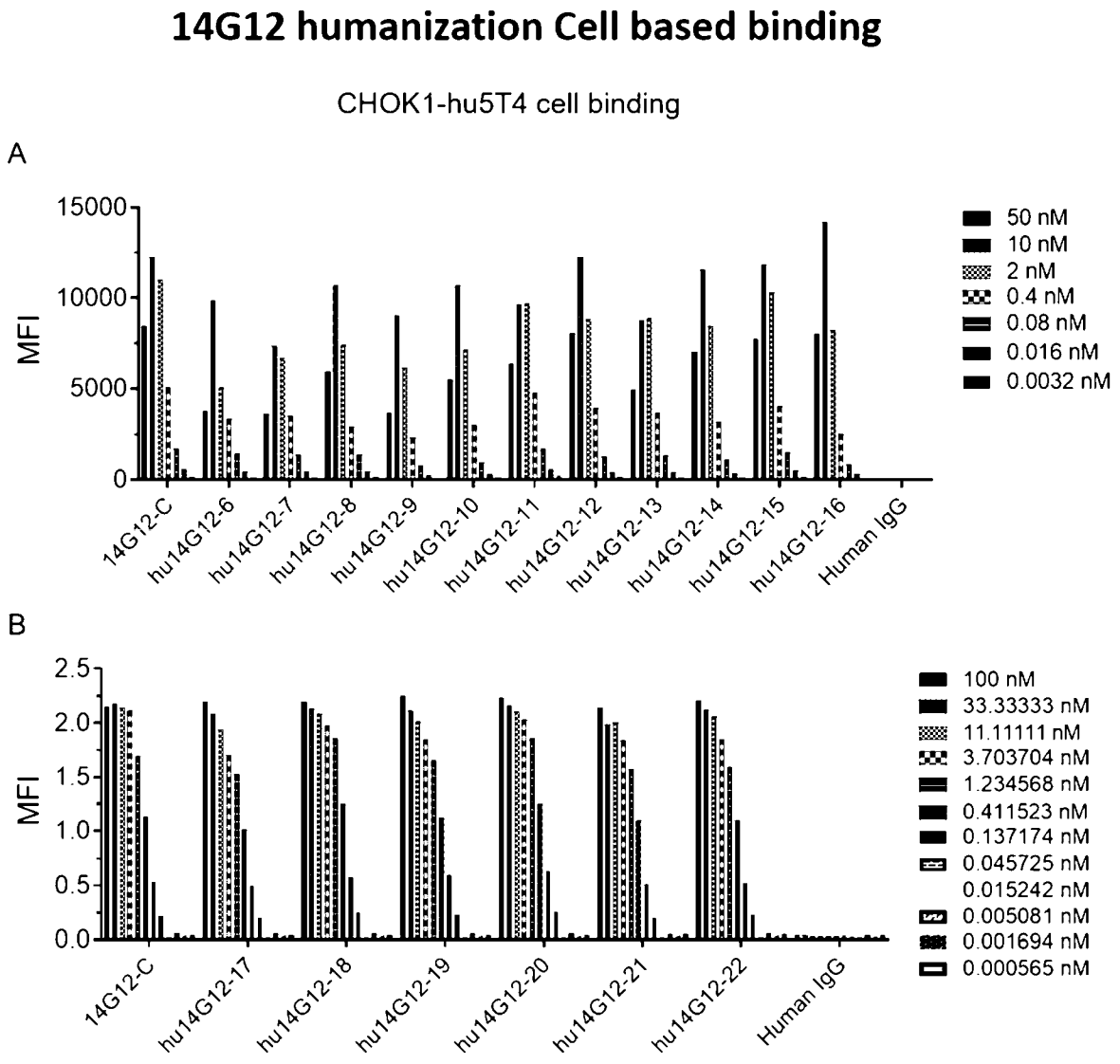

14G12 humanization Cell based binding
CHOK1-hu5T4 cell binding
A
MFI
15000
10000
5000
0
50 nM
10 nM
2 nM
0.4 nM
0.08 nM
0.016 nM
0.0032 nM
14G12-C
hu14G12-6
hu14G12-7
hu14G12-8
hu14G12-9
hu14G12-10
hu14G12-11
hu14G12-12
hu14G12-13
hu14G12-14
hu14G12-15
hu14G12-16
Human IgG
B
MFI
2.5
2.0
1.5
1.0
0.5
0.0
100 nM
33.33333 nM
11.11111 nM
3.703704 nM
1.234568 nM
0.411523 nM
0.137174 nM
0.045725 nM
0.015242 nM
0.005081 nM
0.001694 nM
0.000565 nM
14G12-C
hu14G12-17
hu14G12-18
hu14G12-19
hu14G12-20
hu14G12-21
hu14G12-22
Human IgG

