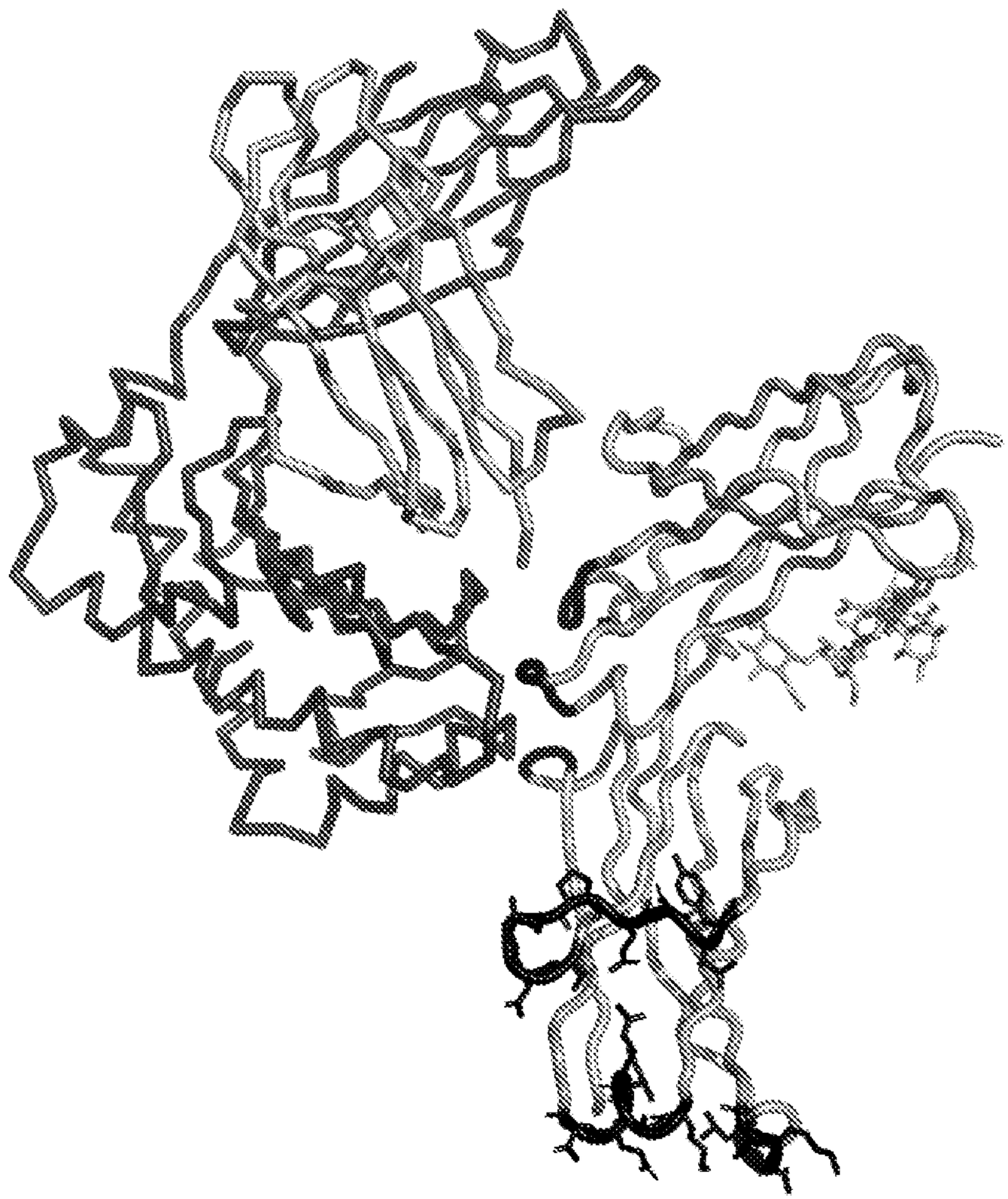

FIG. 1

```
4WI2:A|PDBID|CH ----------------------------------------------------------------------
4I2X:A|PDBID|CH --DIVITQSPKFMSTSVGDRVS----------------------------------------------
4GRL:B|PDBID|CH ----------------------------------------------------------------------
1EXU:A|PDBID|CH ---AESHLSLLYHLTAVSSPAPGTPAFWVS----------------------------------------
1T7W:A|PDBID|CH QENQDGRYSLTYIYTGLSKHVEDVPAFQAL----------------------------------------
3BVN:A|PDBID|CH ----MGSHSMRYFYTAVSRPGRGEPRFISV----------------------------------------
4GUP:A|PDBID|CH ----MRTHSLRYFRLGVSDPIHGVPEFISV----------------------------------------
2WNG:A|PDBID|CH EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRV
4I2X:E|PDBID|CH EEELQMIQPEKLLLVTVGKTATLHCTVTSLLPVGPVLWFRGVGPGRELIYNQKEGHFPRV

4WI2:A|PDBID|CH ----------------------------------------------------------KGQPR-
4I2X:A|PDBID|CH ----------------------------------------------------------------
4GRL:B|PDBID|CH ----------------------------------------------------------EGRDSPE-
1EXU:A|PDBID|CH ------------------------------------------GWLGPQQYLSYNS--LRGEAEPCG
1T7W:A|PDBID|CH ------------------------------------------GSLNDLQFFRYNS--KDRKSQPMG
3BVN:A|PDBID|CH ------------------------------------------GYVDDTQFVRFDSDAASPREEPRA
4GUP:A|PDBID|CH ------------------------------------------GYVDSHPITTYDS--VTRQKEPRA
2WNG:A|PDBID|CH TTVSESTKRENMDFSISISNITPADAGTYYCVKFRKGSP-DTEFKSGAGTELSVRAKPSA
4I2X:E|PDBID|CH TTVSDLTKRNNMDFSIRISSITPADVGTYYCVKFRKGSPENVEFKSGPGTEMALGAKPSA

4WI2:A|PDBID|CH ----------------------------------------------------------------
4I2X:A|PDBID|CH ----------------------------------------------------------ITCKASQDVS
4GRL:B|PDBID|CH ----------------------------------------------------------DFVYQFKGLCYFTNGTE
1EXU:A|PDBID|CH AWVWENQVSWYWEKETTDLRIKEKLFLEAFKALGG------KGPYTLQGLLGCELGPDNT
1T7W:A|PDBID|CH LWR-QVEGMEDWKQDSQLQKAREDIFMETLKDIVEYYKDS-TGSHVLQGRFGCEIENNRS
3BVN:A|PDBID|CH PWI-EQEGPEYWDRNTQICKTNTQTDRESLRNLRGYYNQSEAGSHTLQWMYGCDVGPDGR
4GUP:A|PDBID|CH PWMAENLAPDHWERYTQLLRGWQQMFKVELKRLQRHYNH--SGSHTYQRMIGCELLEDGS
2WNG:A|PDBID|CH PVVSGPAARA------------------------------TPQHTVS--FTCESHGFSP
4I2X:E|PDBID|CH PVVLGPAART-----------------------------TPEHTVS--FTCESHGFSP
```

