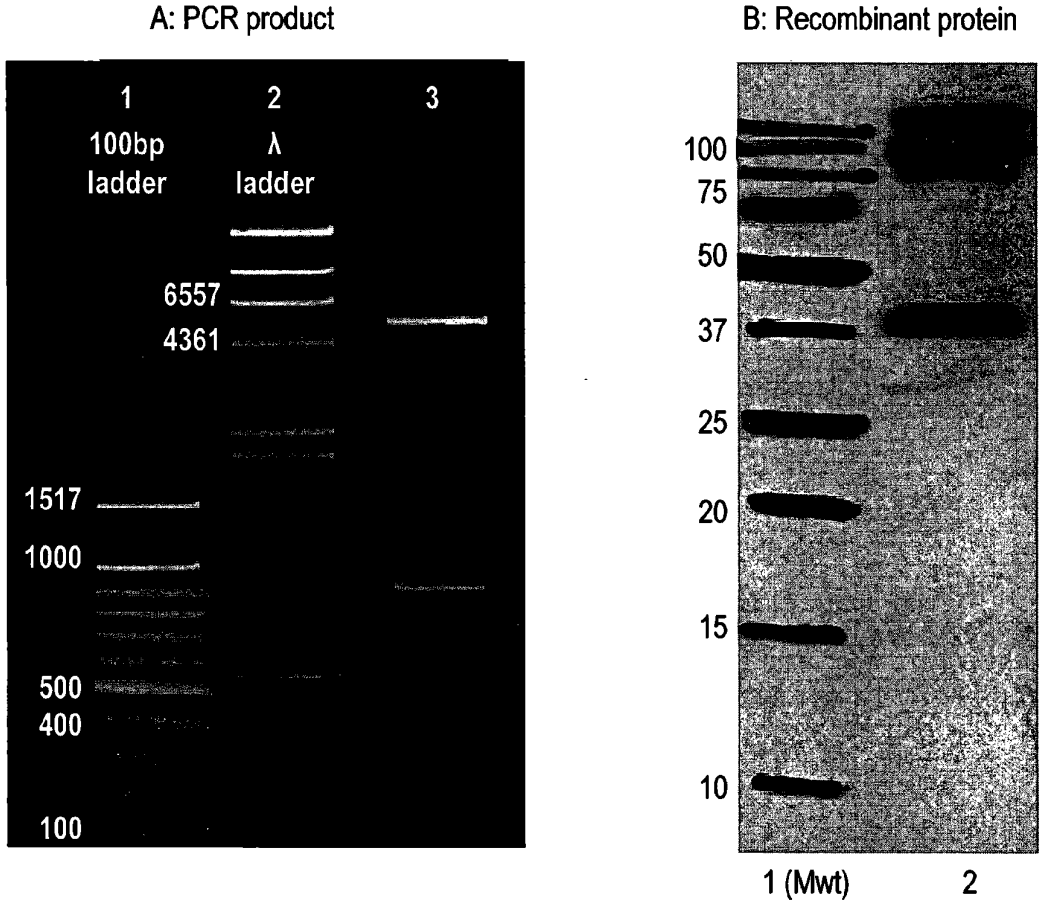

A: PCR product
1
100bp ladder
2
λ ladder
3
6557
4361
1517
1000
500
400
100
B: Recombinant protein
100
75
50
37
25
20
15
10
1 (Mwt)
2

FIG. 1

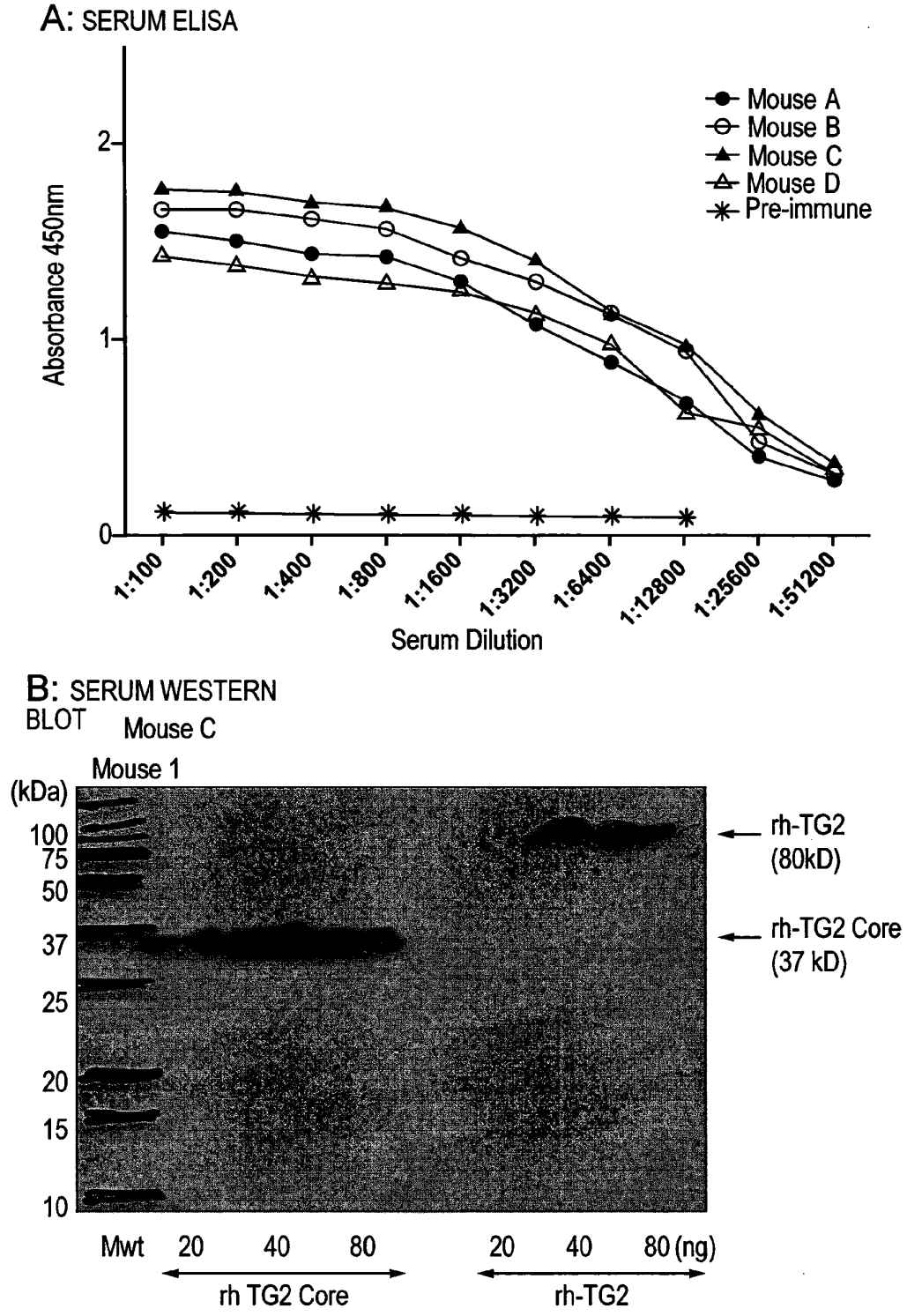
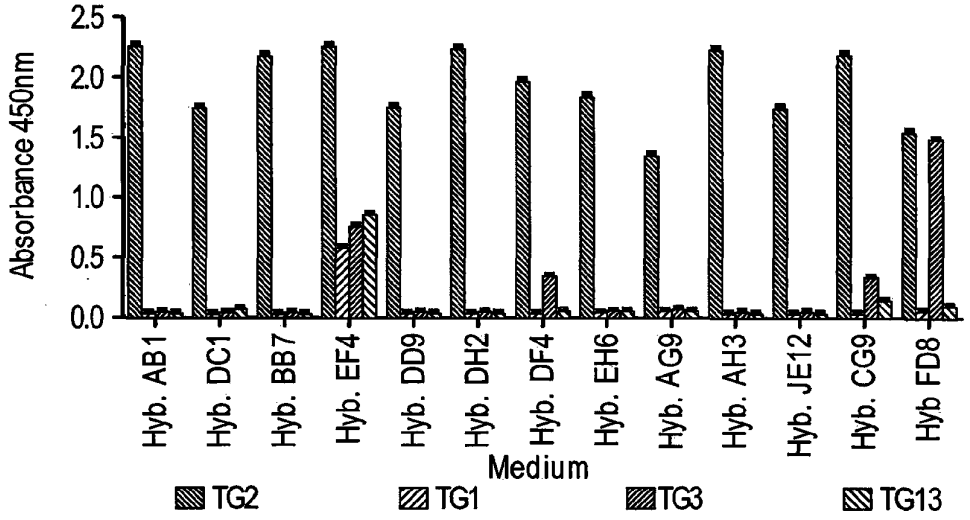

A: SERUM ELISA
Mouse A
Mouse B
Mouse C
Mouse D
Pre-immune
Absorbance 450nm
2
1
0
1:100
1:200
1:400
1:800
1:1600
1:3200
1:6400
1:12800
1:25600
1:51200
Serum Dilution
B: SERUM WESTERN BLOT
Mouse C
Mouse 1
(kDa)
100
75
50
37
25
20
15
10
rh-TG2 (80kD)
rh-TG2 Core (37 kD)
Mwt
20
40
80
20
40
80 (ng)
rh TG2 Core
rh-TG2

FIG. 2

A: Initial screening of conditioned medium



B: Reactivity of clonal purified mAbs

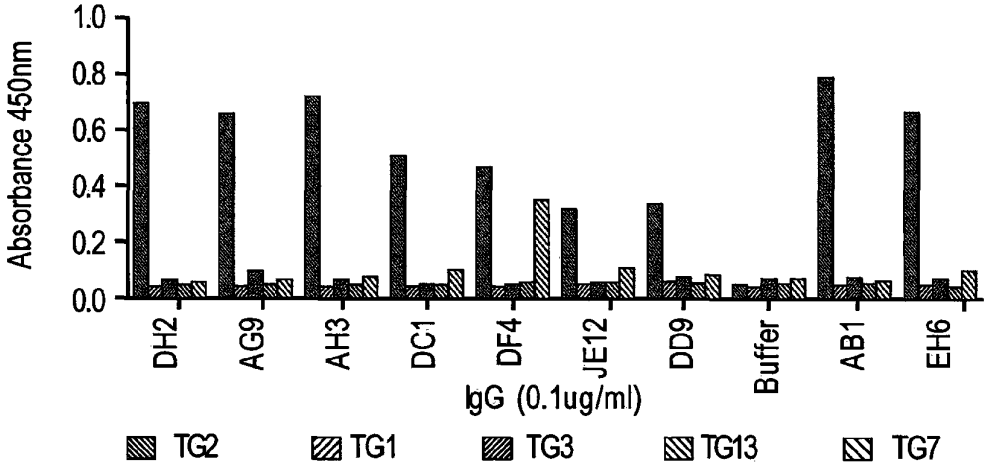


FIG. 3

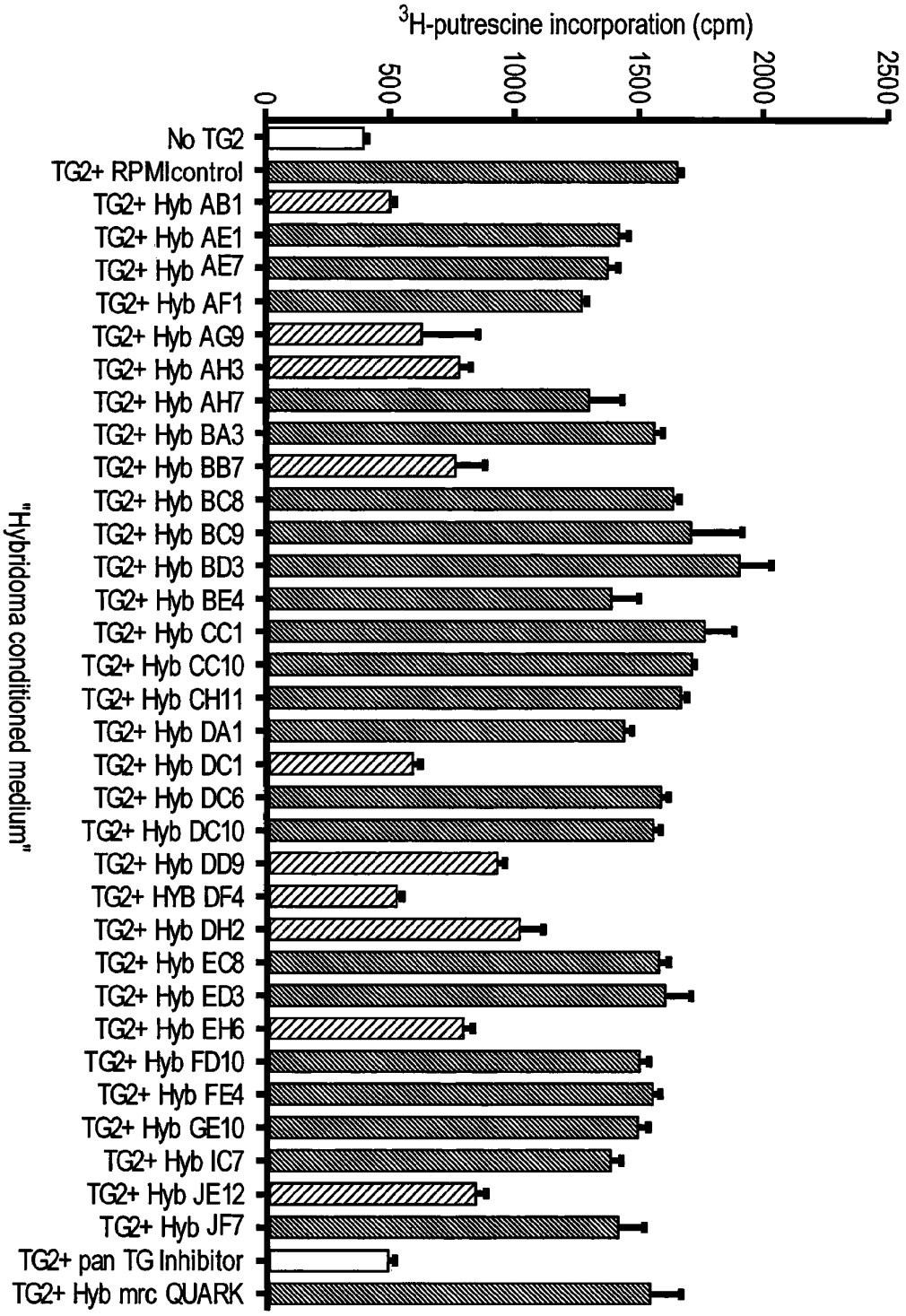

^{3}H-putrescine incorporation (cpm)
0
500
1000
1500
2000
2500
"Hybridoma conditioned medium"
No TG2
TG2+ RPMIcontrol
TG2+ Hyb AB1
TG2+ Hyb AE1
TG2+ Hyb AE7
TG2+ Hyb AF1
TG2+ Hyb AG9
TG2+ Hyb AH3
TG2+ Hyb AH7
TG2+ Hyb BA3
TG2+ Hyb BB7
TG2+ Hyb BC8
TG2+ Hyb BC9
TG2+ Hyb BD3
TG2+ Hyb BE4
TG2+ Hyb CC1
TG2+ Hyb CC10
TG2+ Hyb CH11
TG2+ Hyb DA1
TG2+ Hyb DC1
TG2+ Hyb DC6
TG2+ Hyb DC10
TG2+ Hyb DD9
TG2+ HYB DF4
TG2+ Hyb DH2
TG2+ Hyb EC8
TG2+ Hyb ED3
TG2+ Hyb EH6
TG2+ Hyb FD10
TG2+ Hyb FE4
TG2+ Hyb GE10
TG2+ Hyb IC7
TG2+ Hyb JE12
TG2+ Hyb JF7
TG2+ pan TG Inhibitor
TG2+ Hyb mrc QUARK