FIG. 11

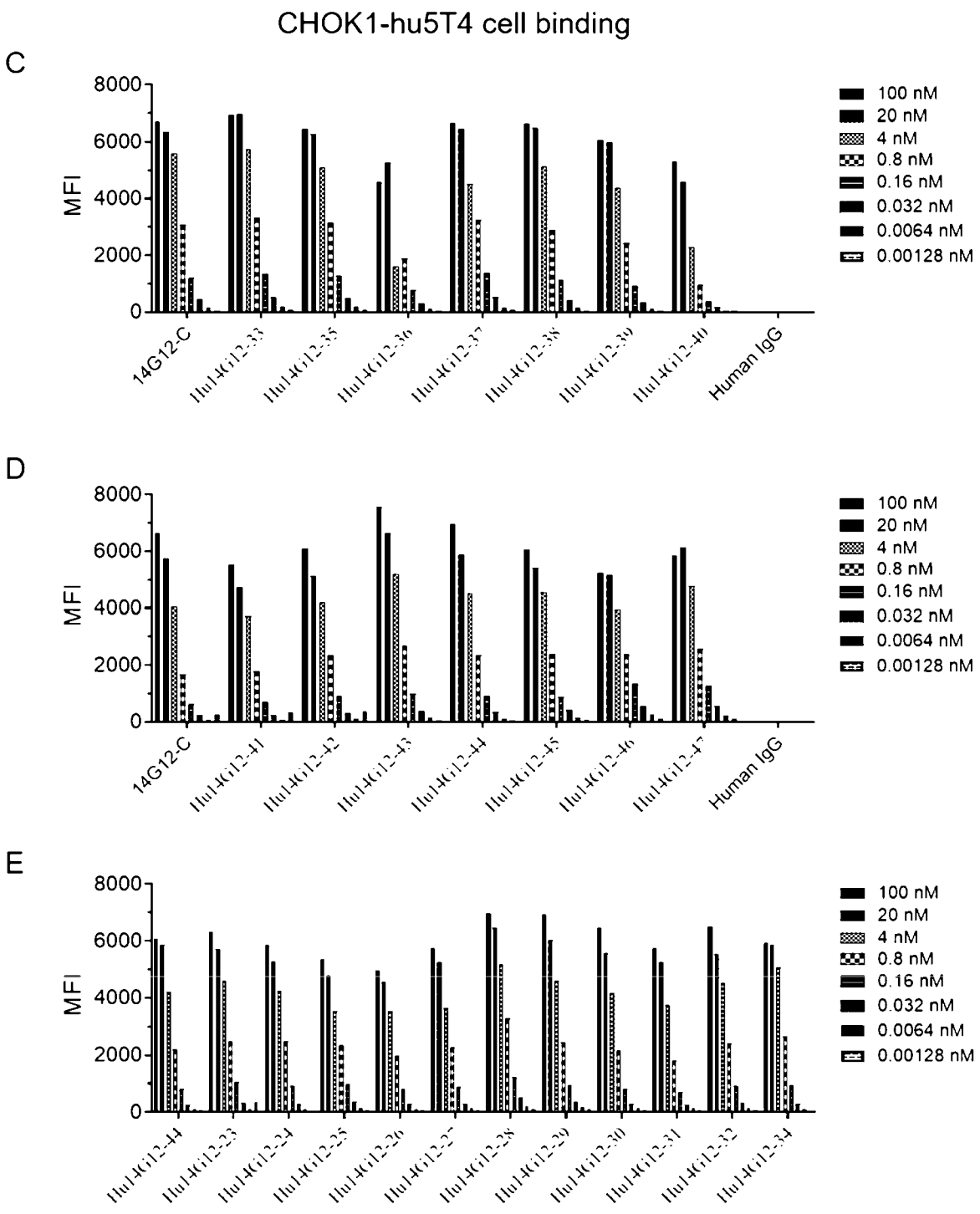


FIG. 11 (Continued)