FIG. 2A

```
4WI2:A|PDBID|CH ------------------------------------------------------------
4I2X:A|PDBID|CH -TAVAWFQQKPGQSPKLLIYSASYRYTGVPDRFTGSGSGTDFTFTISSVQA-EDLAVYYC
4GRL:B|PDBID|CH RVRGVTRHIYNREEYVRFDSDV-----GVYRAVTPQGRPVAEYWNSQKEVL-EGARASVD
1EXU:A|PDBID|CH -SVPTAKFALNGEEFMNFDLKQ-----GTWGGDWPEALAISQRWQQQDKAA-NKELTFLL
1T7W:A|PDBID|CH -SGAFWKYYYDGKDYIEFNKEI-----PAWVPFDPAAQITKQKWEAEPVYV-QRAKAYLE
3BVN:A|PDBID|CH LLRGYNQFAYDGKDYIALNEDL-----SSWTAADTAAQITQRKWEA-AREA-EQLRAYLE
4GUP:A|PDBID|CH -TTGFLQYAYDGQDFLIFNKDT-----LSWLAVDNVAHTIKQAWEANQHEL-LYQKNWLE
2WNG:A|PDBID|CH -RDITLKWFKNGNELSDFQTNVDPVGESVSYSIHSTAKVVLTREDVHSQVICEVAHVTLQ
4I2X:E|PDBID|CH -RDITLKWFKNGNELSDFQTNVDPTGQSVAYSIRSTARVVLDPWDVRSQVICEVAHVTLQ

                                                   (AB Loop)
4WI2:A|PDBID|CH ----------------------EPQVYTLPPSRDEL-TKNQVSLTCLVKGFYPSDIAVE
4I2X:A|PDBID|CH QQHYSTPWTFGGGTKLEIKRADAAPTVSIFPPSSEQL-TSGGASVVCFLNNFYPKDINVK
4GRL:B|PDBID|CH RVCRH---NYEVAYRGILQRRV-EPTVTI-SPSRTEA-LNHHNLLICSVTDFYPSQIKVR
1EXU:A|PDBID|CH FSCPHRLREHLERGRGNLEWKE-PPSMRL---KARPS-SPGFSVLTCSAFSFYPPELQLR
1T7W:A|PDBID|CH EECPATLRKYLKYSKNILDRQD-PPSVVV---TSHQA-PGEKKKLKCLAYDFYPGKIDVH
3BVN:A|PDBID|CH GTCVEWLRRHLENGKETLQRAD-PPKTHV---THHPI-SDHEATLRCWALGFYPAEITLT
4GUP:A|PDBID|CH EECIAWLKRFLEYGKDTLQRTE-PPLVRV---NRKET-FPGVTALFCKAHGFYPPEIYMT
2WNG:A|PDBID|CH GDPLRGTANLSETIRV-------PPTLEV---TQQPVRAENQVNVTCQVRKFYPQRLQLT
4I2X:E|PDBID|CH GDPLRGTANLSEAIRV-------PPTLEV---TQQPMRVGNQVNVTCQVRKFYPQSLQLT
                                         *      .          : *    ***  : :

                  (CD Loop)                        (EF Loop)
4WI2:A|PDBID|CH WESNGQ--PENNYKTTPPVLDSDGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQ
4I2X:A|PDBID|CH WKIDGSERQNGVLNSWTDQDSKDSTYSMSSTLTLTKDEYERHNSYTCEATHKTSTS----
4GRL:B|PDBID|CH WFRNDQEETAGVVS-TPLIRNGDWTFQILVMLEMTP---QRGDVYTCHVEHPSLQS----
1EXU:A|PDBID|CH FLRNGL--AAGTGQ-GDFGPNSDGSFHASSSLTVKS---GDEHHYCCIVQHAGLAQ----
1T7W:A|PDBID|CH WTRAGE--VQEPELRGDVLHNGNGTYQSWVVVAVPP---QDTAPYSCHVQHSSLAQ----
3BVN:A|PDBID|CH WQRDGEDQTQDTEL-VETRPAGDRTFQKWAAVVVPS---GEEQRYTCHVQHEGLPK----
4GUP:A|PDBID|CH WMKNGEEIVQEIDY-GDILPSGDGTYQAWASIELDP---QSSNLYSCHVEHSGVHM----
2WNG:A|PDBID|CH WLENGN--VSRTETASTVTENKDGTYNWMSWLLVNVSAHRDDVKLTCQVEHDGQPAVSKS
4I2X:E|PDBID|CH WSENGN--VCQRETASTLTENKDGTYNWTSWFLVNISDQRDDVVLTCQVKHDGQLAVSKR
                 :   .                : ::     . :           * . *
```