FIG. 4

Group 1: Location - in front of active site - substrate binding pocket

AB-1, AG-1, AH-1, BB-7, DC-1, EH-6, JE-12

```
mouseTG2   YNSAHDQNSNLLIEYFRNEFGELESNKSEMI
rat        YNSAHDQNSNLLIEYFRNEYGELESNKSEMI
human      YNSAHDQNSNLLIEYFRNEFGEIQGDKSEMI
           ********************:**:::.:******
```

Group 2: Location - on rear of core behind active site

DF-4

```
mouseTG2   SEMIWNFHCWVESWMTRPDLQPGYEGWQAIDPTPQEKSEGTYCCGPVS
rat        SEMIWNFHCWVESWMTRPDLQPGYEGWQAIDPTPQEKSEGTYCCGPVS
human      SEMIWNFHCWVESWMTRPDLQPGYEGWQALDPTPQEKSEGTYCCGPVP
           ****************************:*****************.
```

Group 3: Location - rear of core junction with beta barrel-1
Encompasses Calcium binding site

DD-9 and DH-2

```
mouseTG2   TYKYPEGSPEEREVFTKANHLNKLAEKEETGVAMRIRVG
rat        TYKYPEGSPEEREVFTRANHLNKLAEKEETGVAMRIRVG
human      TYKYPEGSSEEREAFTRANHLNKLAEKEETGMAMRIRVG
           ********.****.**:**************:*******
```

FIG. 5

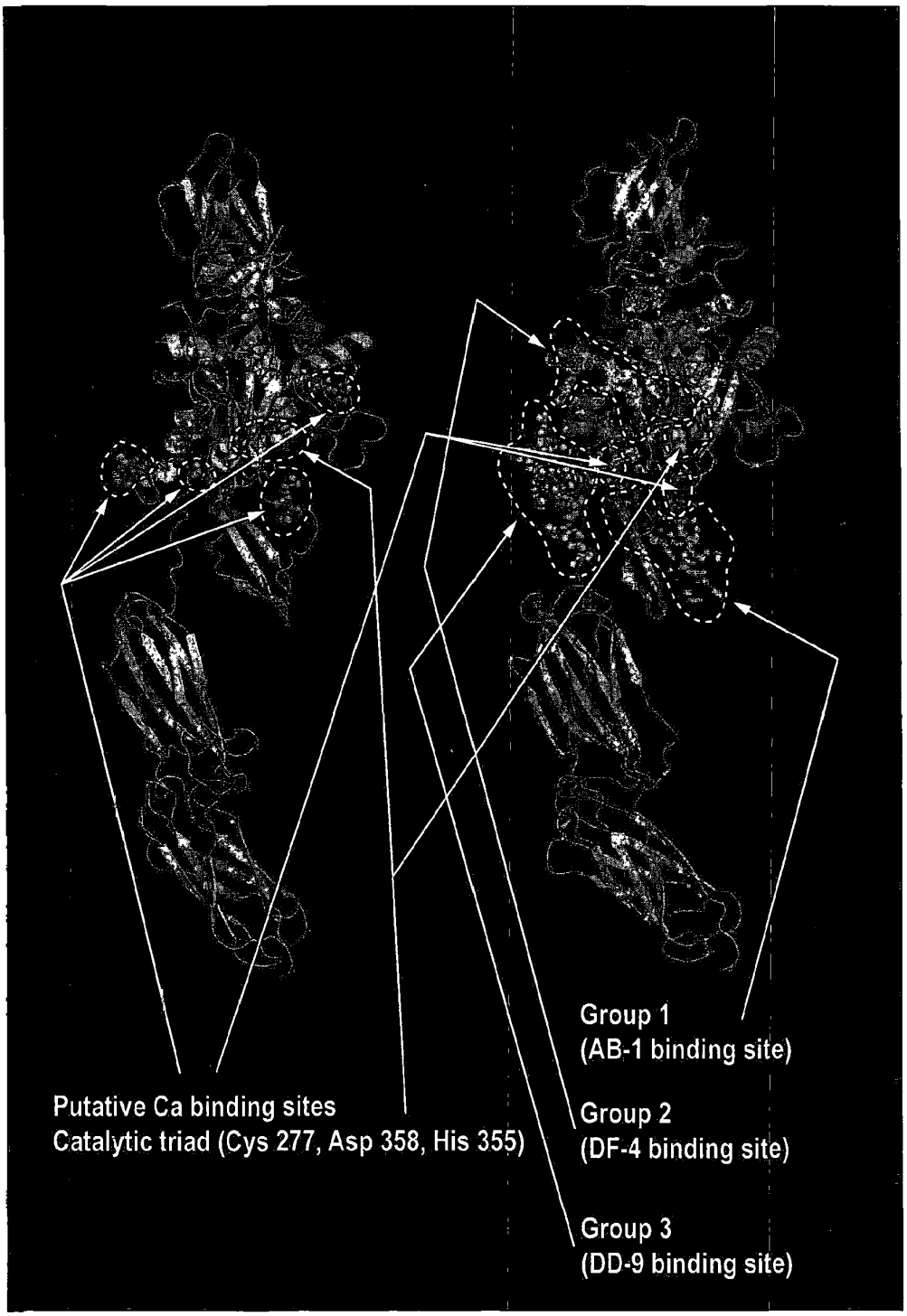

Group 1
(AB-1 binding site)
Group 2
(DF-4 binding site)
Group 3
(DD-9 binding site)
Putative Ca binding sites
Catalytic triad (Cys 277, Asp 358, His 355)

FIG. 6

Antibody AB-1

AB1 VH

GAAGTACAGCTGGAGGAGTCAGGGGGGGGCTTAGTGAAGCCTGGAGGGTCCCTGAAA
CTCTCCTGTGCAGCCTCTGGATTCACTCTCAGTTCCTCTGCCATGTCTTGGGTTCGC
CAGACTCCGGACAGGAGGCTGGAGTGGGTCGCAACCATTAGTGTTGGTGGTGGTAAA
ACCCACTATCCAGACAGTGTGAAGGGTCGCTTCACCATCTCCAGAGACAATGCCAAG
AACACCCTCTATCTGCAAATGAACAGTCTGAGGTCTGAGGACACGGCCATGTATTAC
TGTGCAAAACTAATCAGTCTCTACTGGGGCCAAGGCACCACTCTCACAGTCTCCTCA

AB1 VH

EVQLEESGGGLVKPGGSLKLSCAASGFTLSSSAMSWVRQTPDRRLEWVATISVGGGK
THYPDSVKGRFTISRDNAKNTLYLQMNSLRSEDTAMYYCAKLISLYWGQGTTLTVSS

AB1 VK

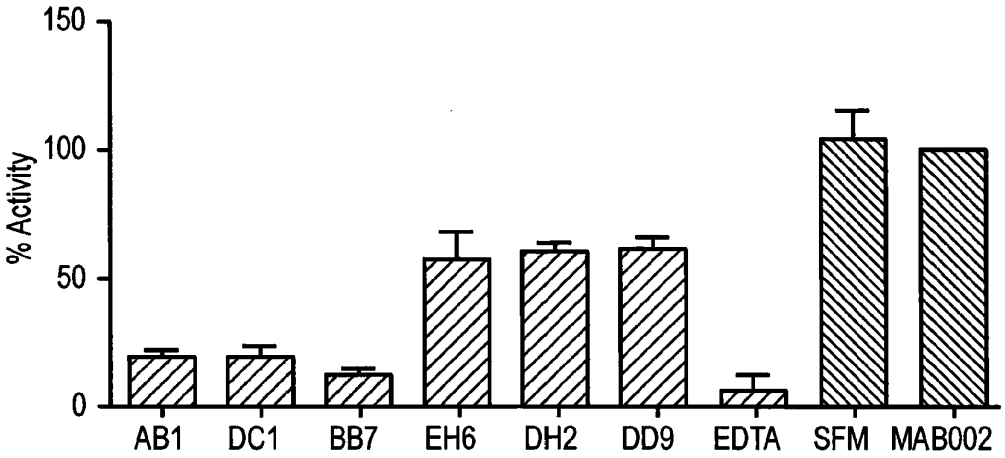
GACATCCAGATGACACAGACTCCATCTTCCATGTATGCATCTCTAGGAGAGAGAGTC
ACTATCACTTGCAAGGCGAGTCAGGACATTAATAGCTATTTAACCTGGTTCCAGCAG
AAACCAGGGAAATCTCCTAAGACCCTGATCTATCGTACAAATAGATTGTTTGATGGG
GTCCCATCCAGGTTCAGTGGCAGTGGATCTGGGCAAGATTTTTTTCTCACCATCAGC
AGCCTGGAATATGAAGATATGGGAATTTATTATTGTCTACAGTATGATGACTTTCCG
TACACGTTCGGAGGGGGGACCAAACTGGAAATAAAA

AB1 VK

DIQMTQTPSSMYASLGERVTITCKASQDINSYLTWFQQKPGKSPKTLIYRTNRLFDG
VPSRFSGSGSGQDFFLTISSLEYEDMGIYYCLQYDDFPYTFGGGTKLEIK

FIG. 7

A: TG inhibition



B: Western blot

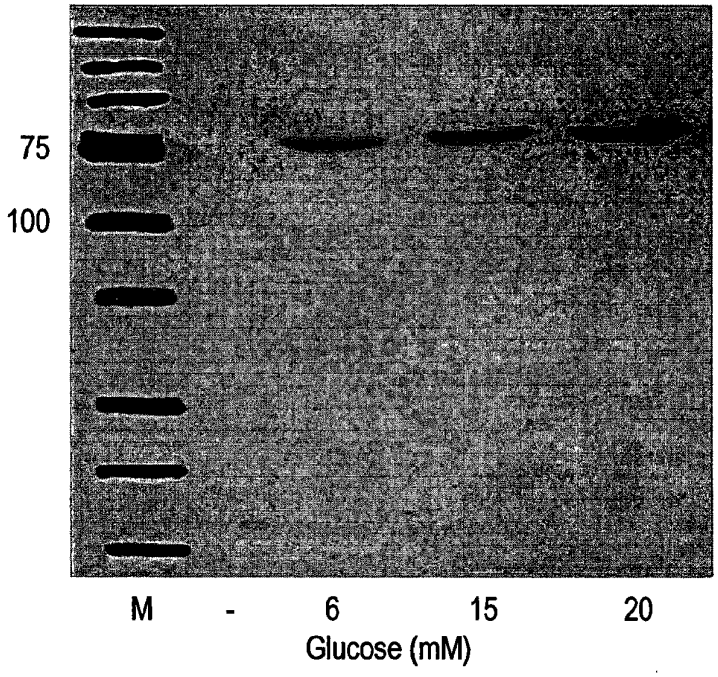
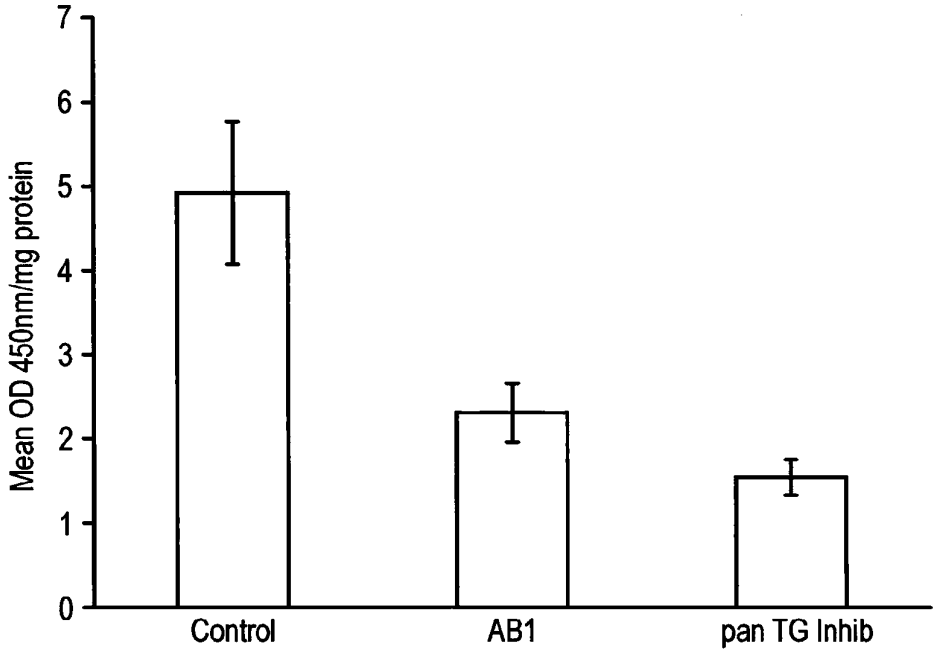


FIG. 8

	IC50 hTG2 (mg/ml IgG per ng TG2)	IC50 rTG2 (mg/ml IgG per ng TG2)	IC50 mTG2 (mg/ml IgG per ng TG2)	Ratio human/rat	hTG2 IC50 ratio to best human inhibitor	rTG2 IC50 ratio to best human inhibitor
AB1	$1.09x10^{-5}$	NI	NI	-	1	-
DC1	$1.23x10^{-5}$	NI	NI	-	1.1	-
BB7	$1.59x10^{-5}$	$3.2x10^{-4}$	NI	20	1.47	29.4
AG9	$4.87x10^{-5}$	NI	NI	-	4.47	-
DD9	$5.24x10^{-5}$	$3.03x10^{-4}$	NI	6	4.87	29.22
DH2	$6.7x10^{-5}$	$2.23x10^{-4}$	NI	-	6.2	38.13
EH6	$6.9x10^{-5}$	$4.03x10^{-4}$	NI	5.8	6.33	36.714
AH3	$7.8x10^{-5}$	NI	NI	-	7.1	-
JE12	$12.3x10^{-6}$	NI	NI	-	11.3	-