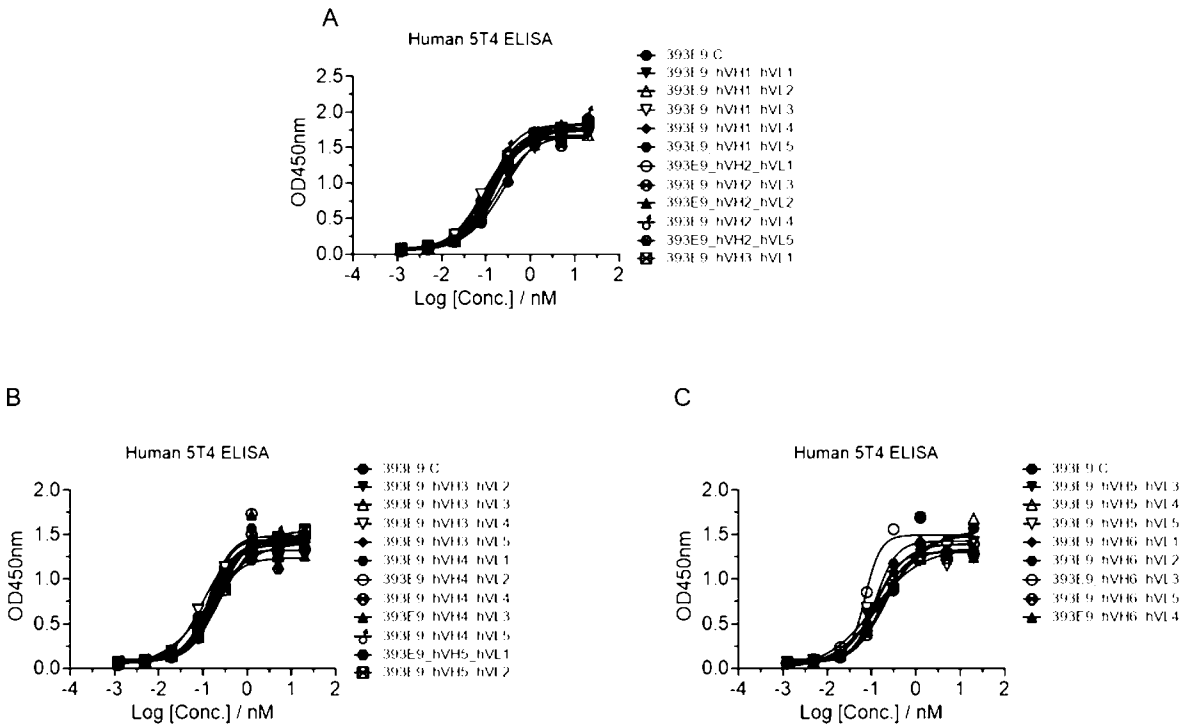

393E9 humanization ELISA
A
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
393E9 C
393E9_hVH1_hVL1
393E9_hVH1_hVL2
393E9_hVH1_hVL3
393E9_hVH1_hVL4
393E9_hVH1_hVL5
393E9_hVH2_hVL1
393E9_hVH2_hVL3
393E9_hVH2_hVL2
393E9_hVH2_hVL4
393E9_hVH2_hVL5
393E9_hVH3_hVL1
B
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
393E9 C
393E9_hVH3_hVL2
393E9_hVH3_hVL3
393E9_hVH3_hVL4
393E9_hVH3_hVL5
393E9_hVH4_hVL1
393E9_hVH4_hVL2
393E9_hVH4_hVL4
393E9_hVH4_hVL3
393E9_hVH4_hVL5
393E9_hVH5_hVL1
393E9_hVH5_hVL2
C
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
393E9 C
393E9_hVH5_hVL3
393E9_hVH5_hVL4
393E9_hVH5_hVL5
393E9_hVH6_hVL1
393E9_hVH6_hVL2
393E9_hVH6_hVL3
393E9_hVH6_hVL5
393E9_hVH6_hVL4