FIG. 2B

```
4WI2:A|PDBID|CH KSLSLS----------
4I2X:A|PDBID|CH -PIVKSFNRNEC-----
4GRL:B|PDBID|CH -PITVEWRAQSESAQSK
1EXU:A|PDBID|CH -PLRVEL----------
1T7W:A|PDBID|CH -PLVVPWEAS-------
3BVN:A|PDBID|CH -PLTLRWEPS-------
4GUP:A|PDBID|CH -VLQVP----------
2WNG:A|PDBID|CH HDLKVSTRHHHHHH---
4I2X:E|PDBID|CH LALEVSTRHHHHHH---
                :
```

FIG. 2C

```
4WI2:A|PDBID|CH K----------------------------------------------------------
4I2X:A|PDBID|CH R----------------------------------------------------------
2WNG:A|PDBID|CH EEELQVIQPDKSVSVAAGESAILHCTVTSLIPVGPIQWFRGAGPARELIYNQKEGHFPRV
4I2X:E|PDBID|CH EEELQMIQPEKLLLVTVGKTATLHCTVTSLLPVGPVLWFRGVGPGRELIYNQKEGHFPRV
                 .

4WI2:A|PDBID|CH ----------------------------------------------------GQPRE
4I2X:A|PDBID|CH ----------------------------------------------------ADAA
2WNG:A|PDBID|CH TTVSESTKRENMDFSISISNITPADAGTYYCVKFRKGSP-DTEFKSGAGTELSVRAKPSA
4I2X:E|PDBID|CH TTVSDLTKRNNMDFSIRISSITPADVGTYYCVKFRKGSPENVEFKSGPGTEMALGAKPSA

                          (AB Loop)                    (CD Loop)
4WI2:A|PDBID|CH PQVYTLPPSRDELTKNQVSLTCLVKGFYPSDIAVEWESNGQPENNYKTTPPVLDS-----
4I2X:A|PDBID|CH PTVSIFPPSSEQLTSGGASVVCFLNNFYPKDINVKWKIDGSERQN-----GVLNSWTDQD
2WNG:A|PDBID|CH PVV--SGPAARATPQHTVSFTCESHGFSPRDITLKWFKNGNELSDFQTN-------VDPV
4I2X:E|PDBID|CH PVV--LGPAARTTPEHTVSPTCESHGFSPRDITLKWFKNGNELSDFQTN-------VDPT
                 * *    *:    .. .*..*  :.* * ** ::*  :*.  .:
                              (EF Loop)
4WI2:A|PDBID|CH --DGSFFLYSKLTVDKSRWQQGNVFSCSVMHEALHNHYTQKSLSLS------------
4I2X:A|PDBID|CH SKDSTYSMSSTLTLTKDEYERHNSYTCEATHKT-STSPIVKSFNRNEC----------
2WNG:A|PDBID|CH GESVSYSIHSTAKVVLTREDVHSQVICEVAHVTLQGDPLRGTANLSETIRVPPTLEVTQQ
4I2X:E|PDBID|CH GQSVAYSIRSTARVVLDPWDVRSQVICEVAHVTLQGDPLRGTANLSEAIRVPPTLEVTQQ
                   . :: : *.  :     :  .   *.. * :       : . .

4WI2:A|PDBID|CH ----------------------------------------------------------
4I2X:A|PDBID|CH ----------------------------------------------------------
2WNG:A|PDBID|CH PVRAENQVNVTCQVRKFYPQRLQLTWLENGNVSRTETASTVTENKDGTYNWMSWLLVNVS
4I2X:E|PDBID|CH PMRVGNQVNVTCQVRKFYPQSLQLTWSENGNVCQRETASTLTENKDGTYNWTSWFLVNIS


4WI2:A|PDBID|CH ----------------------------------
4I2X:A|PDBID|CH ----------------------------------
2WNG:A|PDBID|CH AHRDDVKLTCQVEHDGQPAVSKSHDLKVSTRHHHHHH
4I2X:E|PDBID|CH DQRDDVVLTCQVKHDGQLAVSKRLALEVSTRHHHHHH
```