FIG. 9

A: Inhibition with antibody AB1



B: Inhibition with antibody DC1

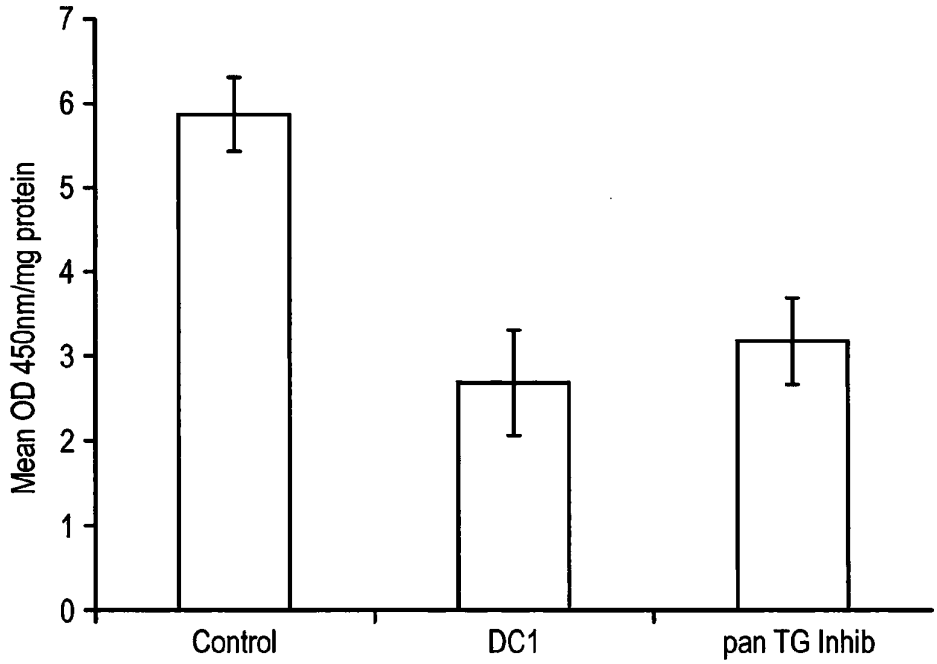


FIG. 10

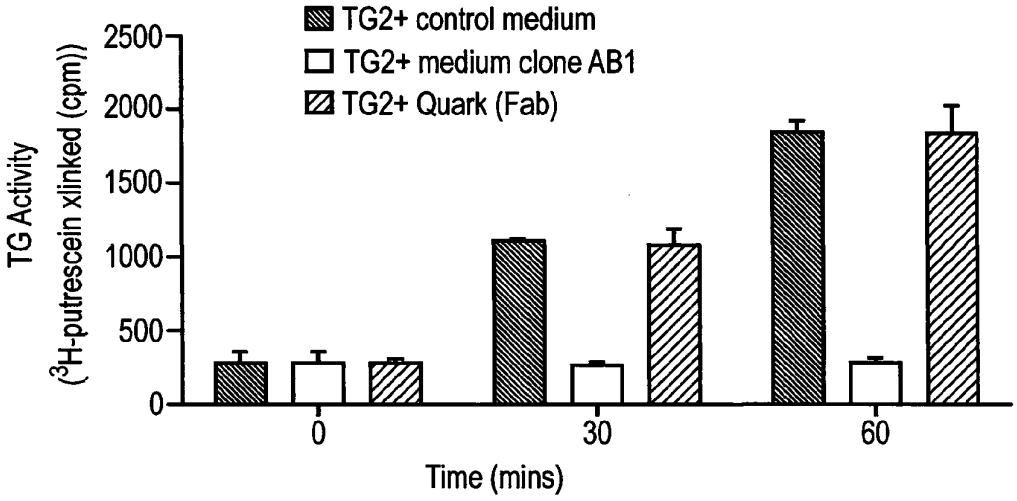

TG2+ control medium
TG2+ medium clone AB1
TG2+ Quark (Fab)
TG Activity
(^{3}H-putrescein xlinked (cpm))
2500
2000
1500
1000
500
0
0
30
60
Time (mins)

FIG. 11

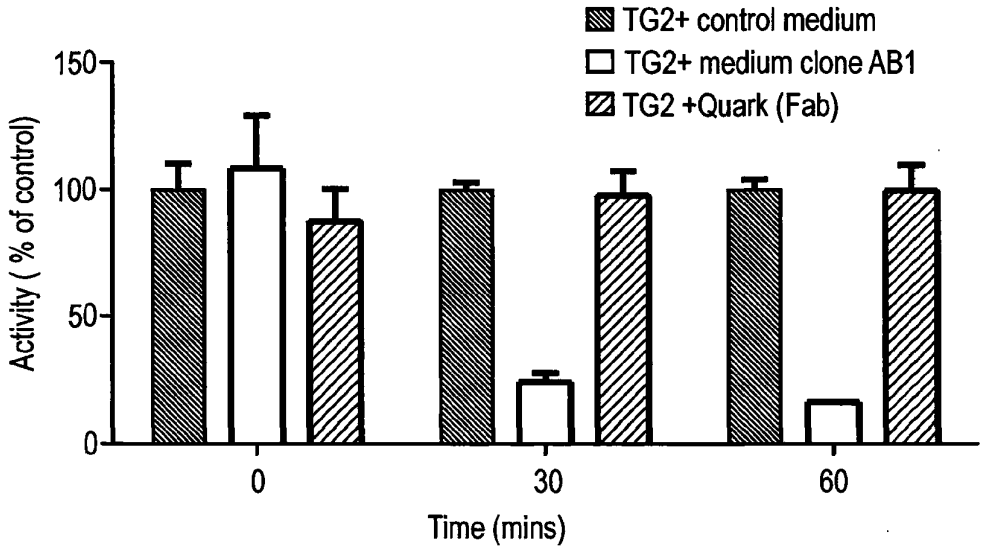

TG2+ control medium
TG2+ medium clone AB1
TG2 +Quark (Fab)
Activity (% of control)
150
100
50
0
0
30
60
Time (mins)

FIG. 12

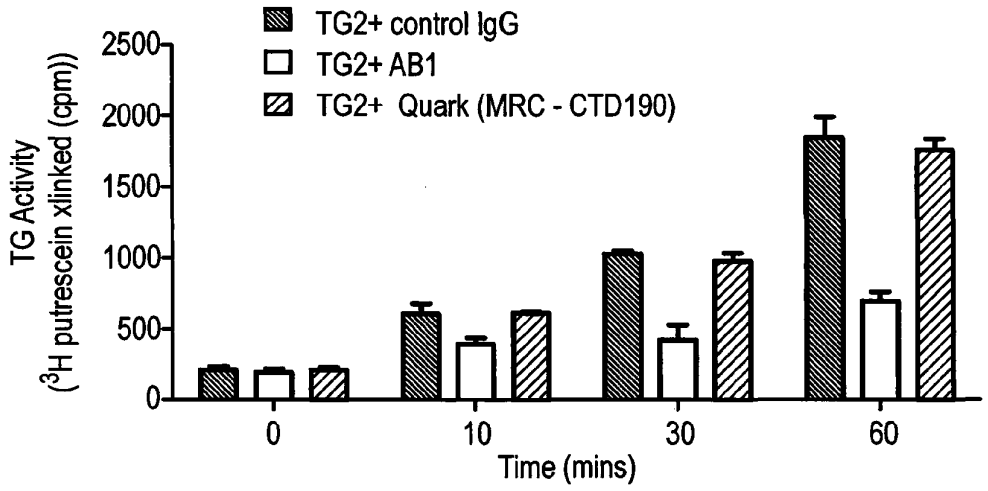

TG2+ control IgG
TG2+ AB1
TG2+ Quark (MRC - CTD190)
TG Activity
(^{3}H putrescein xlinked (cpm))
2500
2000
1500
1000
500
0
0
10
30
60
Time (mins)

FIG. 13

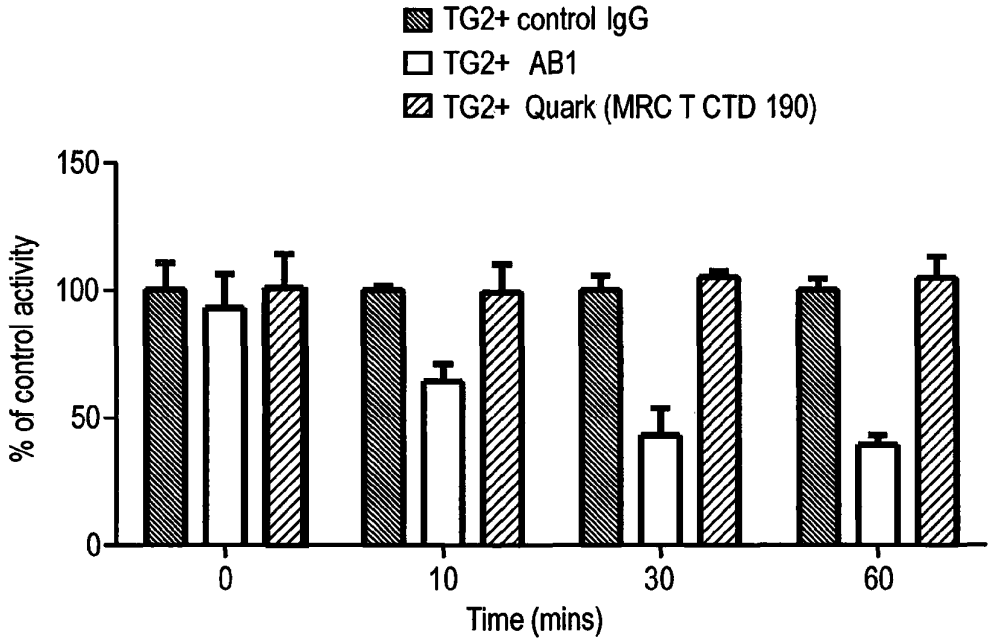

TG2+ control IgG
TG2+ AB1
TG2+ Quark (MRC T CTD 190)
% of control activity
150
100
50
0
0
10
30
60
Time (mins)

FIG. 14

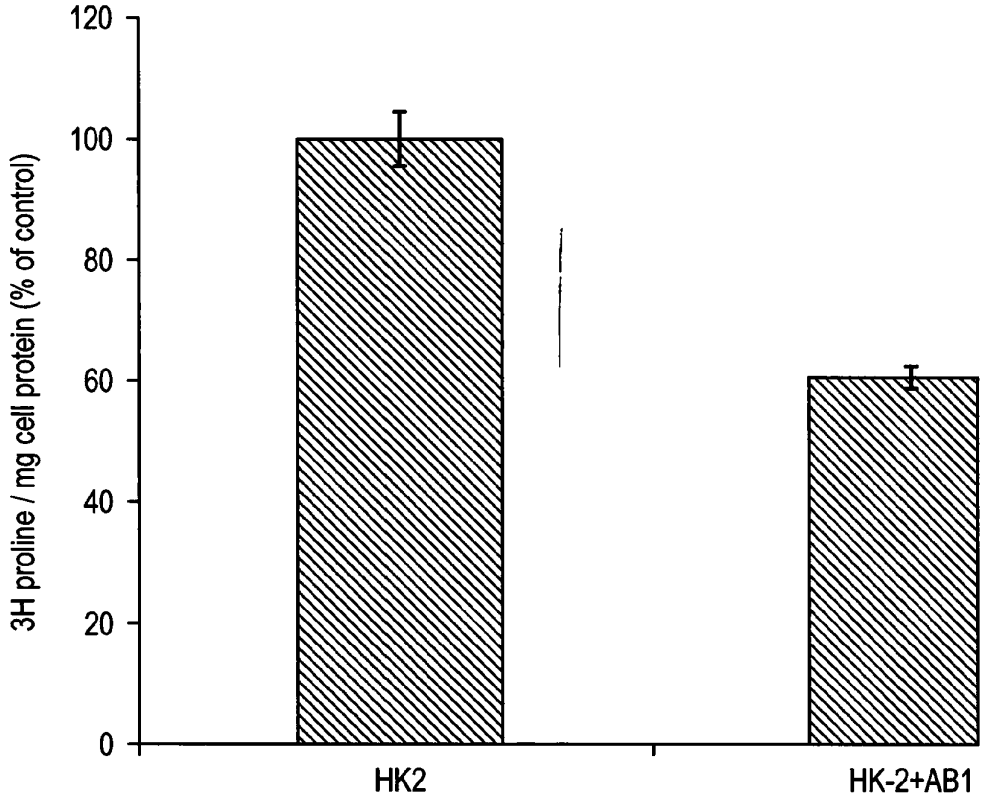

120
100
80
60
40
20
0
3H proline / mg cell protein (% of control)
HK2
HK-2+AB1

FIG. 15

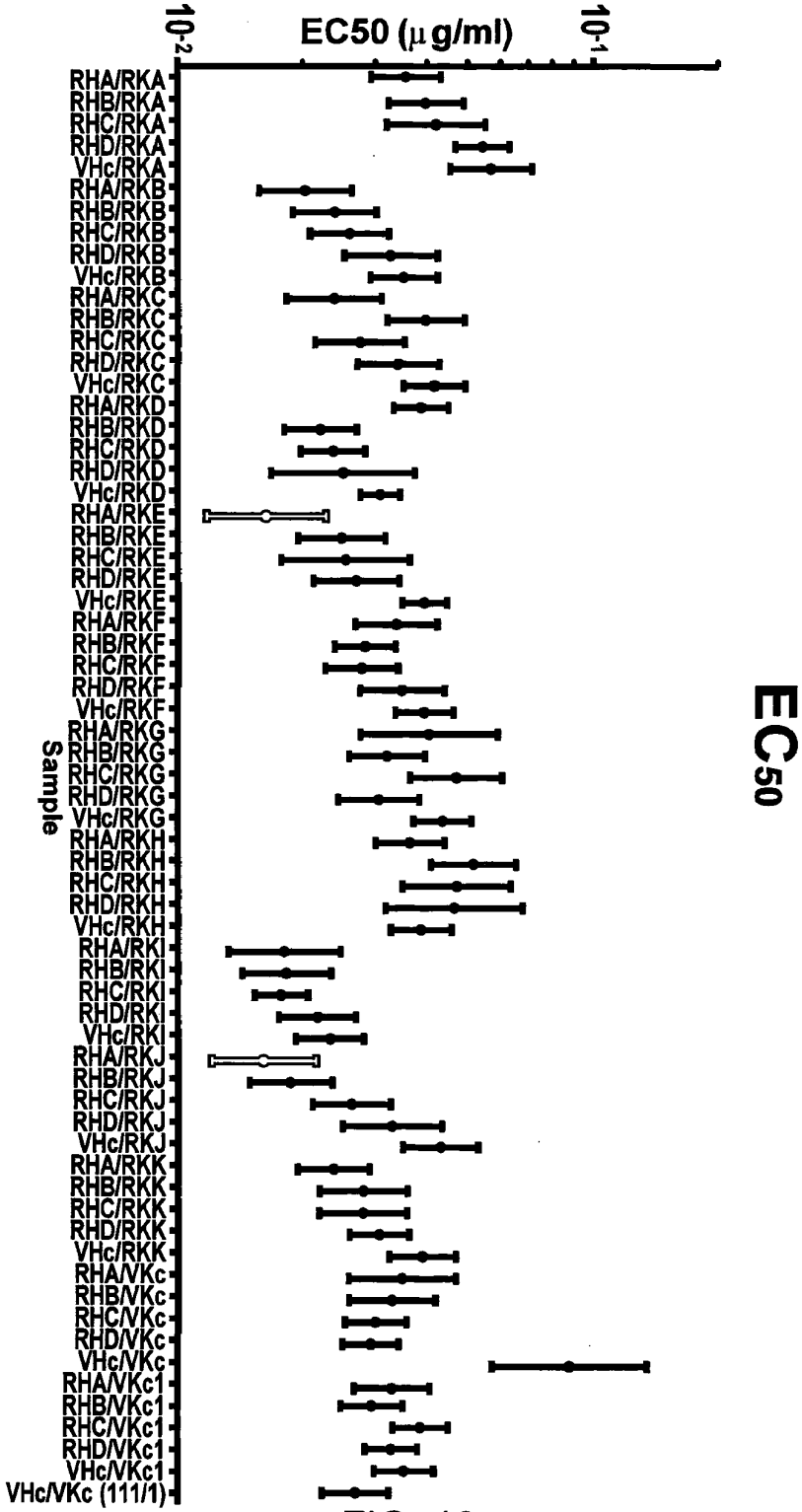

EC50 (μg/ml)
10-2
10-1
Sample
RHA/RKA
RHB/RKA
RHC/RKA
RHD/RKA
VHc/RKA
RHA/RKB
RHB/RKB
RHC/RKB
RHD/RKB
VHc/RKB
RHA/RKC
RHB/RKC
RHC/RKC
RHD/RKC
VHc/RKC
RHA/RKD
RHB/RKD
RHC/RKD
RHD/RKD
VHc/RKD
RHA/RKE
RHB/RKE
RHC/RKE
RHD/RKE
VHc/RKE
RHA/RKF
RHB/RKF
RHC/RKF
RHD/RKF
VHc/RKF
RHA/RKG
RHB/RKG
RHC/RKG
RHD/RKG
VHc/RKG
RHA/RKH
RHB/RKH
RHC/RKH
RHD/RKH
VHc/RKH
RHA/RKI
RHB/RKI
RHC/RKI
RHD/RKI
VHc/RKI
RHA/RKJ
RHB/RKJ
RHC/RKJ
RHD/RKJ
VHc/RKJ
RHA/RKK
RHB/RKK
RHC/RKK
RHD/RKK
VHc/RKK
RHA/VKc
RHB/VKc
RHC/VKc
RHD/VKc
VHc/VKc
RHA/VKc1
RHB/VKc1
RHC/VKc1
RHD/VKc1
VHc/VKc1
VHc/VKc (111/1)
EC50