FIG. 12

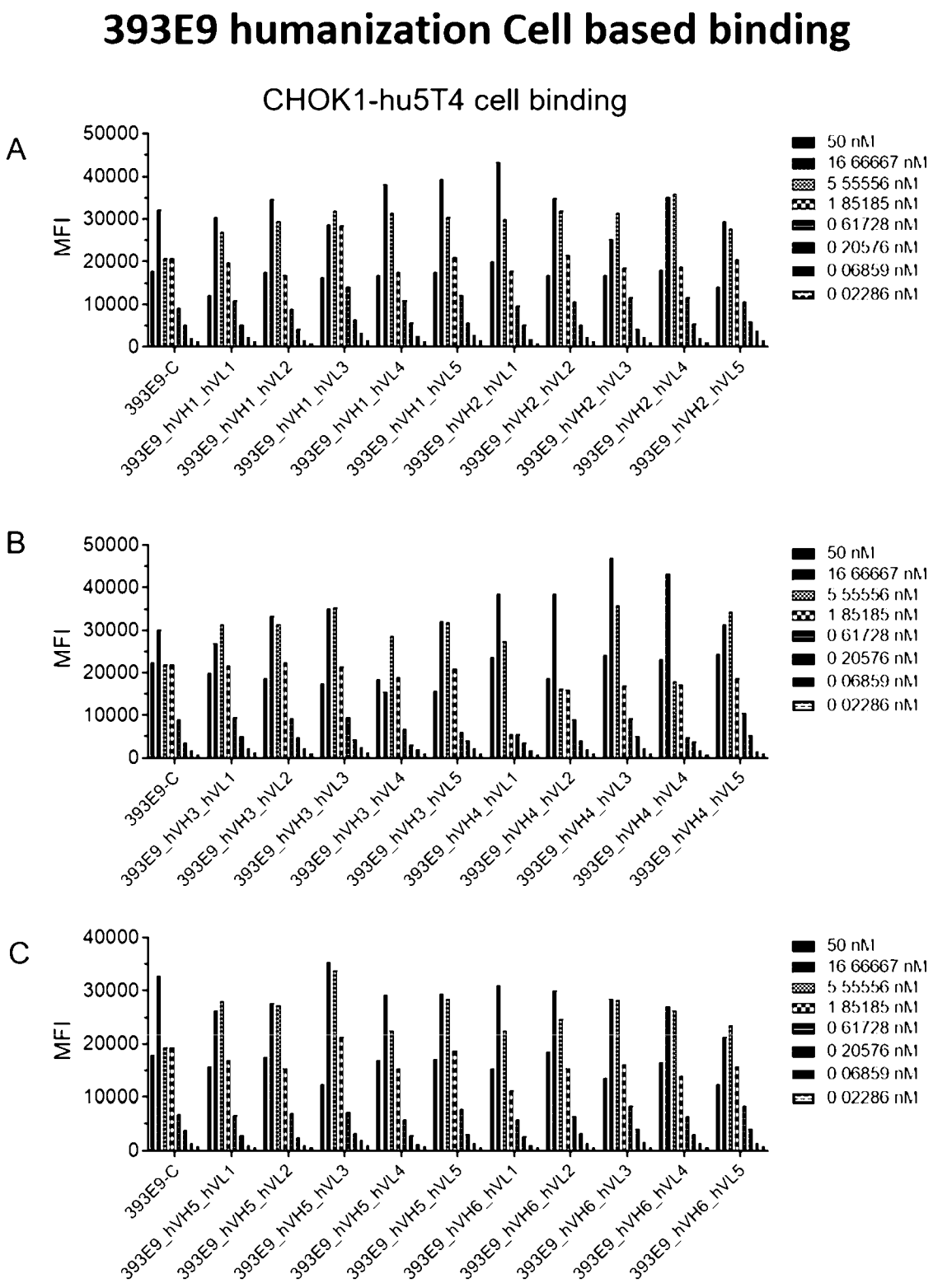

393E9 humanization Cell based binding
CHOK1-hu5T4 cell binding
A
B
C
MFI
50000
40000
30000
20000
10000
0
50 nM
16 66667 nM
5 55556 nM
1 85185 nM
0 61728 nM
0 20576 nM
0 06859 nM
0 02286 nM
393E9-C
393E9_hVH1_hVL1
393E9_hVH1_hVL2
393E9_hVH1_hVL3
393E9_hVH1_hVL4
393E9_hVH1_hVL5
393E9_hVH2_hVL1
393E9_hVH2_hVL2
393E9_hVH2_hVL3
393E9_hVH2_hVL4
393E9_hVH2_hVL5
393E9_hVH3_hVL1
393E9_hVH3_hVL2
393E9_hVH3_hVL3
393E9_hVH3_hVL4
393E9_hVH3_hVL5
393E9_hVH4_hVL1
393E9_hVH4_hVL2
393E9_hVH4_hVL3
393E9_hVH4_hVL4
393E9_hVH4_hVL5
393E9_hVH5_hVL1
393E9_hVH5_hVL2
393E9_hVH5_hVL3
393E9_hVH5_hVL4
393E9_hVH5_hVL5
393E9_hVH6_hVL1
393E9_hVH6_hVL2
393E9_hVH6_hVL3
393E9_hVH6_hVL4
393E9_hVH6_hVL5

FIG. 13

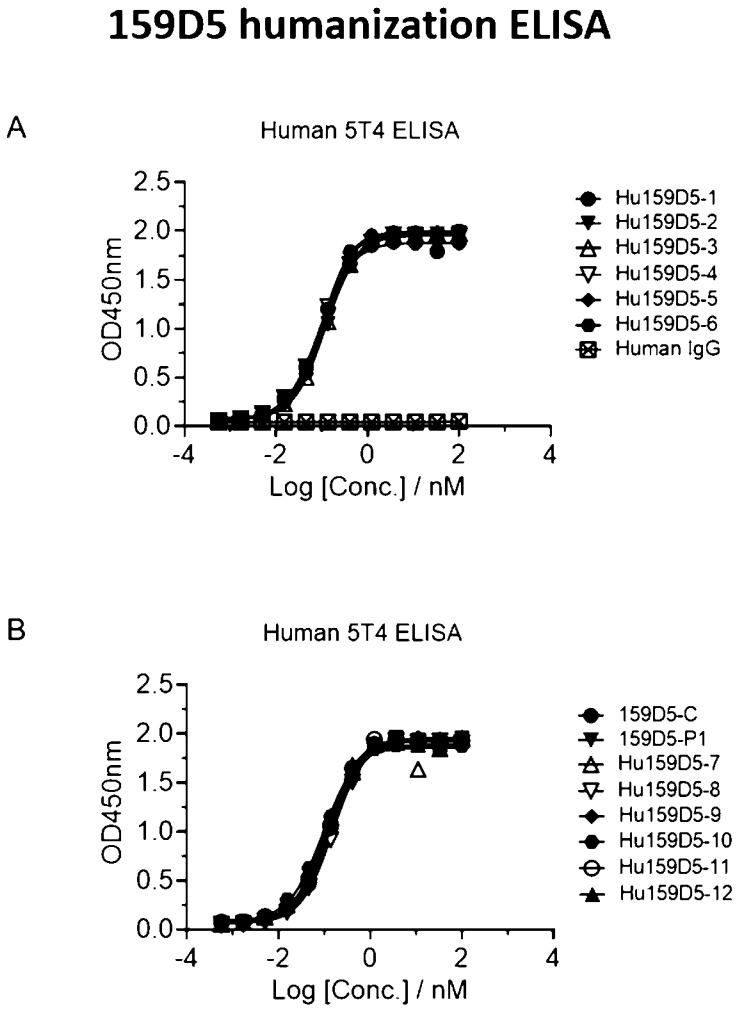

159D5 humanization ELISA
A
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
Hu159D5-1
Hu159D5-2
Hu159D5-3
Hu159D5-4
Hu159D5-5
Hu159D5-6
Human IgG
B
Human 5T4 ELISA
OD450nm
Log [Conc.] / nM
159D5-C
159D5-P1
Hu159D5-7
Hu159D5-8
Hu159D5-9
Hu159D5-10
Hu159D5-11
Hu159D5-12