FIG. 3



FIG. 4

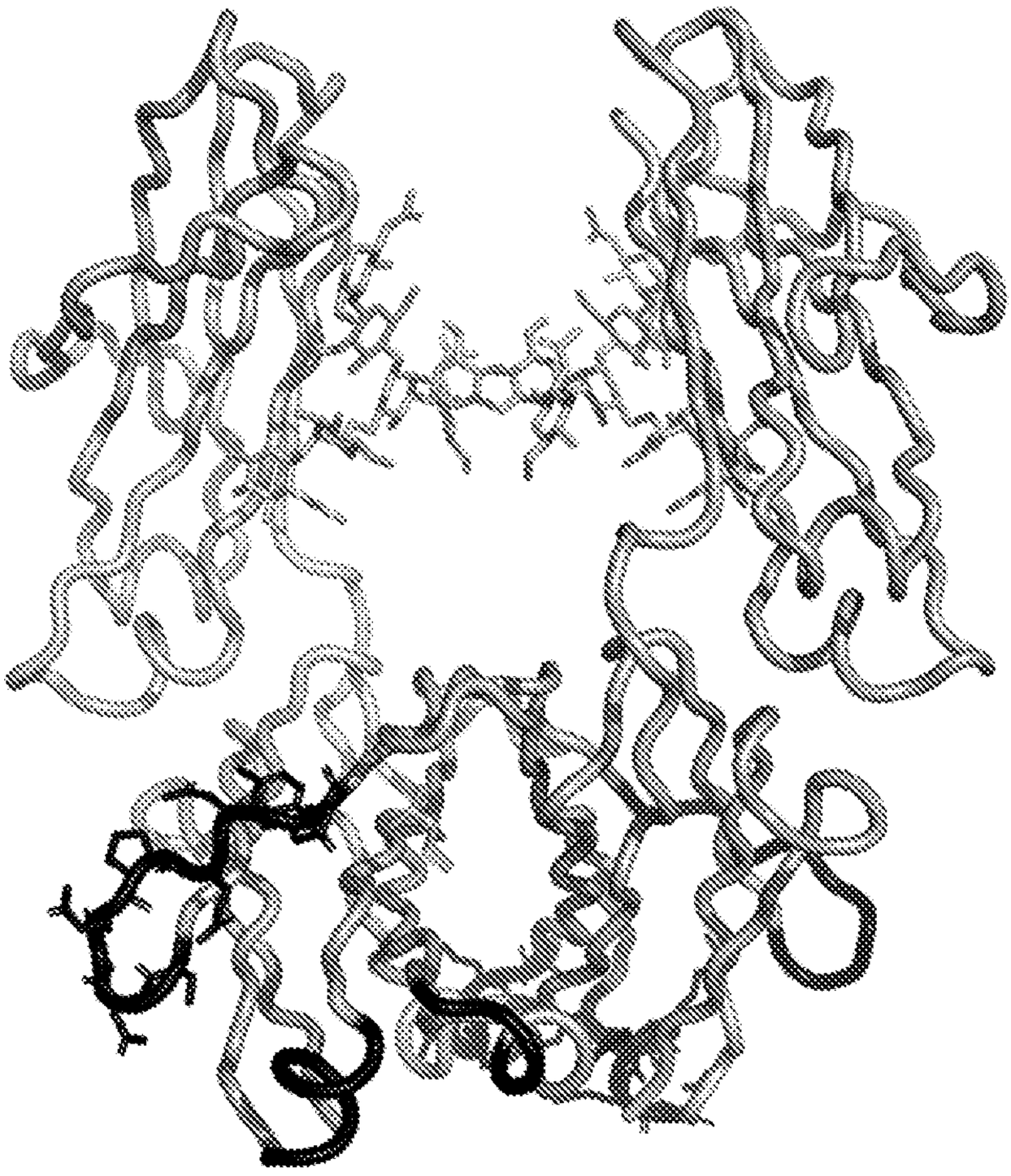

FIG. 5

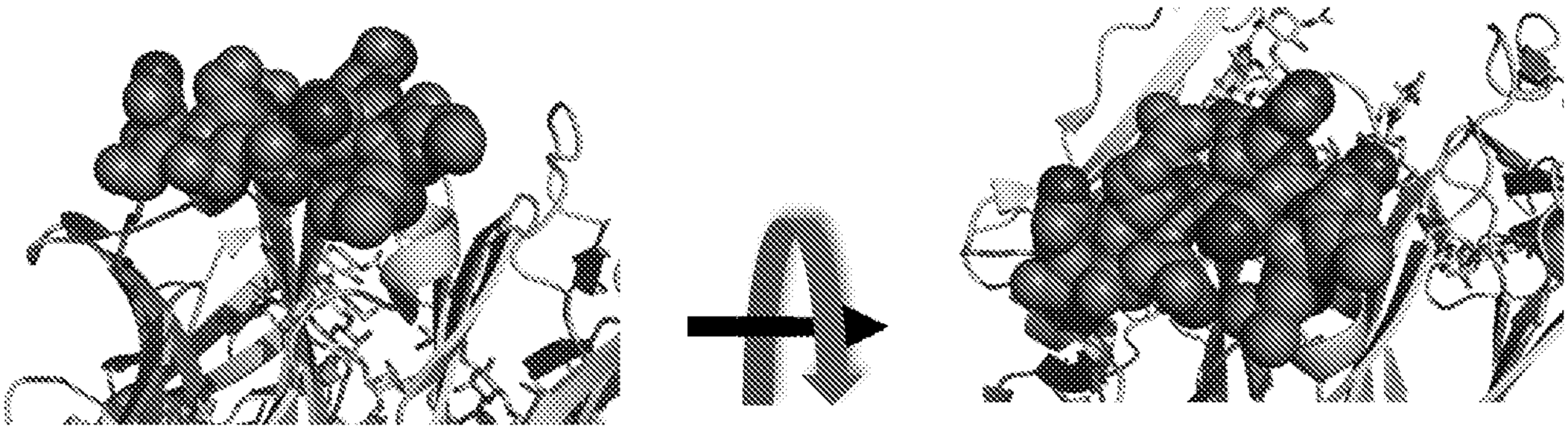

FIG. 6

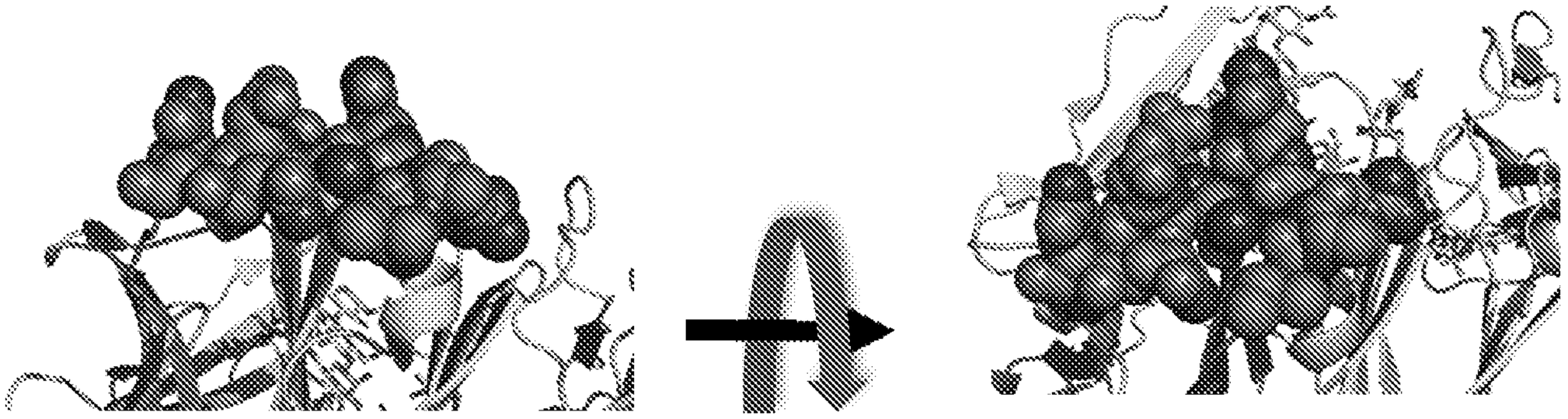

FIG. 7

Lanes:
1: ladder
2: CD-glu (400ng)
3:CD-glu (130 ng)
4: CD-Glu (45 ng)
5: CD-glu (15ng)
6: 2H11 wildtype (400ng)
7: 2H11 wildtype (130 ng)
8: 2H11 wildtype (45 ng)
9: 2H11 wildtype (15ng)
10: CD-4I2X (400 ng)
11: CD-4I2X (40 ng)