FIG. 16

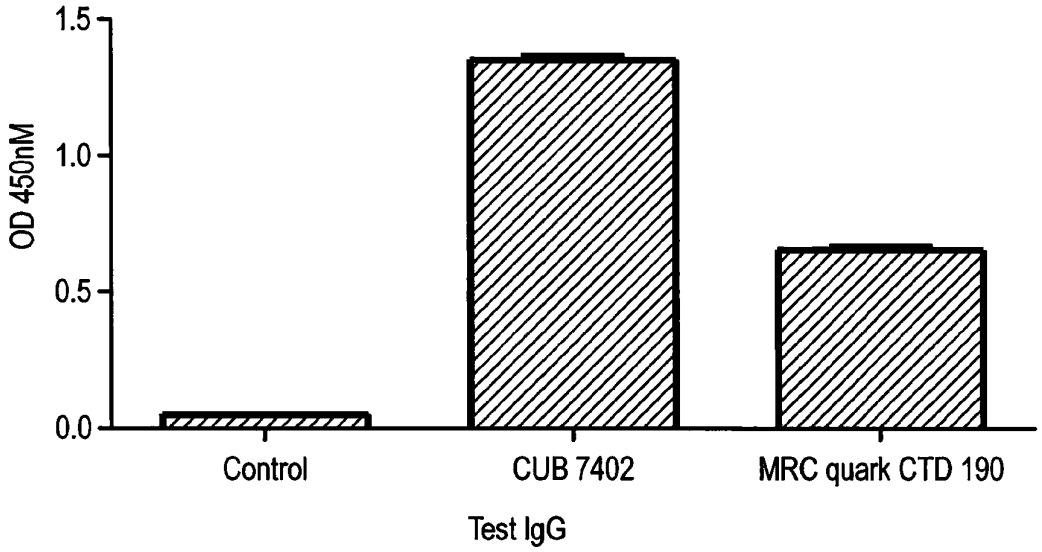

1.5
1.0
0.5
0.0
OD 450nM
Control
CUB 7402
MRC quark CTD 190
Test IgG

FIG. 17

Antibody AB-1

AB1 VH

GAAGTGCAGCTGGTGGAGTCTGGGGGGGGCTTAGTGAAGCCTGGAGGGTCCCTGAAACTCTC
CTGTGCAGCCTCTGGATTCACTCTCAGTTCCTCTGCCATGTCTTGGGTTCGCCAGACTCCGG
ACAGGAGGCTGGAGTGGGTCGCAACCATTAGTGTTGGTGGTGGTAAAACCTACTATCCAGAC
AGTGTGAAGGGTCGCTTCACCATCTCCAGAGACAATGCCAAGAACACCCTCTATCTGCAAAT
GAACAGTCTGAGGTCTGAGGACACGGCCATGTATTACTGTGCAAAACTAATCAGTCTCTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

AB1 VH

EVQLVESGGGLVKPGGSLKLSCAASGFTLSSSAMSWVRQTPDRRLEWVATISVGGGKTYYPD
SVKGRFTISRDNAKNTLYLQMNSLRSEDTAMYYCAKLISLYWGQGTTLTVSS

AB1 VK

GACATCAAGATGACCCAGTCTCCATCTTCCATGTATGCATCTCTAGGAGAGAGAGTCACTAT
CACTTGCAAGGCGAGTCAGGACATTAATAGCTATTTAACCTGGTTCCAGCAGAAACCAGGGA
AATCTCCTAAGACCCTGATCTATCGTACAAATAGATTGTTTGATGGGGTCCCATCCAGGTTC
AGTGGCAGTGGATCTGGGCAAGATTTTTTTCTCACCATCAGCAGCCTGGAATATGAAGATAT
GGGAATTTATTATTGTCTACAGTATGATGACTTTCCGTACACGTTCGGAGGGGGGACCAAAC
TGGAAATAAAA

AB1 VK

DIKMTQSPSSMYASLGERVTITCKASQDINSYLTWFQQKPGKSPKTLIYRTNRLFDGVPSRF
SGSGSGQDFFLTISSLEYEDMGIYYCLQYDDFPYTFGGGTKLEIK

FIG. 18

Antibody BB-7

BB7 VH

GCAGTGCAACTGGTAGAGTCTGGGGGAGGCTTGGTGAAGCCTGGAGGGTCCCTGAAACTCTC
CTGTGCAGCCTCTGGAATCATTTTCAGTTCCTCTGCCATGTCTTGGGTTCGCCAGACTCCGG
AAAAGAGACTGGAGTGGGTCGCAACTATTAGTAGTGGTGGTCGTTCCACCTACTATCCAGAC
AGTGTGAAGGGTCGATTCACCGTCTCCAGAGACAGTGCCAAGAACACCCTATACCTGCAAAT
GGACAGTCTGAGGTCTGAGGACACGGCCATTTATTACTGTGCAAAACTAATCAGTCCCTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

BB7 VH

AVQLVESGGGLVKPGGSLKLSCAASGIIFSSSAMSWVRQTPEKRLEWVATISSGGRSTYYPD
SVKGRFTVSRDSAKNTLYLQMDSLRSEDTAIYYCAKLISPYWGQGTTLTVSS

BB7 VK

GCCATCAAGATGACCCAGTCTCCATCTTCCATGTATGCATCTCTAGGAGAGAGAGTCATCAT
CACTTGCAAGGCGAGTCAGGACATAAATAGTTATTTAACCTGGTTCCAACAGAAACCAGGAA
AGTCTCCTAAGACCCTGATCTATCTTACAAATAGATTGATGGATGGGGTCCCATCAAGGTTC
AGTGGCAGTGGATCTGGGCAAGAATTTTTACTCACCATCAGCGGCCTGGAACATGAAGATAT
GGGCATTTATTATTGTCTCCAGTATGTTGACTTTCCGTACACGTTCGGAGGGGGGACCAAGC
TGGAAATAAAA

BB7 VK

AIKMTQSPSSMYASLGERVIITCKASQDINSYLTWFQQKPGKSPKTLIYLTNRLMDGVPSRF
SGSGSGQEFLLTISGLEHEDMGIYYCLQYVDFPYTFGGGTKLEIK

FIG. 19

Antibody DC-1

DC1_VH

GAAGTGCAGTTGGTGGAGTCTGGGGGAGGCTTAGTGAAGCCTGGAGGGTCCCTGAAACTCTC
CTGTGCAGCCTCTGGATTCACTCTCAGTACCCATGCCATGTCTTGGGTTCGCCAGACTCCGG
AGAAGAGGCTGGAGTGGGTCGCAACCATTAGTAGTGGTGGTCGTTCCACCTACTATCCAGAC
AGTGTGAAGGGTCGATTCACTATCTCCAGAGACAATGTCAAGAACACCCTATATCTGCAACT
GAGCAGTCTGAGGTCTGAGGACACGGCCGTGTATTTCTGTGCAAGACTAATCAGTACCTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

DC1_VH

EVQLVESGGGLVKPGGSLKLSCAASGFTLSTHAMSWVRQTPEKRLEWVATISSGGRSTYYPD
SVKGRFTISRDNVKNTLYLQLSSLRSEDTAVYFCARLISTYWGQGTTLTVSS

DC1_VK

GACATCACGATGACCCAGTCTCCATCTTCCATATATGCATCTCTGGGAGAGAGAGTCACTAT
CACTTGCAAGGCGAGTCAGGACATTAATAGCTATTTAACCTGGTTCCAGCAGAAACCAGGGA
AATCTCCTAAGATCCTGATCTATCTTGTAAATAGATTGGTAGATGGGGTCCCATCAAGGTTC
AGTGGCAGTGGATCTGGGCAAGATTATGCTCTCACCATCAGCAGTCTGGAATATGAAGATAT
GGGAATTTATTATTGTCTACAATATGATGACTTTCCGTACACGTTCGGAGGGGGGACCAAGC
TGGAAATAAAA

DC1_VK

DITMTQSPSSIYASLGERVTITCKASQDINSYLTWFQQKPGKSPKILIYLVNRLVDGVPSRF
SGSGSGQDYALTISSLEYEDMGIYYCLQYDDFPYTFGGGTKLEIK

FIG. 20

Antibody JE-12

JE12 VH

GAGGTCCAGCTGCAGCAGTCTGGACCTGAGCTGGTAAAGCCTGGGGCTTCAGTGAAGATGTC
CTGCAAGGCTTCTGGATACAGATTCACTAGCTATGTTATGCACTGGGTGAAACAGAAGTCTG
GGCAGGGCCTTGAGTGGATTGGATATATTAATCCTTACAATGATGGTGCTAAGTACAATGAG
AAGTTCAAAGGCAAGGCCACACTGACTTCAGACAAATCCTCCAGCACAGCCTACATGGAGCT
CAGCAGCCTGACCTCTGAGGACTCTGCGGTCTATTACTGTGCAAGACTATCTAGTGACTATT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

JE12 VH

EVQLQQSGPELVKPGASVKMSCKASGYRFTSYVMHWVKQKSGQGLEWIGYINPYNDGAKYNE
KFKGKATLTSDKSSSTAYMELSSLTSEDSAVYYCARLSSDYWGQGTTLTVSS

JE12 VK

GATGTTTTGATGACCCAAAATCCACTCTCCCTGCCTGTCAGTCTTGGAGATCAAGCCTCCAT
CTCTTGCAGATCTAGTCAGAGCATTGAACATATTAATGGAAACACCTATTTAGAATGGTACC
TGCAGAAACCAGGCCAGTCTCCAAAGTTCCTGATCTACAAAGTTTCCAACCGATTTTCTGGG
GTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAGGATCAGCAGAGT
GGAGGCTGAAGATCTGGGAATTTATTACTGCTTTCAAGGTTCACATGTTCCGTTCACGTTCG
GAGGGGGGACCAAGCTGGAAATAAAA

JE12 VK

DVLMTQNPLSLPVSLGDQASISCRSSQSIEHINGNTYLEWYLQKPGQSPKFLIYKVSNRFSG
VPDRFSGSGSGTDFTLRISRVEAEDLGIYYCFQGSHVPFTFGGGTKLEIK

FIG. 21

Antibody EH-6

EH6 VH

GAGGTCCAGCTGCAGCAGTCTGGACCTGAGCTGGTAAAGCCTGGGGCTTCAGTGAAGATGTC
CTGCAAGGCTTCTGGATACACATTCACTAGTTATGTTATGCACTGGGTGAAGCAGAAGCCTG
GGCAGGGCCTTGAGTGGATTGGATTTATTAATCCTTACAATGATGGTACTAAGTACAATGAG
AAGTTCAAAGGCAAGGCCACACTGACCTCAGACAAAGCCTCCACCACAGCCTACATGGAGCT
CAGCAGCCTGACCTCTGAGGACTCTGCGGTCTATTACTGTGCAAGATTCTCCTCTGGGTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

EH6 VH

EVQLQQSGPELVKPGASVKMSCKASGYTFTSYVMHWVKQKPGQGLEWIGFINPYNDGTKYNE
KFKGKATLTSDKASTTAYMELSSLTSEDSAVYYCARFSSGYWGQGTTLTVSS

EH6 VK

GATGTTTTGATGACCCAAACTCCACTCTCCCTGCCTGTCAGTCTTGGAGATCAAGCCTCCAT
CTCTTGCAGATCTAGTCAGAGTATTGTACATAGTAATGGAAACACCTATTTAGAATGGTACC
TGCAGAAACCAGGCCAGTCTCCAAAGCTCCTGATCTACAAAGTTTCCAATCGATTTTCTGGG
GTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAAGATCAGCAGAGT
GGGGGCTGAGGATCTGGGAGTTTATTACTGCCTTCAAGTTTCACATGTTCCTTTCACGTTCG
GCTCGGGGACAAAGTTGGAAATAAAA

EH6 VK

DVLMTQTPLSLPVSLGDQASISCRSSQSIVHSNGNTYLEWYLQKPGQSPKLLIYKVSNRFSG
VPDRFSGSGSGTDFTLKISRVGAEDLGVYYCLQVSHVPFTFGSGTKLEIK

FIG. 22

Antibody AG-9

AG9 VH

GAGGTCCAGCTGCAGCAGTCTGGACCTGAGTTGGTAAAGCCTGGGGCTTCAGTGAAGATGTC
CTGCAGGGCTTCTGGATACACATTCACTACCTATGTTATTCACTGGGTGAAGCAGAAGCCTG
GGCAGGGCCTTGAGTGGATTGGATATATTAATCCTTACAATGATGGTGCTAGGTACAATGAG
AAGTTCAAAGGCAAGGCCACACTGACTTCAGACAAATCCTCCACCACAGCCTACATGGAACT
CAGCAGCCTGACCTCTGAGGACTCTGCGGTCTATTACTGTGCAAGACTTTCTAGTGACTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

AG9 VH

EVQLQQSGPELVKPGASVKMSCRASGYTFTTYVIHWVKQKPGQGLEWIGYINPYNDGARYNE
KFKGKATLTSDKSSTTAYMELSSLTSEDSAVYYCARLSSDYWGQGTTLTVSS

AG9 VK

GATGTTTTGATGACCCAAAATCCACTCTCCCTGCCTGTCAGTCTTGGCGATCAGGCCTCCAT
CTCTTGCAGATCTAGTCGGAGCATTGAACATAGTAATGGAAACACCTATTTGGAATGGTACC
TGCAGAAACCAGGCCAGTCTCCAAAGTTCCTGATCTACAAAGTTTCCAACCGATTTTCTGGG
GTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAGGATCAGCAGTGT
GGAGGCTGAGGATCTGGGAGTTTATTACTGCTTTCAAGGTTCACATGTTCCGTTCACGTTCG
GAGGGGGGACCAAGCTGGAAATAAAA

AG9 VK

DVLMTQNPLSLPVSLGDQASISCRSSRSIEHSNGNTYLEWYLQKPGQSPKFLIYKVSNRFSG
VPDRFSGSGSGTDFTLRISSVEAEDLGVYYCFQGSHVPFTFGGGTKLEIK

FIG. 23

Antibody AH-3

AH3 VH

GAGGTCCAGCTGCAGCAGTCTGGACCTGAGCTGGTAAAGCCTGGGGCTTCAGTGAAGATGTC
CTGCAGGGCTTCTGGATACACATTCACTACCTATGTTATTCACTGGGTGAAGCAGAAGCCTG
GGCAGGGCCTTGAGTGGATTGGATATATTAATCCTTACAATGATGGTGCTAGGTACAATGAG
AAGTTCAAAGGCAAGGCCACACTGACTTCAGACAAATCCTCCACCACAGCCTACATGGAACT
CAGCAGCCTGACCTCTGAGGACTCTGCGGTCTATTACTGTGCAAGACTATCTAGTGACTACT
GGGGCCAAGGCACCACTCTCACAGTCTCCTCA