FIG. 14

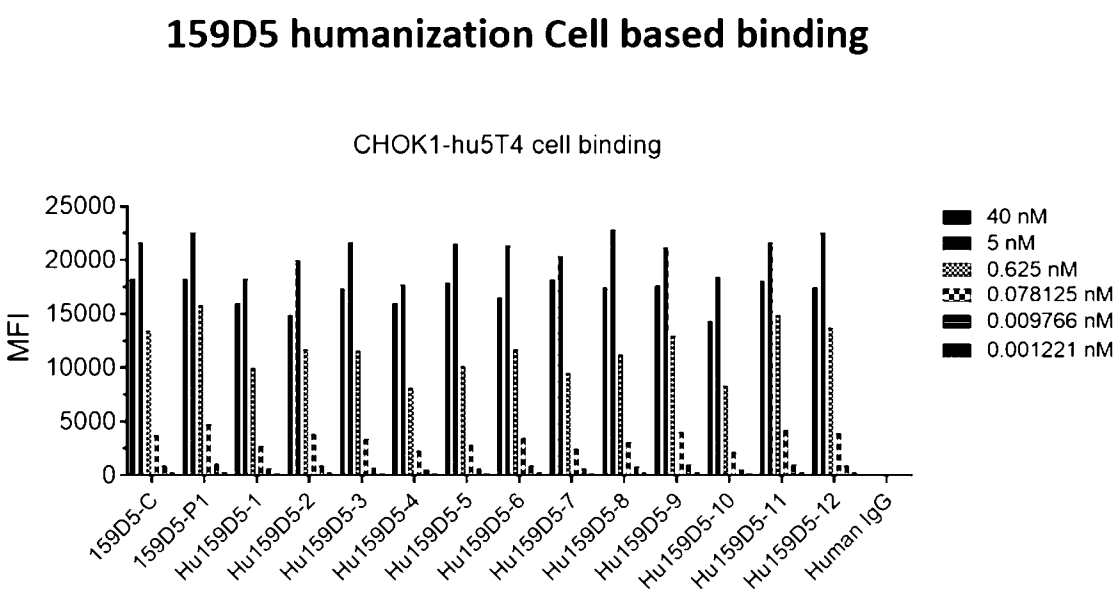

159D5 humanization Cell based binding
CHOK1-hu5T4 cell binding
MFI
40 nM
5 nM
0.625 nM
0.078125 nM
0.009766 nM
0.001221 nM
159D5-C
159D5-P1
Hu159D5-1
Hu159D5-2
Hu159D5-3
Hu159D5-4
Hu159D5-5
Hu159D5-6
Hu159D5-7
Hu159D5-8
Hu159D5-9
Hu159D5-10
Hu159D5-11
Hu159D5-12
Human IgG