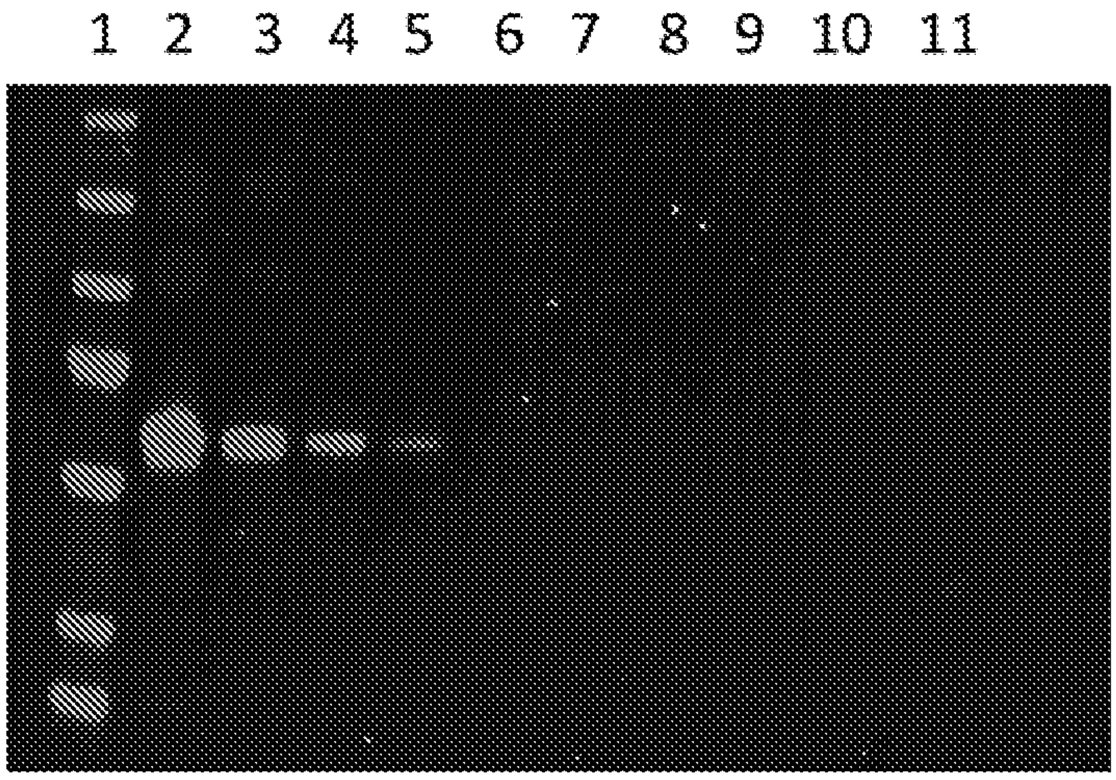

FIG. 8

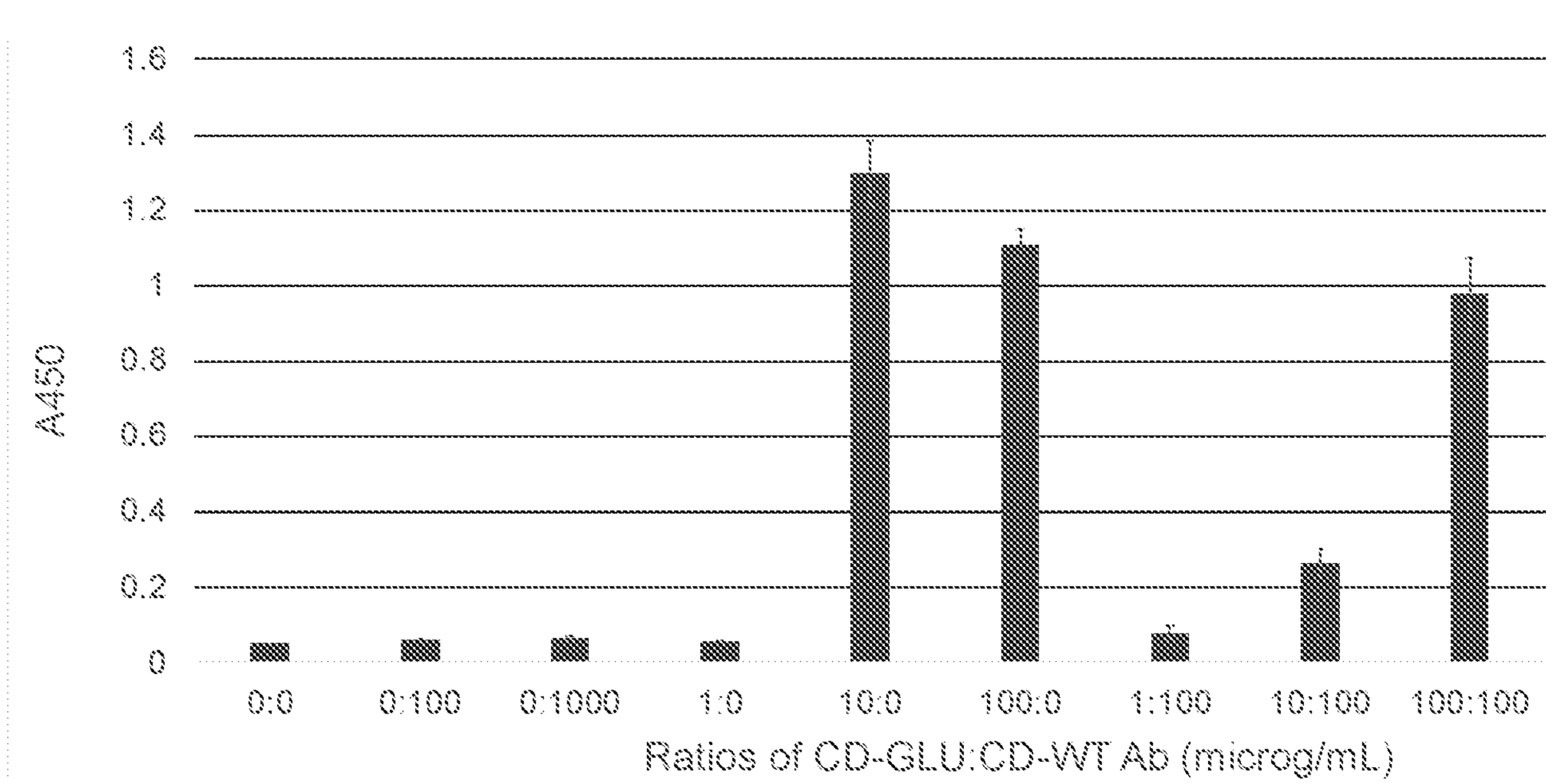
A450
1.6
1.4
1.2
1
0.8
0.6
0.4
0.2
0
0:0
0:100
0:1000
1:0
10:0
100:0
1:100
10:100
100:100
Ratios of CD-GLU:CD-WT Ab (microg/mL)