AH3 VH

EVQLQQSGPELVKPGASVKMSCRASGYTFTTYVIHWVKQKPGQGLEWIGYINPYNDGARYNE
KFKGKATLTSDKSSTTAYMELSSLTSEDSAVYYCARLSSDYWGQGTTLTVSS

AH3 VK

GATGTTTTGATGACCCAAAATCCACTCTCCCTGCCTGTCAGTCTTGGAGATCAGGCCTCCAT
CTCTTGCAGATCTAGTCGGAGCATTGAACATAGTAATGGAAACACCTATTTGGAATGGTACC
TGCAGAAACCAGGCCAGTCTCCAAAGTTCCTGATCTACAAAGTTTCCAACCGATTTTCTGGG
GTCCCAGACAGGTTCAGTGGCAGTGGATCAGGGACAGATTTCACACTCAGGATCAGCAGTGT
GGAGGCTGAGGATCTGGGAGTTTATTACTGCTTTCAAGGTTCACATGTTCCGTTCACGTTCG
GAGGGGGGACCAAGCTGGAAATAAAA

AH3 VK

DVLMTQNPLSLPVSLGDQASISCRSSRSIEHSNGNTYLEWYLQKPGQSPKFLIYKVSNRFSG
VPDRFSGSGSGTDFTLRISSVEAEDLGVYYCFQGSHVPFTFGGGTKLEIK

FIG. 24

Antibody DD-9

DD9 VH

CAGGTTACTCTGAAAGAGTCTGGCCCTGGGATATTGCAGCCCTCCCAGACCCTCAGTCTGAC
TTGTTCTTTTTCTGGGTTTTCACTGAGCACTTCGGGTATGGGTGTGAGTTGGATTCGTCAGT
CCTCAGGAAAGGGTCTGGAGTGGCTGGCACACATTTACTGGGATGATGACAAGCGCTATAAC
CCATCCCTGAAGAGCCGGATCACAATCTCCAAGGATTCCTCAAGCAACCAGGTATTCCTCAA
GATCACCAGTGTGGACACTGCAGATACTGCCACATATTACTGTGCTCGAAGTTGGACTACGG
CCCCGTTTGCTTTCTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCA

DD9 VH

QVTLKESGPGILQPSQTLSLTCSFSGFSLSTSGMGVSWIRQSSGKGLEWLAHIYWDDDKRYN
PSLKSRITISKDSSSNQVFLKITSVDTADTATYYCARSWTTAPFAFWGQGTLVTVSA

DD9 VK

CAAATTGTTCTCACCCAGTCTCCAGCAATCATGTCTGCATCTCCAGGGGAGAAGGTCACCAT
GACCTGCAGTGCCAGCTCAAGTGTAGATTACATGTACTGGTACCAGCAGAAGCCAGGATCCT
CCCCCAGACTCCTGATTTATGACACATCCAACCTGGCTTCTGGAGTCCCTGTTCGCTTCAGT
GGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCCGAATGGGGGCTGAAGATGCTGC
CACTTATTACTGCCAACAGTGGAATAGTTCCCCGCTCACGTTCGGTGCTGGGACCAAGCTGG
AGCTGAAA

DD9 VK

QIVLTQSPAIMSASPGEKVTMTCSASSSVDYMYWYQQKPGSSPRLLIYDTSNLASGVPVRFS
GSGSGTSYSLTISRMGAEDAATYYCQQWNSSPLTFGAGTKLELK

FIG. 25

Antibody DH-2

DH2 VH

CAGGTTACTCTGAAAGAGTCTGGCCCTGGGATATTGCAGCCCTCCCAGACCCTCAGTCTGAC
TTGTTCTTTCTCTGGGTTTTCACTGAGCACTTCTGGTATGGGTGTGAGCTGGATTCGTCAGC
CTTCAGGAAAGGGTCTGGAGTGGCTGGCACACATTTACTGGGATGATGACAAGCGCTATAAC
CCATCCCTGAAGAGCCGGCTCACAATCTCCAAGGATACCTCCAGCAACCAGGTATTCCTCAA
GATCACCAGTGTGGACACTGCAGATACTGCCACATACTACTGTGCTCGAAGTGGGACTACGG
CCCCGTTTGCTTACTGGGGCCAAGGGACTCTGGTCACTGTCTCTGCA

DH2 VH

QVTLKESGPGILQPSQTLSLTCSFSGFSLSTSGMGVSWIRQPSGKGLEWLAHIYWDDDKRYN
PSLKSRLTISKDTSSNQVFLKITSVDTADTATYYCARSGTTAPFAYWGQGTLVTVSA

DH2 VK

CAAATTGTTCTCACTCAGTCTCCAGCAATCATGTCTGCATCTCCAGGGGAGAAGGTCACCAT
GACCTGCAGTGCCAGCTCAAGTGTAAGTTACATGTACTGGTACCAGCAGAAGCCAGGATCCT
CCCCCAGACTCCTGATTTATGACACATCCAACCTGGCTTCTGGAGTCCCTGTTCGCTTCAGT
GGCAGTGGGTCTGGGACCTCTTACTCTCTCACAATCAGCCGAATGGAGGCTGAAGATGCTGC
CACTTTTTACTGCCAGCAGTGGAGTAGTTCCCCGCTCACGTTCGGTGCTGGGACCAAGCTGG
AGCTGAAA

DH2 VK

QIVLTQSPAIMSASPGEKVTMTCSASSSVSYMYWYQQKPGSSPRLLIYDTSNLASGVPVRFS
GSGSGTSYSLTISRMEAEDAATFYCQQWSSSPLTFGAGTKLELK

FIG. 26

Antibody DD-6

DD6 VH

GAGGTCCAGCTGCAACAGTCTGGGCCTGAACTGGTGAAGCCTGGGGCTTCAGTGAAGATGTC
CTGCAAGGCTTCTGGATACAGATTCACTGACTACAACATGCACTGGGTGAAGCAGAACCTTG
GAAAGAGCCTTGAGTGGATTGGATATATTAACCCTAAAAATGGTGTTATTTACTACAACCAG
AAGTTCAAGGGCAAGGCCACATTGACAGTGAACAGGTCCTCCAACACAGCCTACATGGAGAT
CCGCAGCCTGACATCGGAAGATTCTGCAGTCTATTACTGTGCAACAGCTCTGACTTACTGGG
GACAAGGGACTCTGGTCACTGTCTCTGCA

DD6 VH

EVQLQQSGPELVKPGASVKMSCKASGYRFTDYNMHWVKQNLGKSLEWIGYINPKNGVIYYNQ
KFKGKATLTVNRSSNTAYMEIRSLTSEDSAVYYCATALTYWGQGTLVTVSA

DD6 VL

CAGGCTGTTGTGACTCAGGAATCTGCACTCACCACATCACCTGGTGAAACAGTCACACTCAC
TTGTCGCTCAAGTACTGGGGCTGTTGCAGCTAATAACTATGCCAACTGGATCCAAGAAAAAC
CAGATCATTTATTCACTGGTCTGATAGCTGGTACCAACAAGCGAGCTCCAGGTGTTCCTGCC
AGATTCTCAGGCTCCCTGATAGGAGACAAGGCTGCCCTCACCATCACAGGGGCACAGACTGA
GGATGAGGCAATATATTTCTGTGCTCTATGGTACAGCAACTATTGGGTGTTCGGTGGAGGAA
CCAAAGTGACTGTCCTAGGC

DD6 VL

QAVVTQESALTTSPGETVTLTCRSSTGAVAANNYANWIQEKPDHLFTGLIAGTNKRAPGVPA
RFSGSLIGDKAALTITGAQTEDEAIYFCALWYSNYWVFGGGTKVTVLG

FIG. 27

Antibody IA-12

IA12 VH

CAGATCCAGTTGGTACAGTCTGGACCTGAGCTGAAGAAGCCTGGAGAGACAGTCAAGATCTC
CTGCAAGGCTTCTGGGTATACCTTCACAACCTATGGAATGACCTGGGTGAAACAGGCTCCAG
GAAAGGGTTTAAAGTGGATGGGCTGGATAAACACCTCCTCTGGAGTGCCAACATATGCTGAT
GACTTCAAGGGACGGTTTGCCTTCTCTTTGGAAACCTCTGCCAGCACTGCCTATTTGCAGAT
CAACAACCTCAAAAGTGAGGACACGGCTACATATTTCTGTGCAAGACCGGAAGTTGCTTACT
GGGGCCAAGGGACTCTGGTCACTGTCTCTGCA

IA12 VH

QIQLVQSGPELKKPGETVKISCKASGYTFTTYGMTWVKQAPGKGLKWMGWINTSSGVPTYAD
DFKGRFAFSLETSASTAYLQINNLKSEDTATYFCARPEVAYWGQGTLVTVSA

IA12 VK

GATGTTGTGATGACCCAGACTCCACTCACTTTGTCGGTTACCTTTGGACAACCAGCCTCTAT
CTCTTGCAAGTCAAGTCAGAGCCTCTTATATGATAATGGAAAGACTTATTTGCATTGGTTAT
TTCAGAGGCCAGGCCAGTCTCCAAGGCGCCTAATCTATCTGGTGTCTAAACTGGACTCTGGA
GTCCCTGACAGGTTCACTGGCAGTGGATCAGGAACAGATTTTACACTGAAAATCAGCAGAGT
GGAGGCTGAGGATTTGGGAGTTTATTACTGCGTGCAAGGTACACATTTTCCGTACACGTTCG
GAGGGGGGACCAAACTGGAAATAAAA

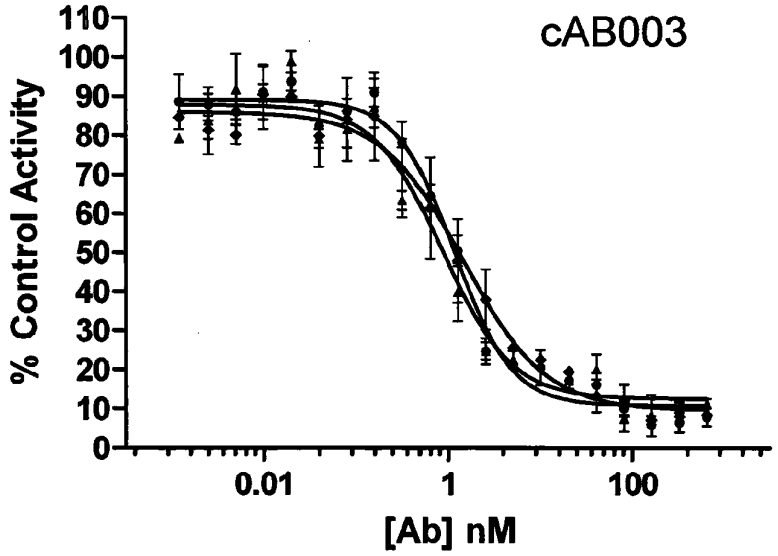
IA12 VK

DVVMTQTPLTLSVTFGQPASISCKSSQSLLYDNGKTYLHWLFQRPGQSPRRLIYLVSKLDSG
VPDRFTGSGSGTDFTLKISRVEAEDLGVYYCVQGTHFPYTFGGGTKLEIK

FIG. 28

A

	IC50 nM (SD)
cAB003	1.172 (0.297)



B

	IC50 nM (SD)
cBB001	0.925 (0.228)

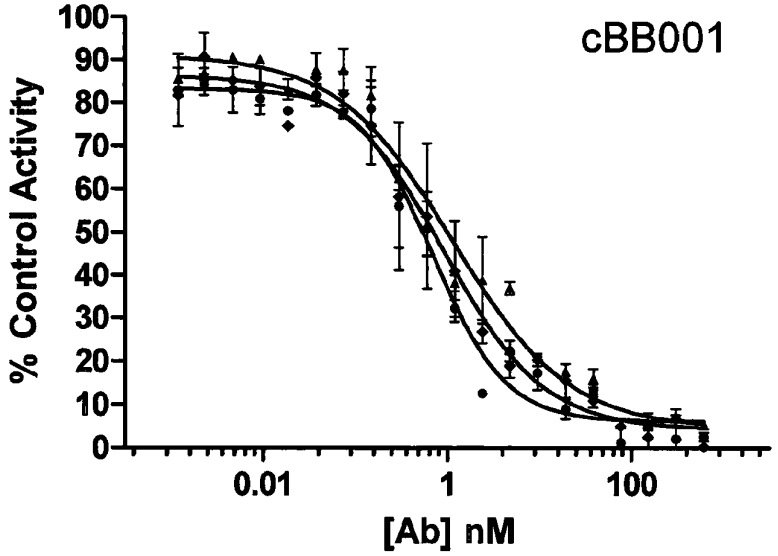
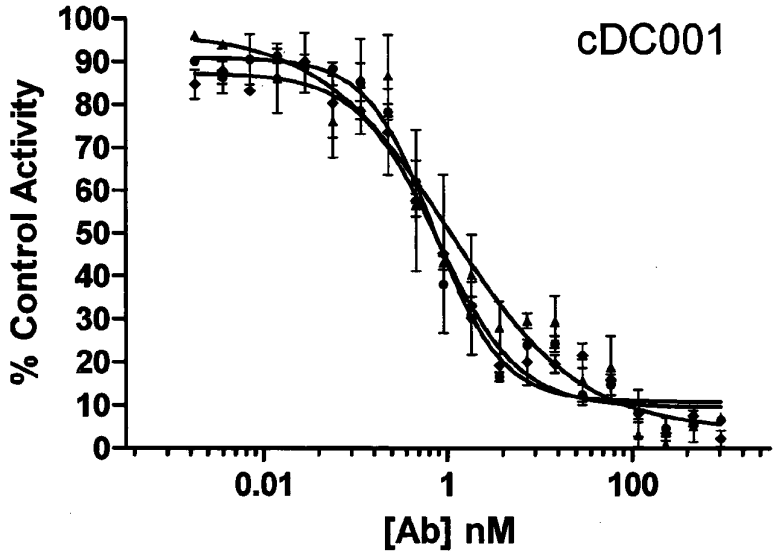


FIG. 29

C

	IC50 nM (SD)
cDC001	0.851 (0.177)



D

	IC50 nM (SD)
cDD9001	172.033 (23.353)