FIG. 15

286B4 humanization ELISA

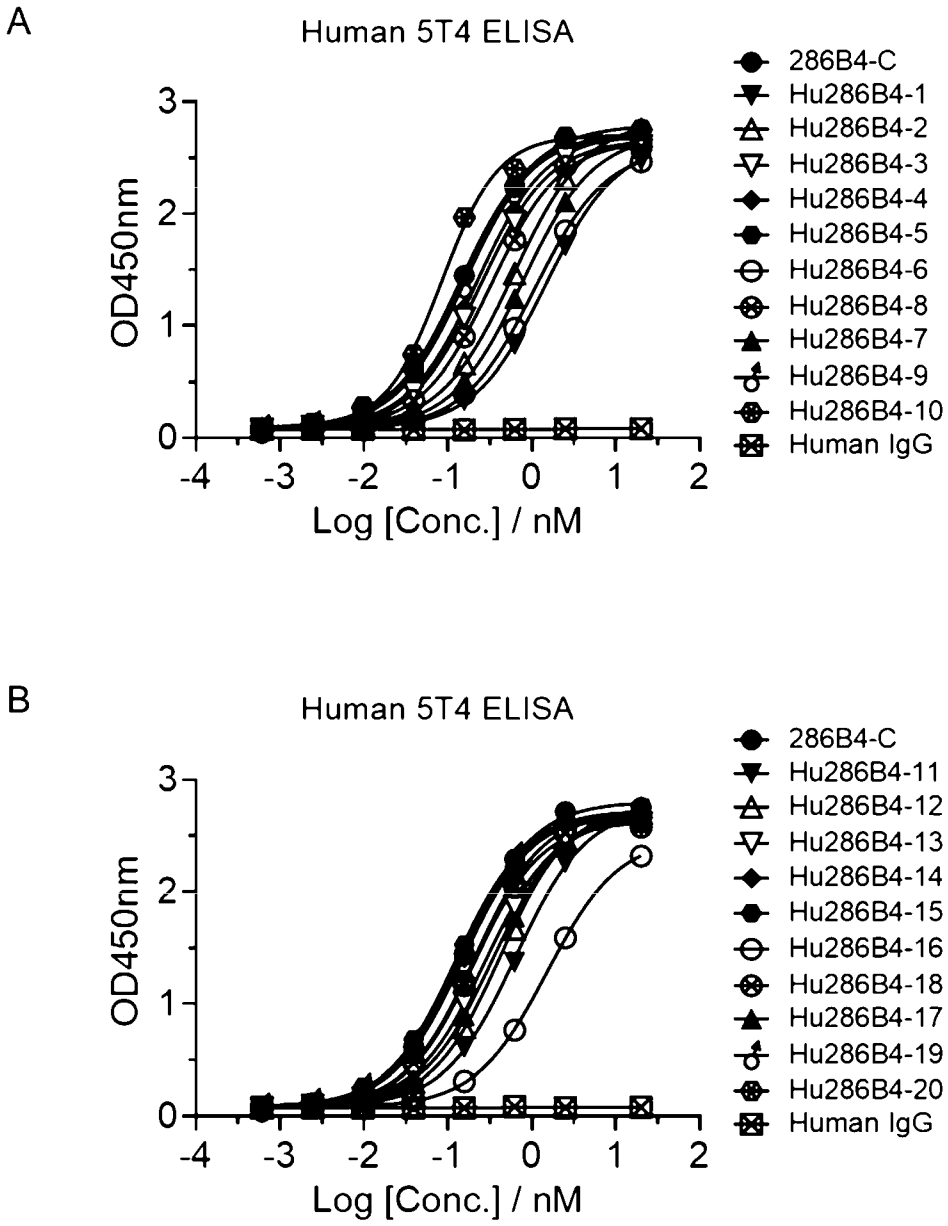


FIG. 16

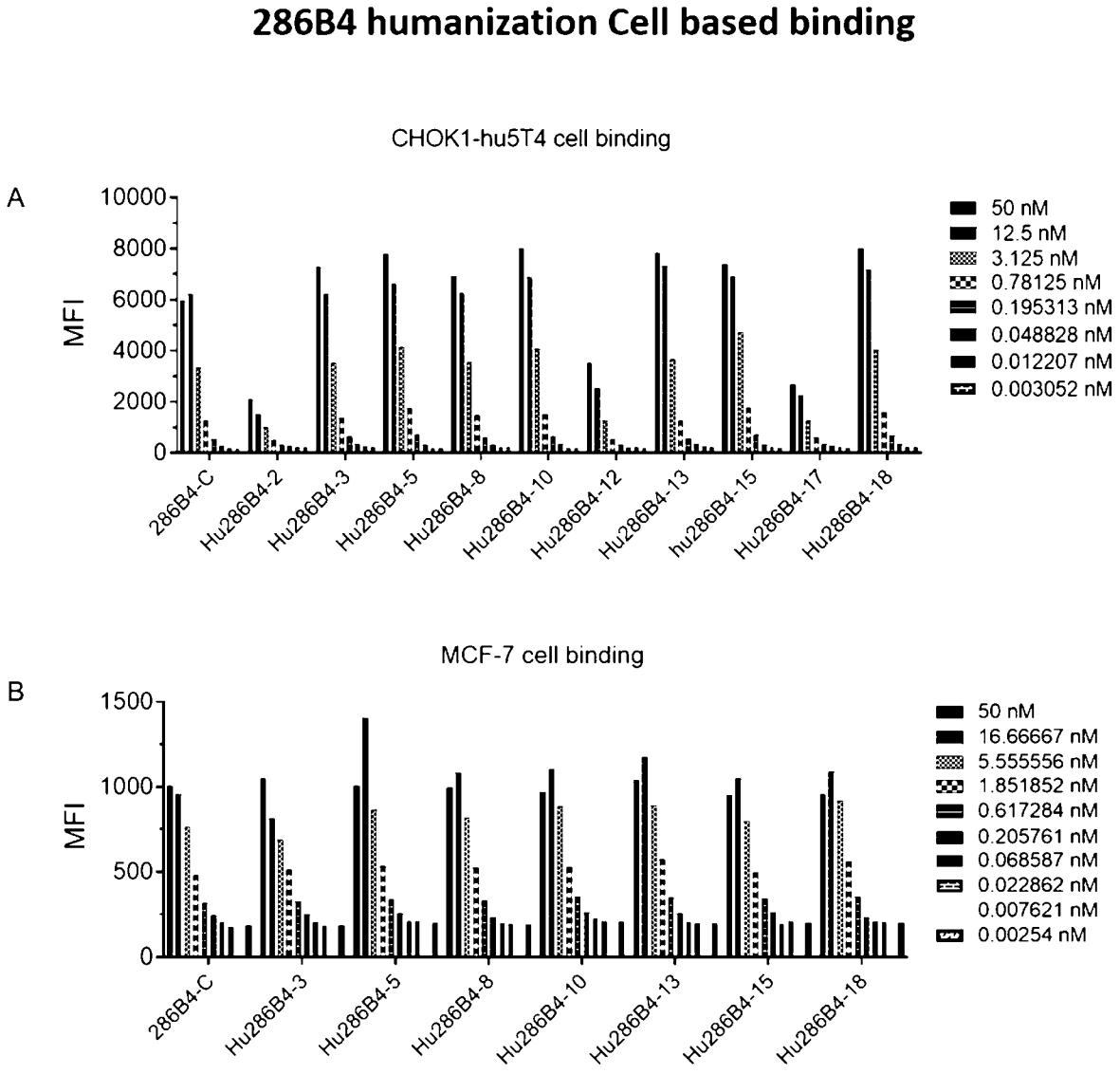
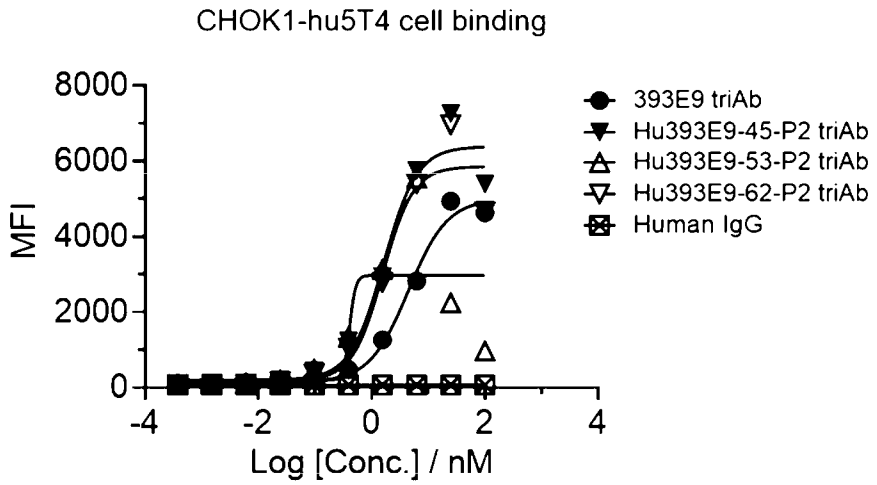