FIG. 9

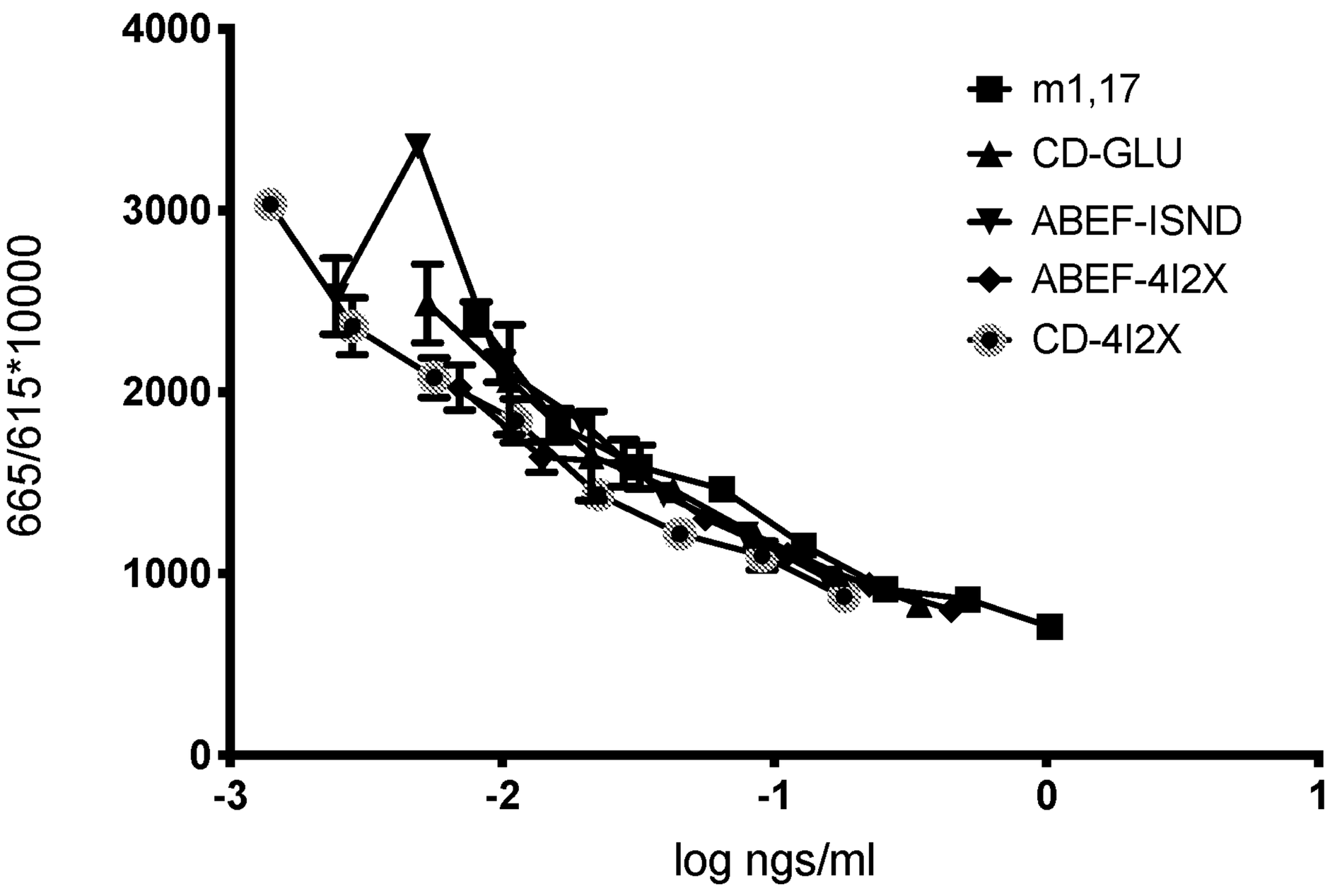
Competitive Inhibition of m1,17 Binding to FcRn
665/615*10000
4000
3000
2000
1000
0
-3
-2
-1
0
1
log ngs/ml
m1,17
CD-GLU
ABEF-ISND
ABEF-4I2X
CD-4I2X