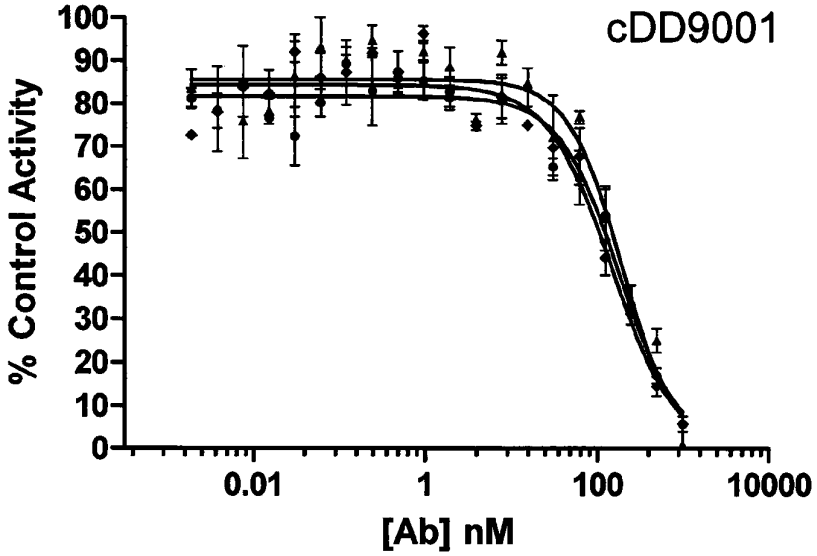
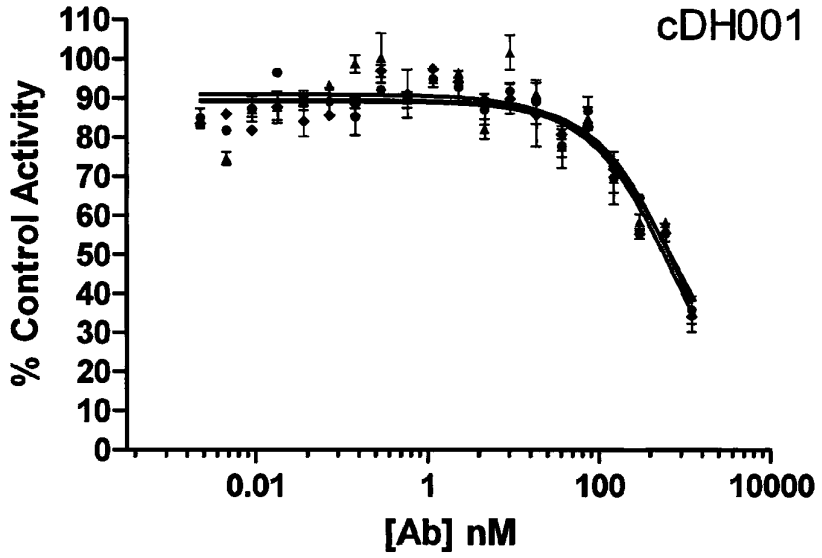


FIG. 29 (continued)

E

	IC50 nM (SD)
cDH001	829.233 (59.923)



F

	IC50 nM
CUB7402	>100

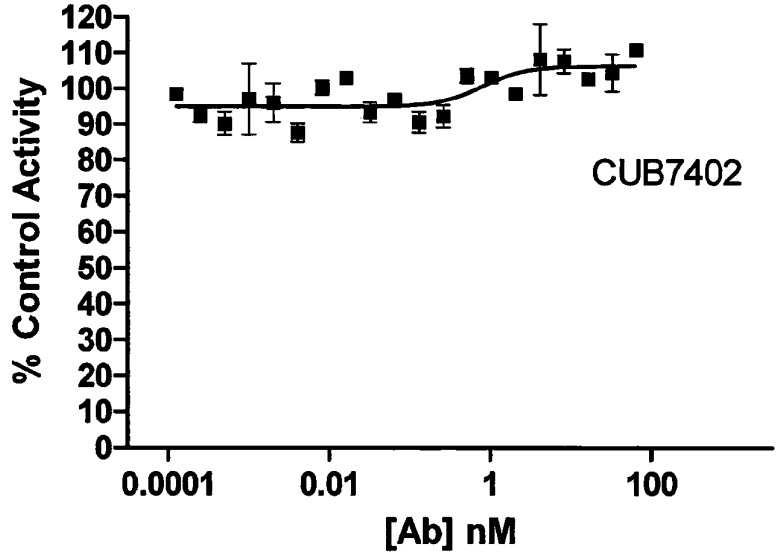
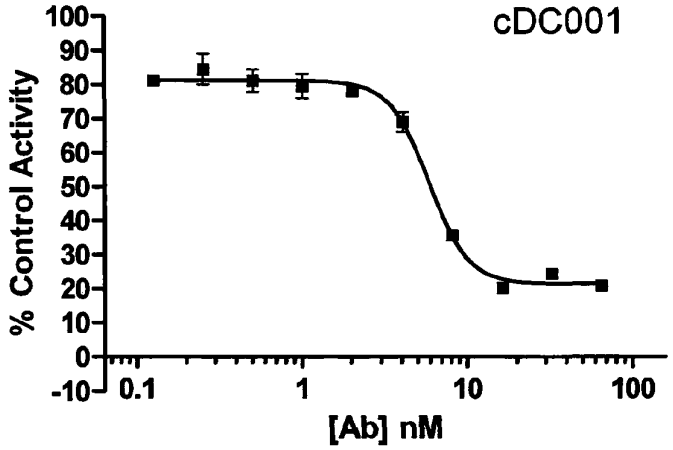


FIG. 29 (continued)

A

	IC50 nM
cDC001	5.862



B

	IC50 nM
CUB7402	>100

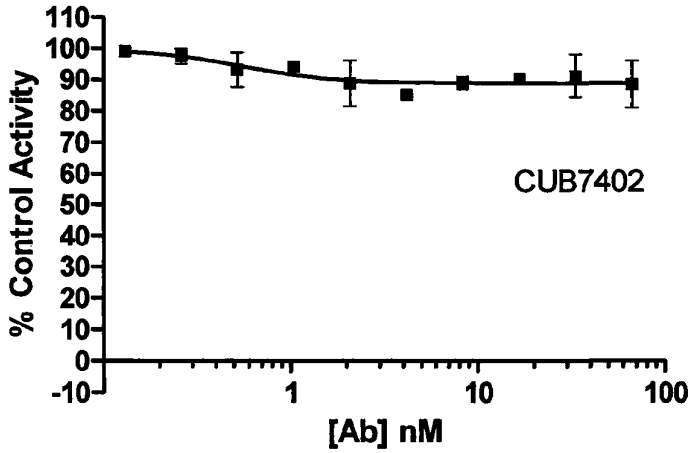
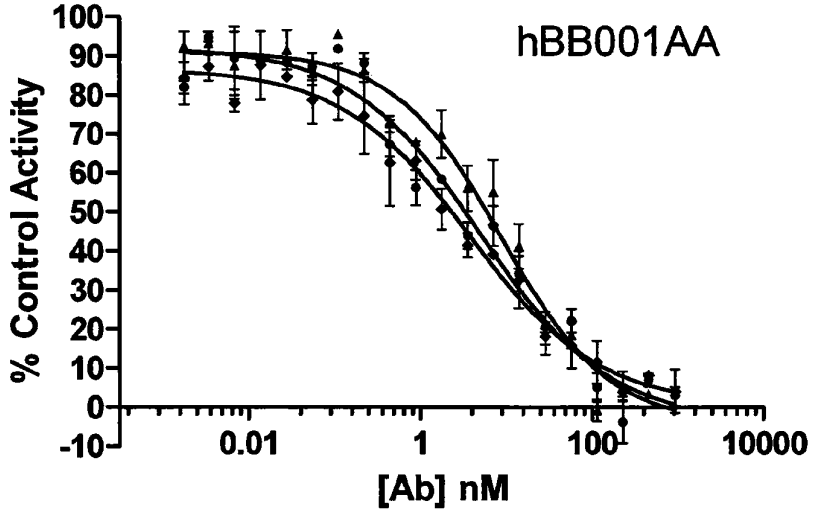


FIG. 30

A

	IC50 nM (SD)
hBB001AA	5.987 (2.643)



B

	IC50 nM (SD)
hBB001BB	0.985 (0.140)

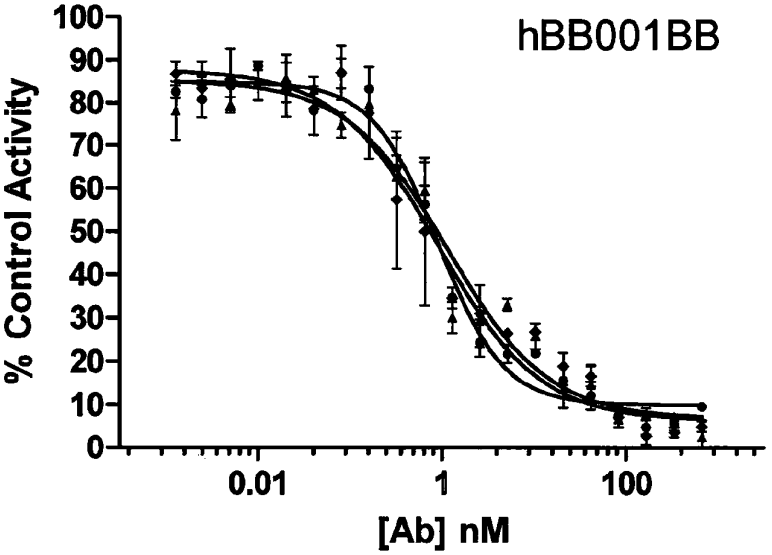
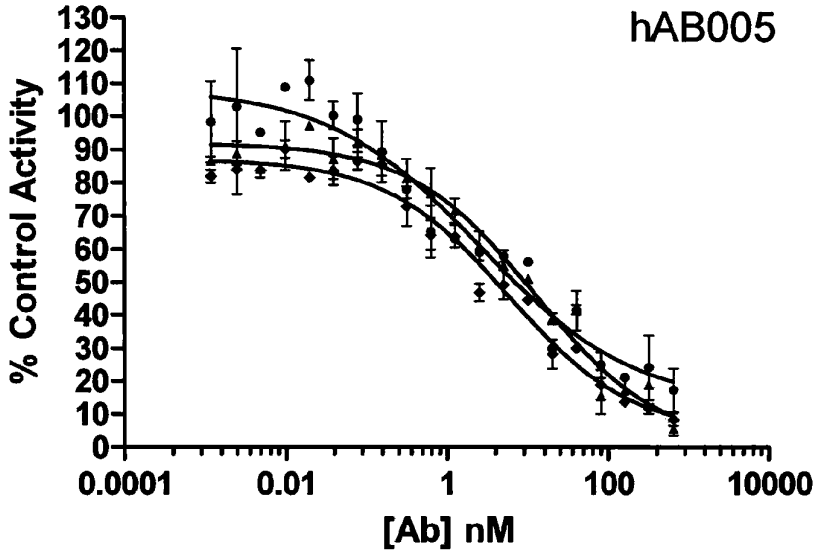


FIG. 31

C

	IC50 nM (SD)
hAB005	6.868 (4.895)

2 batches shown



D

	IC50 nM (SD)
hAB004	3.854 (0.886)

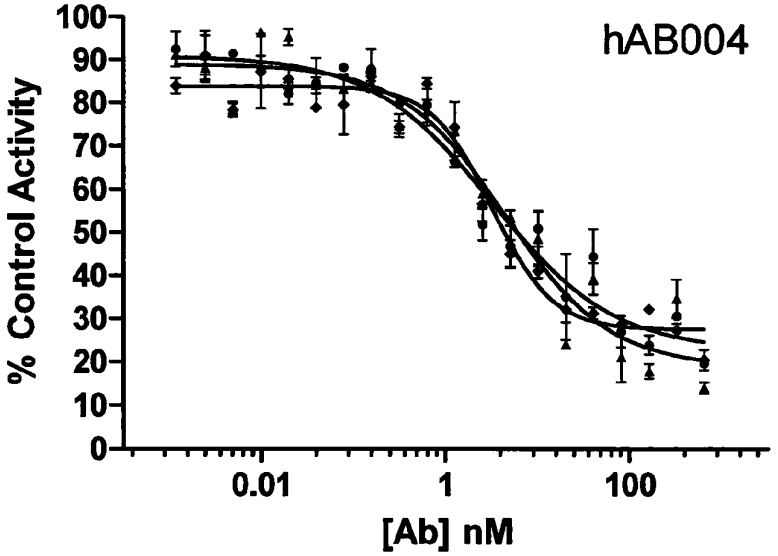
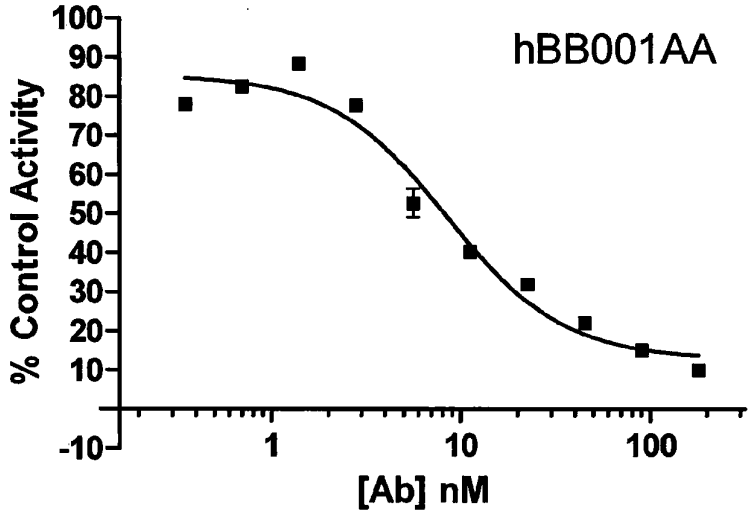


FIG. 31 (continued)

	IC50 nM
hBB001AA	8.505

A



B

	IC50 nM
hAB004	7.848

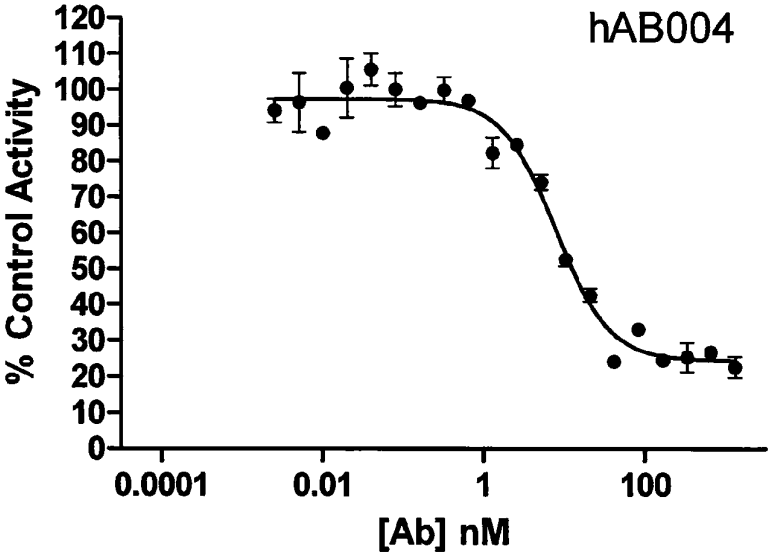
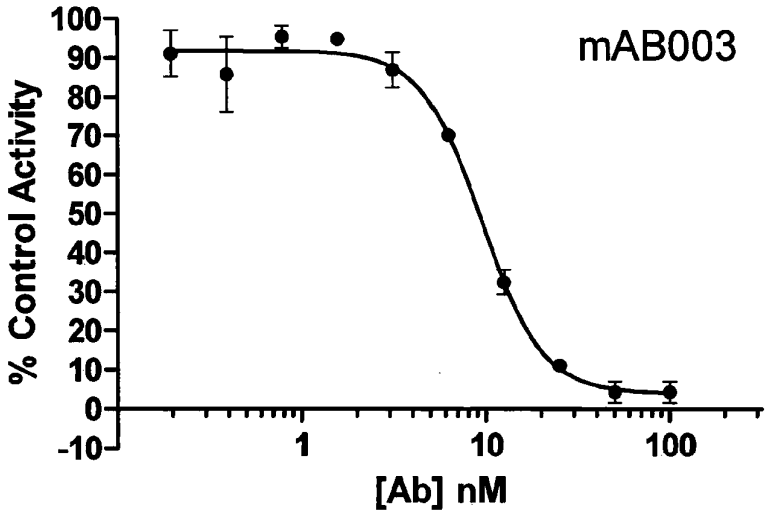