286B4 humanization Cell based binding
CHOK1-hu5T4 cell binding
A
MFI
10000
8000
6000
4000
2000
0
50 nM
12.5 nM
3.125 nM
0.78125 nM
0.195313 nM
0.048828 nM
0.012207 nM
0.003052 nM
286B4-C
Hu286B4-2
Hu286B4-3
Hu286B4-5
Hu286B4-8
Hu286B4-10
Hu286B4-12
Hu286B4-13
hu286B4-15
Hu286B4-17
Hu286B4-18
MCF-7 cell binding
B
MFI
1500
1000
500
0
50 nM
16.66667 nM
5.555556 nM
1.851852 nM
0.617284 nM
0.205761 nM
0.068587 nM
0.022862 nM
0.007621 nM
0.00254 nM
286B4-C
Hu286B4-3
Hu286B4-5
Hu286B4-8
Hu286B4-10
Hu286B4-13
Hu286B4-15
Hu286B4-18

FIG. 17

PTM removal Cell based binding

A



B

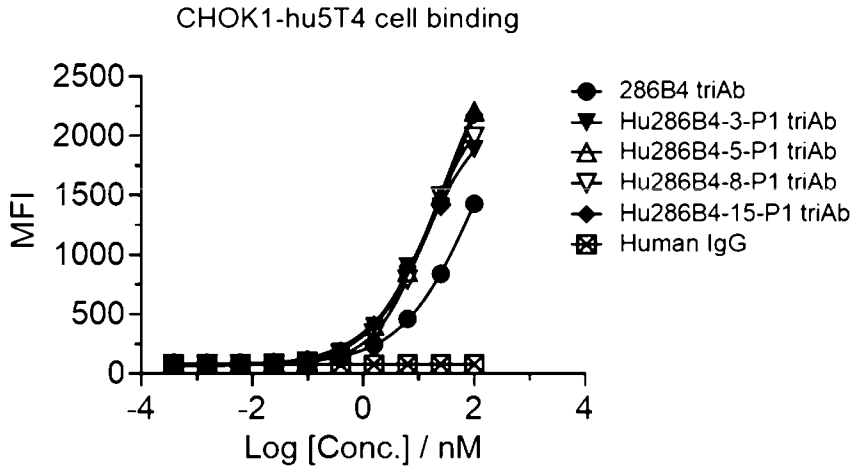
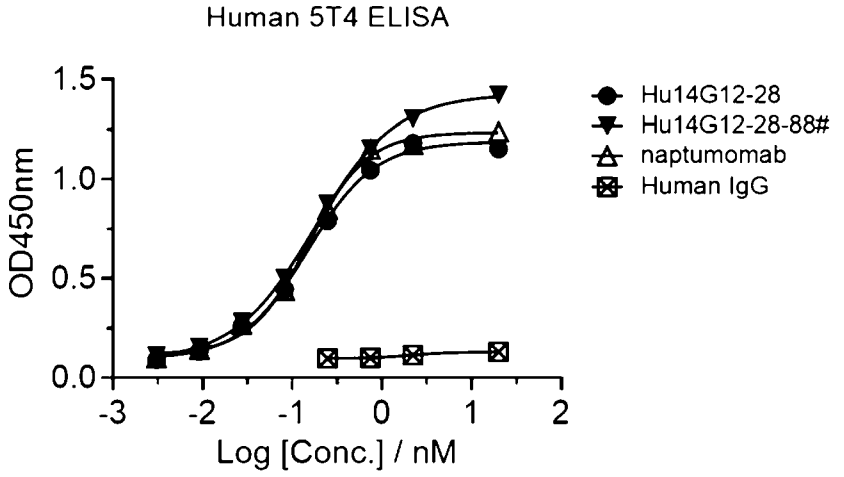


FIG. 18

A


Human 5T4 ELISA
OD450nm
1.5
1.0
0.5
0.0
-3
-2
-1
0
1
2
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-88#
naptumomab
Human IgG