FIG. 10

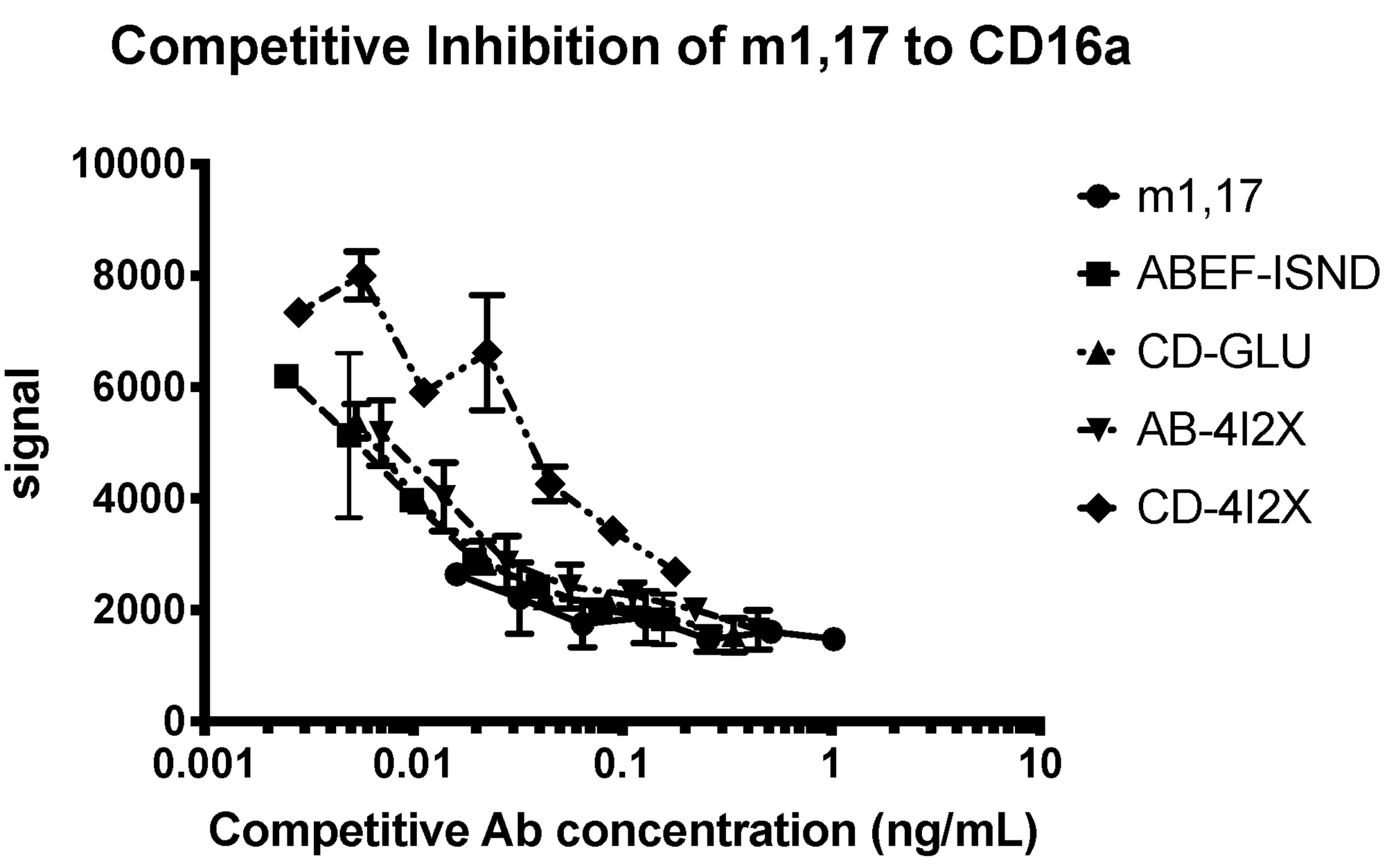
Competitive Inhibition of m1,17 to CD16a
10000
8000
6000
4000
2000
0
0.001
0.01
0.1
1
10
Competitive Ab concentration (ng/mL)
m1,17
ABEF-ISND
CD-GLU
AB-4I2X
CD-4I2X

FIG. 11

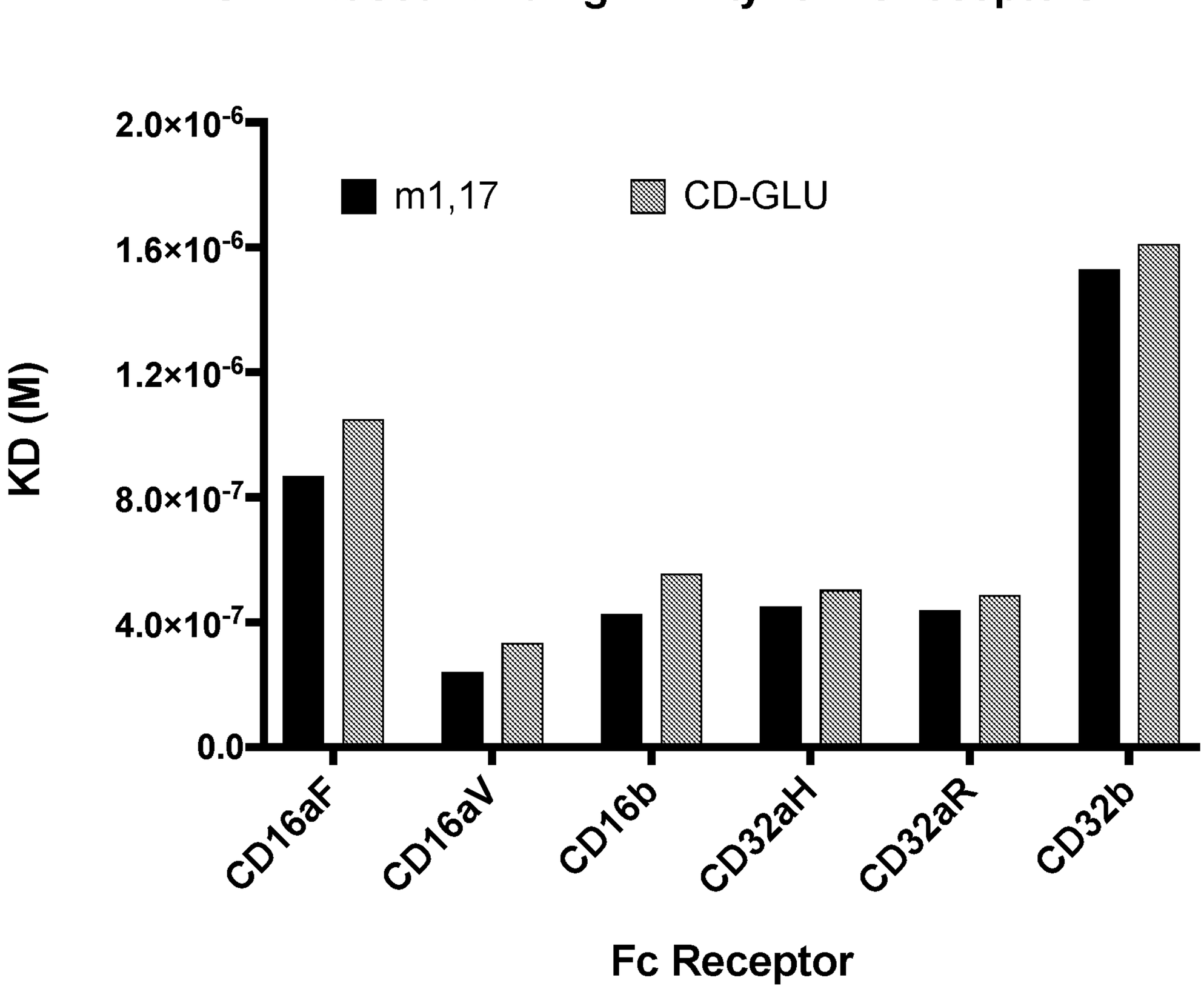
SPR-Based Binding Affinity for FcReceptors
m1,17
CD-GLU
KD (M)
2.0×10-6
1.6×10-6
1.2×10-6
8.0×10-7
4.0×10-7
0.0
CD16aF
CD16aV
CD16b
CD32aH
CD32aR
CD32b
Fc Receptor