FIG. 32

A

	EC50 nM
mAB003	9.501



B

	EC50 nM
mBB001	0.752

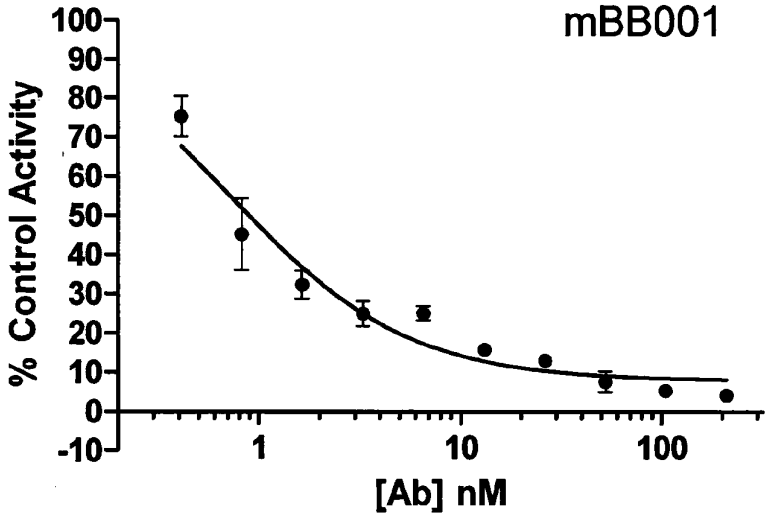
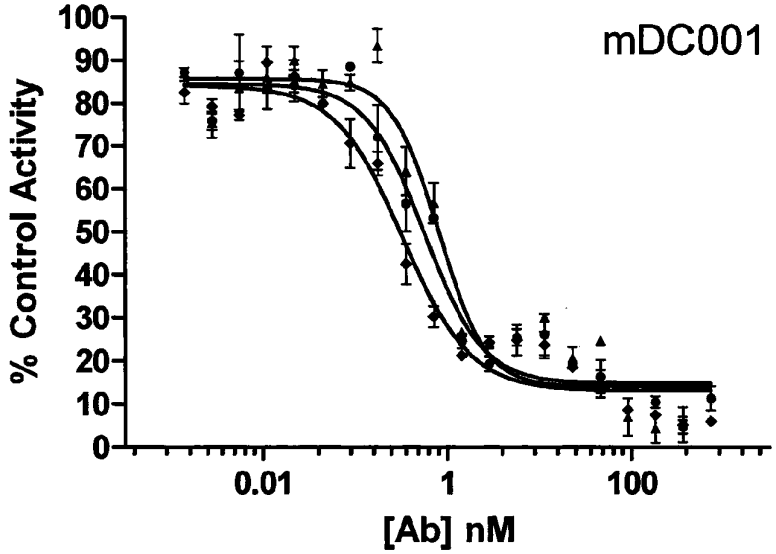


FIG. 33

C

	EC50 nM (SD)
mDC001	0.5712 (0.2409)



D

	EC50 nM (SD)
mDD9001	564.233 (83.996)

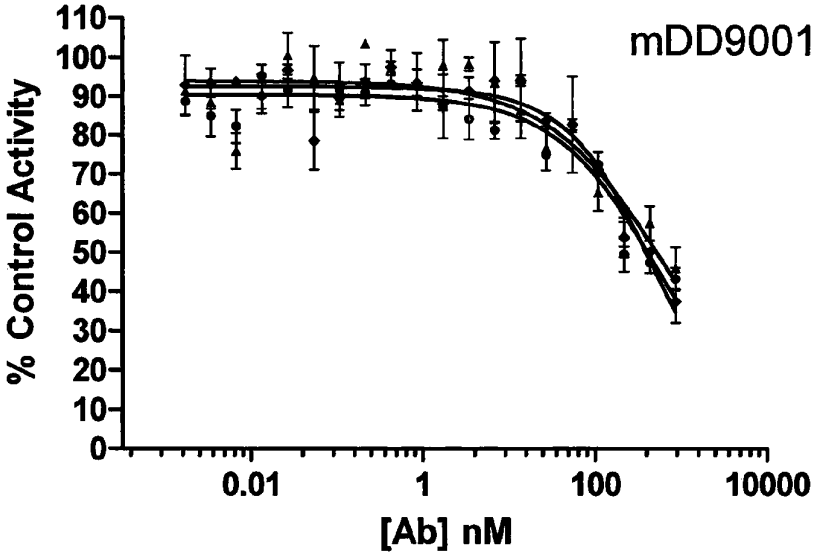
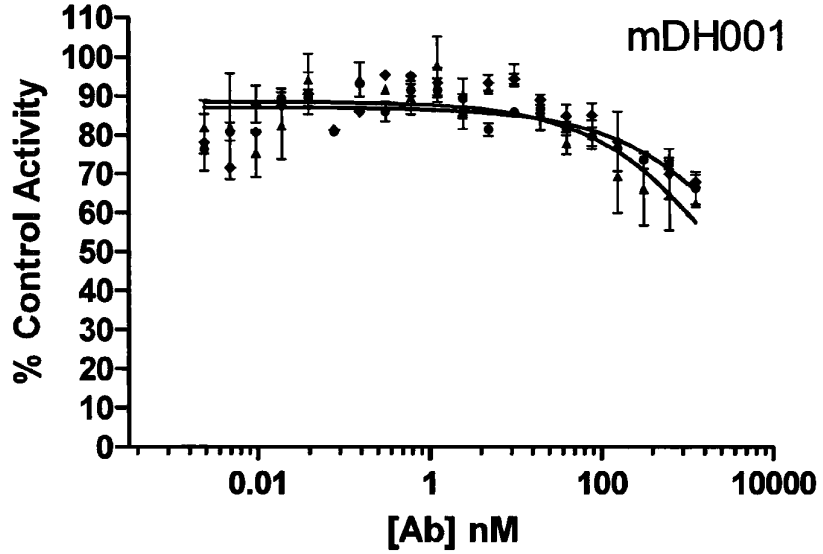


FIG. 33 (continued)

E

	EC50 nM (SD)
mDH001	~7000



F

	EC50 nM (SD)
mDD6001	43.196 (10.948)

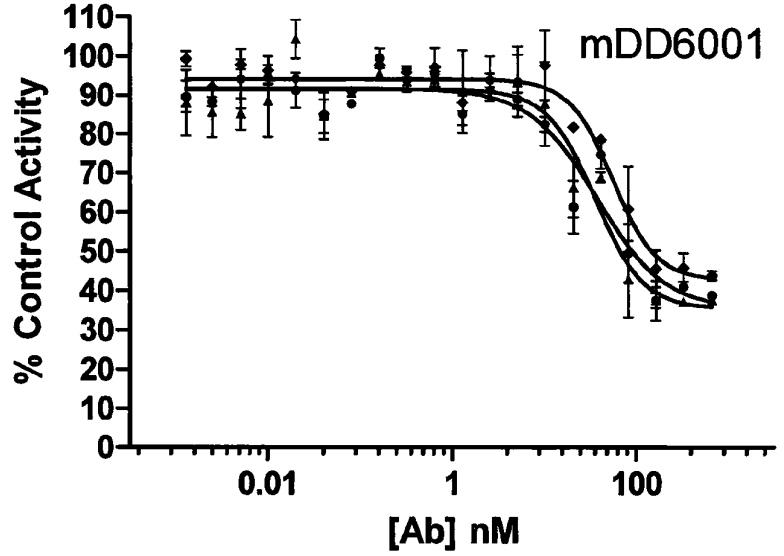


FIG. 33 (continued)

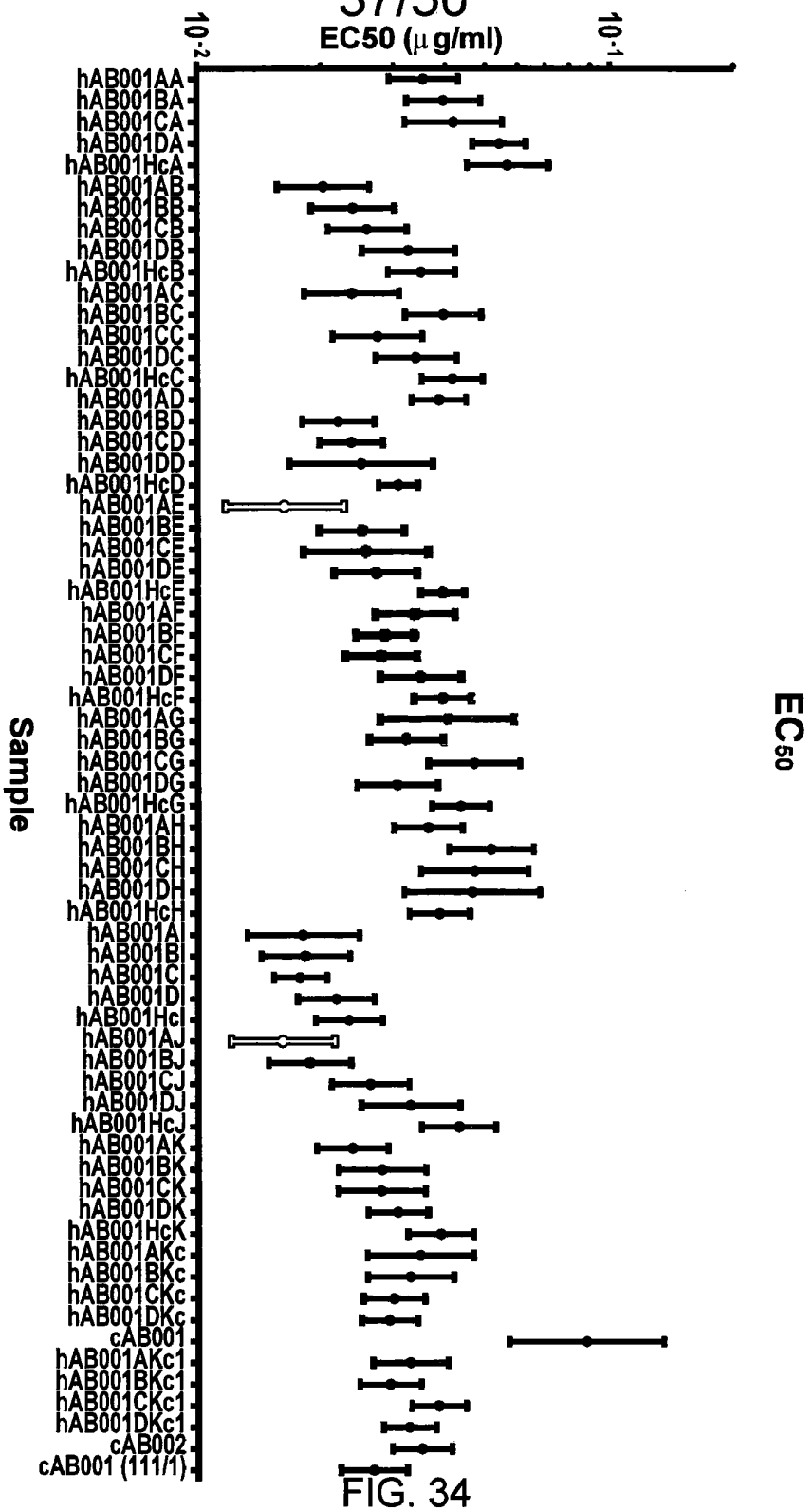

EC50 (μg/ml)
10-2
10-1
Sample
EC50
hAB001AA
hAB001BA
hAB001CA
hAB001DA
hAB001HcA
hAB001AB
hAB001BB
hAB001CB
hAB001DB
hAB001HcB
hAB001AC
hAB001BC
hAB001CC
hAB001DC
hAB001HcC
hAB001AD
hAB001BD
hAB001CD
hAB001DD
hAB001HcD
hAB001AE
hAB001BE
hAB001CE
hAB001DE
hAB001HcE
hAB001AF
hAB001BF
hAB001CF
hAB001DF
hAB001HcF
hAB001AG
hAB001BG
hAB001CG
hAB001DG
hAB001HcG
hAB001AH
hAB001BH
hAB001CH
hAB001DH
hAB001HcH
hAB001AI
hAB001BI
hAB001CI
hAB001DI
hAB001HcI
hAB001AJ
hAB001BJ
hAB001CJ
hAB001DJ
hAB001HcJ
hAB001AK
hAB001BK
hAB001CK
hAB001DK
hAB001HcK
hAB001AKc
hAB001BKc
hAB001CKc
hAB001DKc
cAB001
hAB001AKc1
hAB001BKc1
hAB001CKc1
hAB001DKc1
cAB002
cAB001 (111/1)

FIG. 34

A

	CUB7402	CDD9001	CDH001	CDC001
EC50 (nM)	0.3804	0.2099	0.3401	0.4418
r2	0.9991	0.998	0.9968	0.9985
EC50 (95% confidence range)	0.3291 to 0.4396	0.1860 to 0.2368	0.2890 to 0.4002	0.3927 to 0.4971

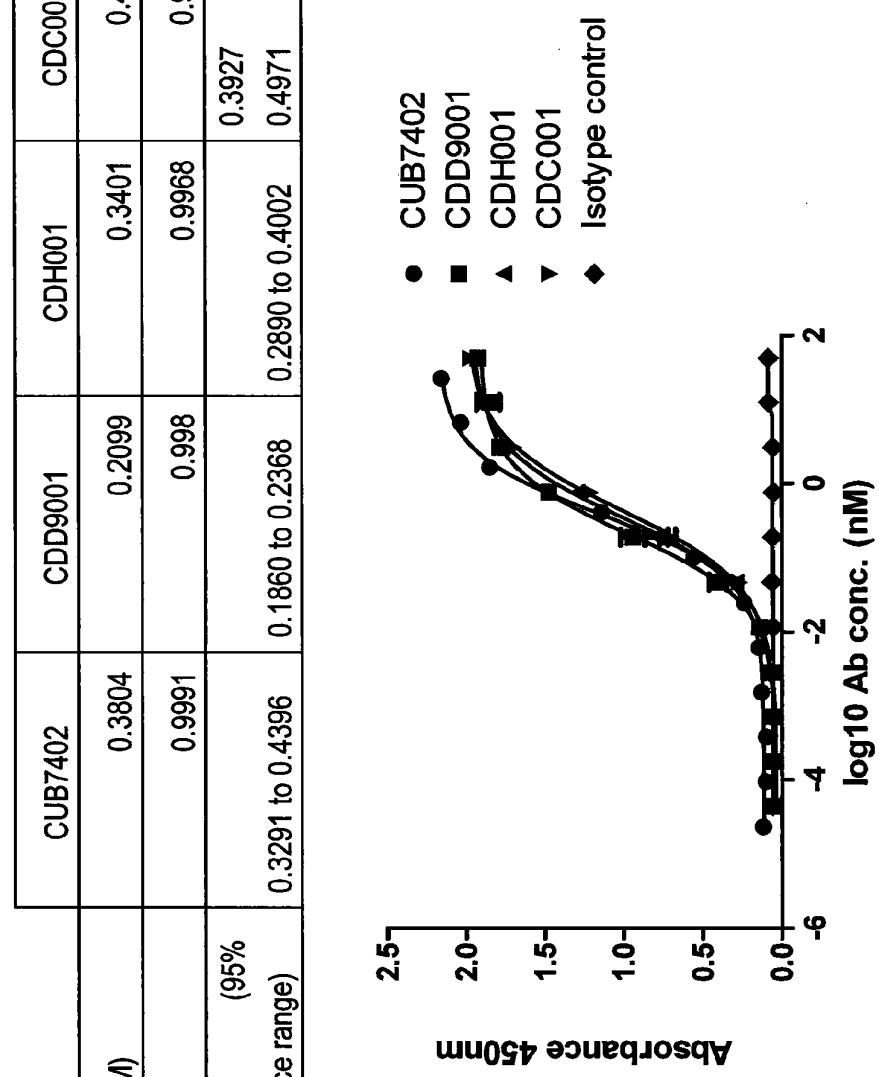
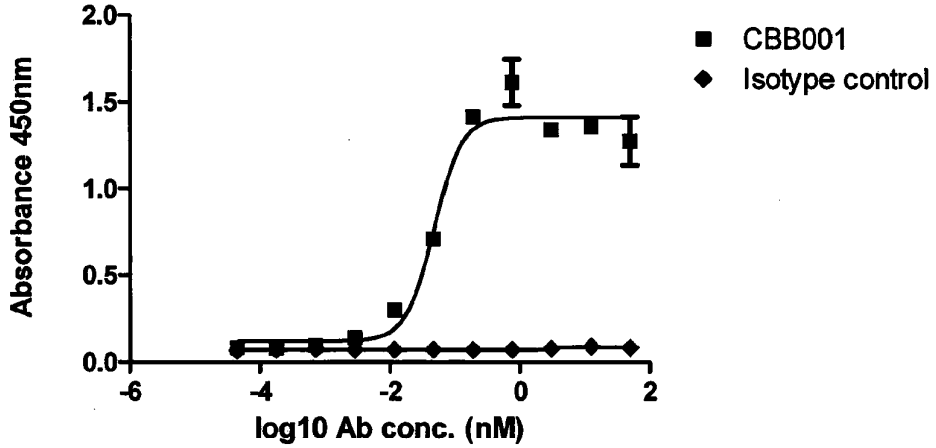