B

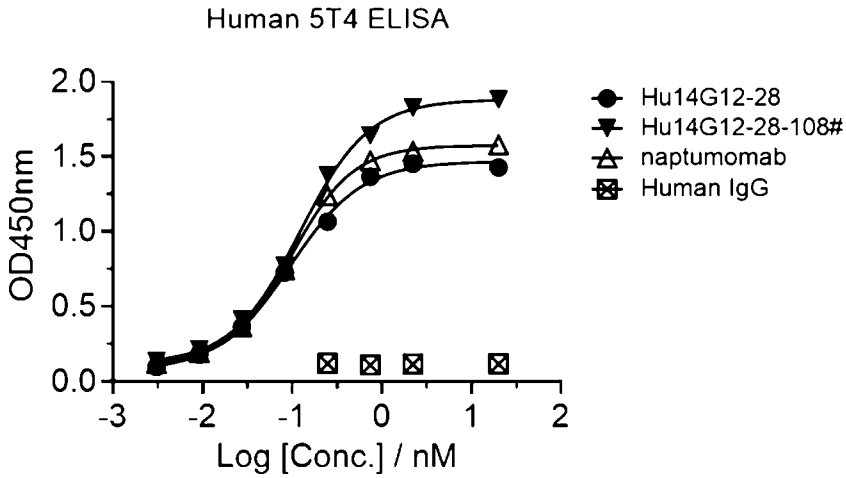

Human 5T4 ELISA
OD450nm
2.0
1.5
1.0
0.5
0.0
-3
-2
-1
0
1
2
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-108#
naptumomab
Human IgG

FIG. 19

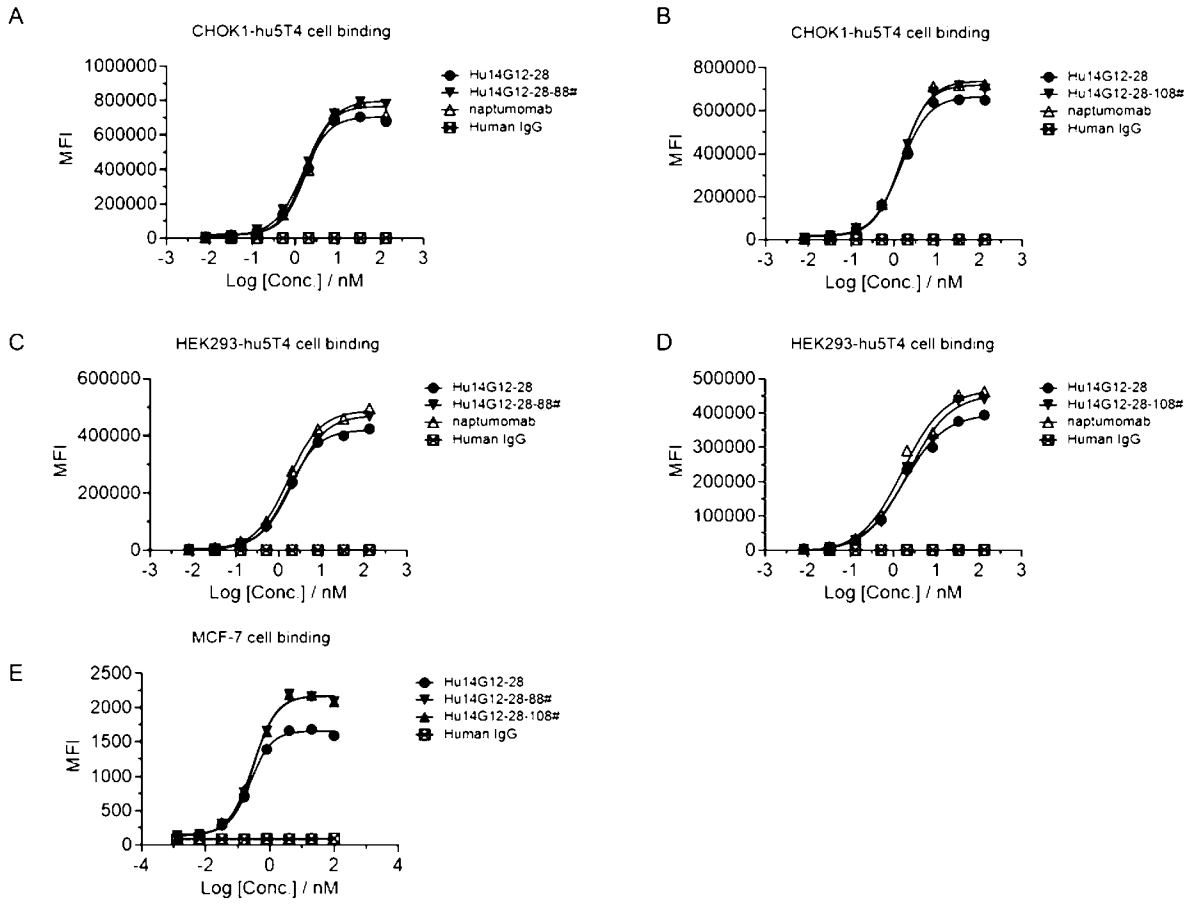

A
CHOK1-hu5T4 cell binding
MFI
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-88#
naptumomab
Human IgG
B
CHOK1-hu5T4 cell binding
MFI
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-108#
naptumomab
Human IgG
C
HEK293-hu5T4 cell binding
MFI
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-88#
naptumomab
Human IgG
D
HEK293-hu5T4 cell binding
MFI
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-108#
naptumomab
Human IgG
E
MCF-7 cell binding
MFI
Log [Conc.] / nM
Hu14G12-28
Hu14G12-28-88#
Hu14G12-28-108#
Human IgG

FIG. 20