FIG. 12

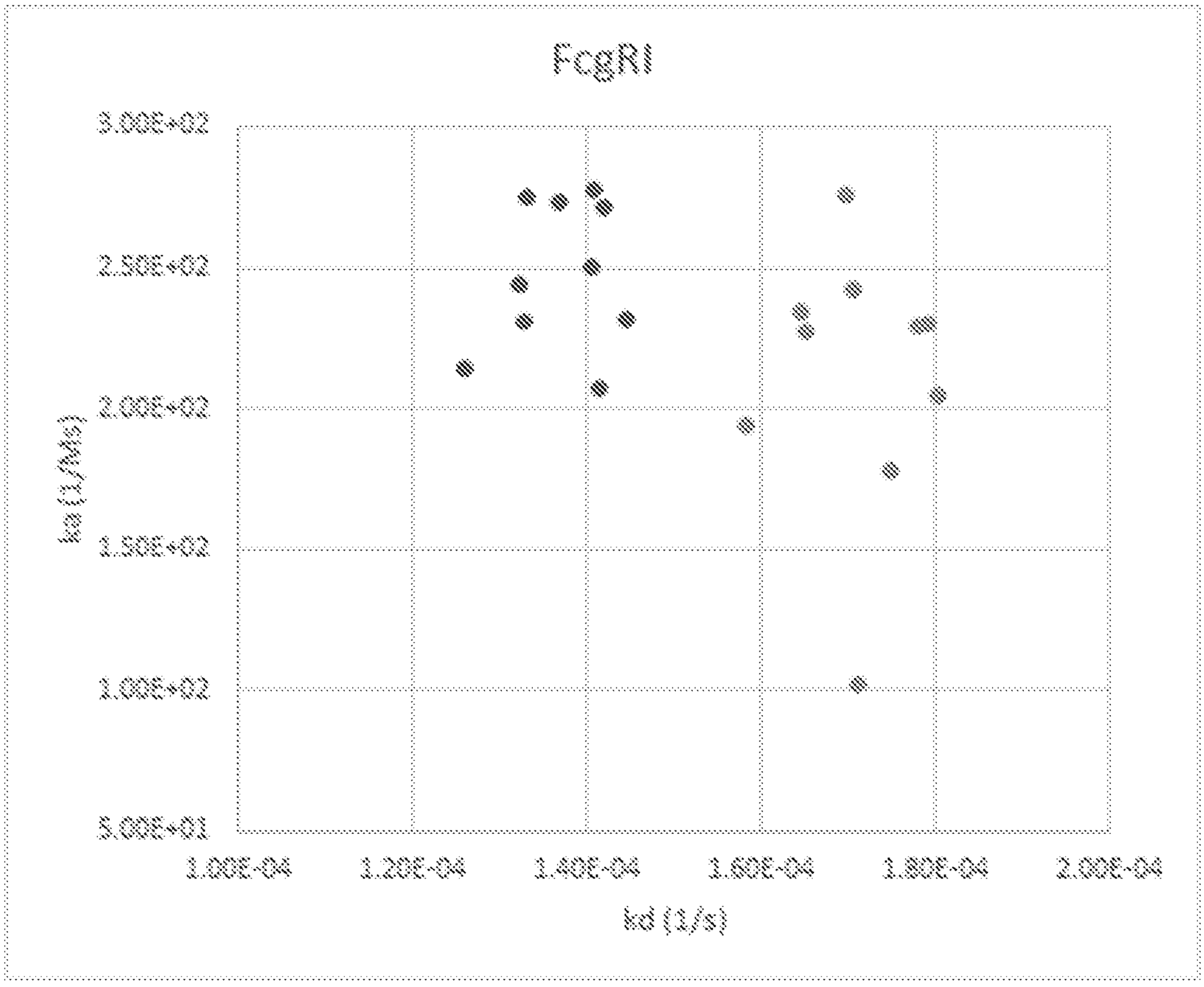
FcgRI
3.00E+02
2.50E+02
2.00E+02
1.50E+02
1.00E+02
5.00E+01
ka (1/Ms)
1.00E-04
1.20E-04
1.40E-04
1.60E-04
1.80E-04
2.00E-04
kd (1/s)

FIG. 13