FIG. 35

B

	CBB001
EC50 (nM)	0.04811
r2	0.9682
EC50 (95% confidence range)	0.03611 to 0.06410



C

	CAB003
EC50 (nM)	0.06141
r2	0.9568
EC50 (95% confidence range)	0.03066 to 0.1230

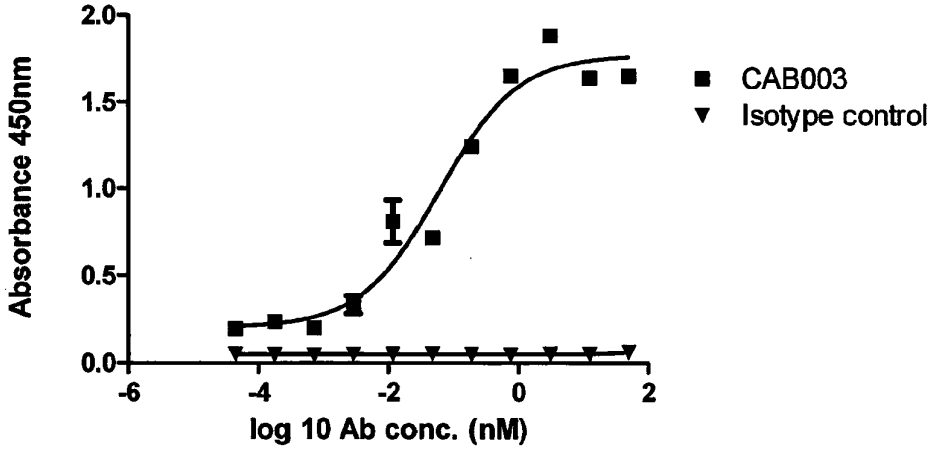
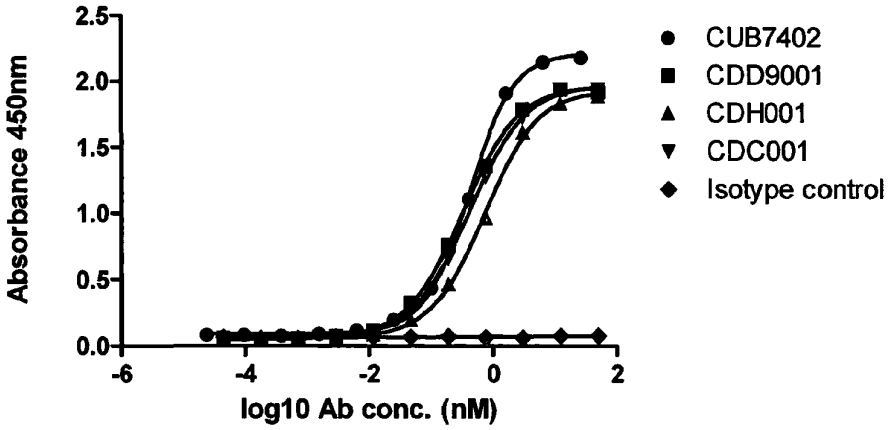


FIG. 35 (continued)

A

	CUB7402	CDD9001	CDH001	CDC001
EC50 (nM)	0.4161	0.3279	0.7385	0.4177
r2	0.9994	0.9992	0.9986	0.9993
EC50 (95% confidence range)	0.3762 to 0.4603	0.3040 to 0.3536	0.6682 to 0.8162	0.3887 to 0.4489



B

	CBB001
EC50 (nM)	0.05166
r2	0.9383
EC50 (95% confidence range)	0.03303 to 0.08079

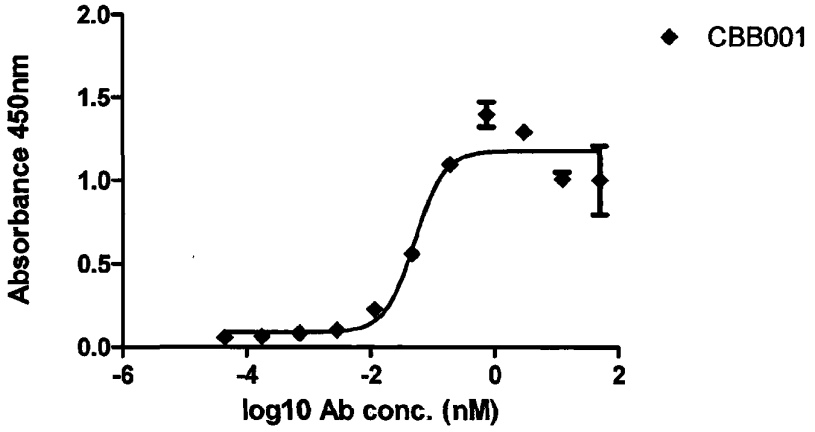


FIG. 36

C

	CAB003
EC50 (nM)	0.05682
r2	0.9837
EC50 (95% confidence range)	0.04054 to 0.07966

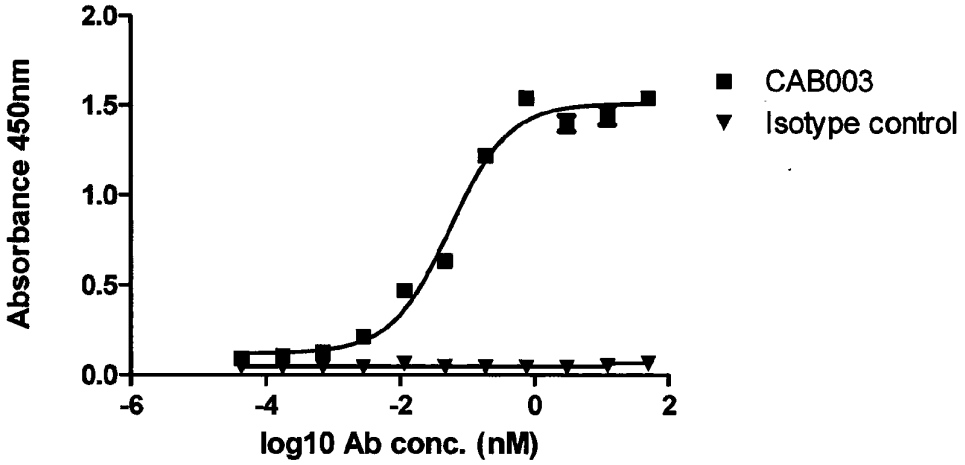
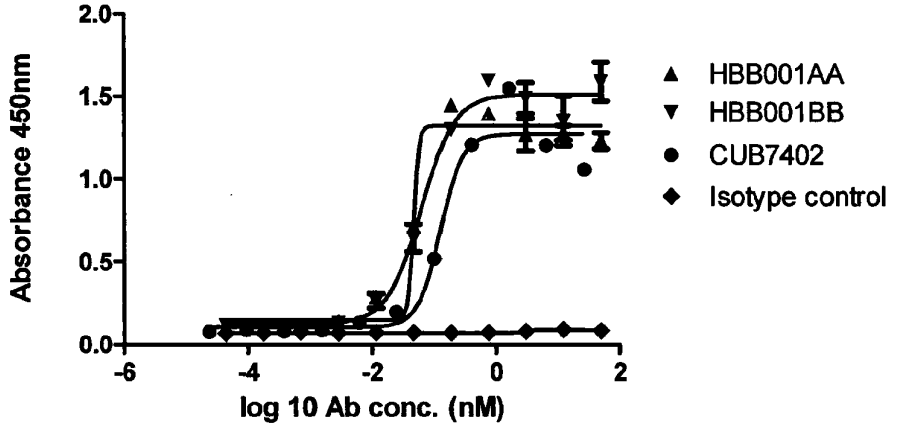


FIG. 36 continued

A

	CUB7402	HBB001AA	HBB001BB
EC50 (nM)	0.1277	~ 0.04739	0.06274
r2	0.9588	0.9792	0.9771
EC50 (95% confidence range)	0.06801 to 0.2396	ND	0.04636 to 0.08491



B

	HAB004
EC50 (nM)	0.02001
r2	0.9794
EC50 (95% confidence range)	0.01199 to 0.03342

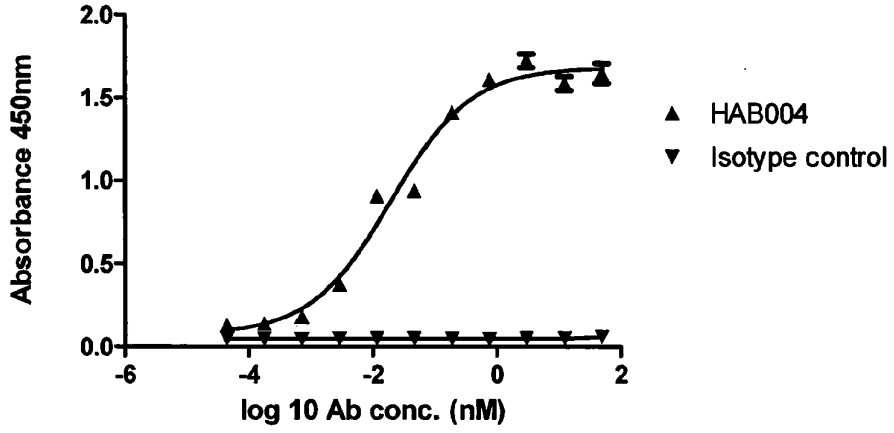
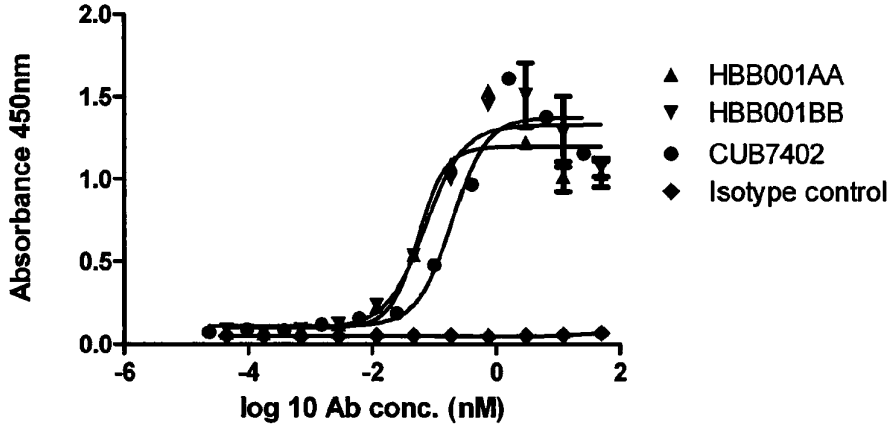


FIG. 37

A

	CUB7402	HBB001AA	HBB001BB
EC50 (nM)	0.1982	0.0561	0.07377
r2	0.9586	0.9329	0.9361
EC50 (95% confidence range)	0.09303 to 0.4223	0.03522 to 0.08934	0.04198 to 0.1296



B

	HAB004
EC50 (nM)	0.06117
r2	0.9766
EC50 (95% confidence range)	0.04047 to 0.09246

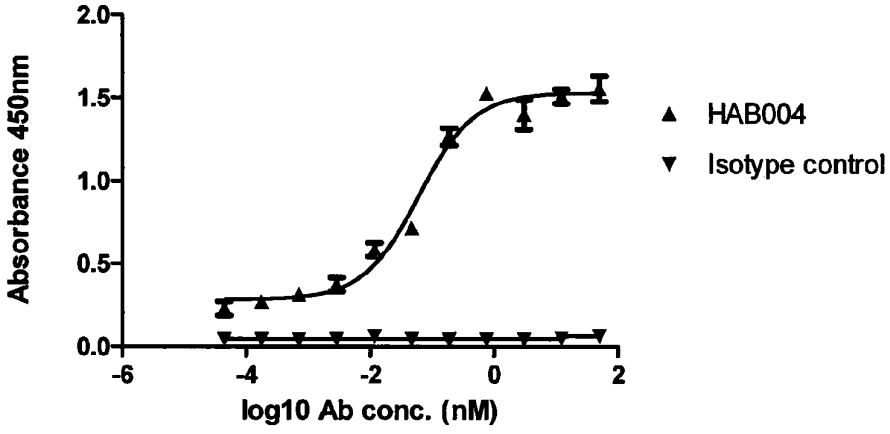
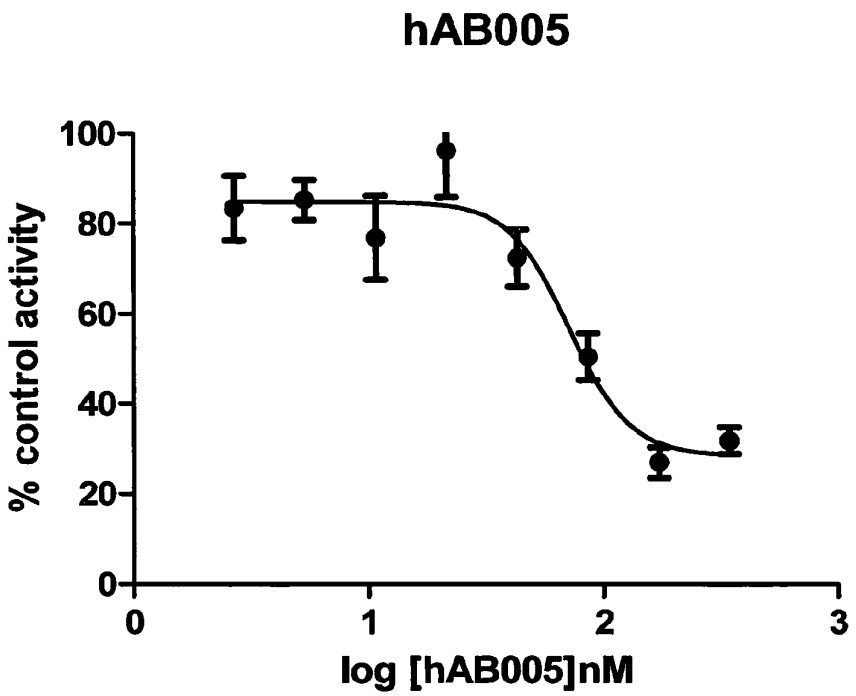


FIG. 38



IC50 = 71.85nM

FIG. 39

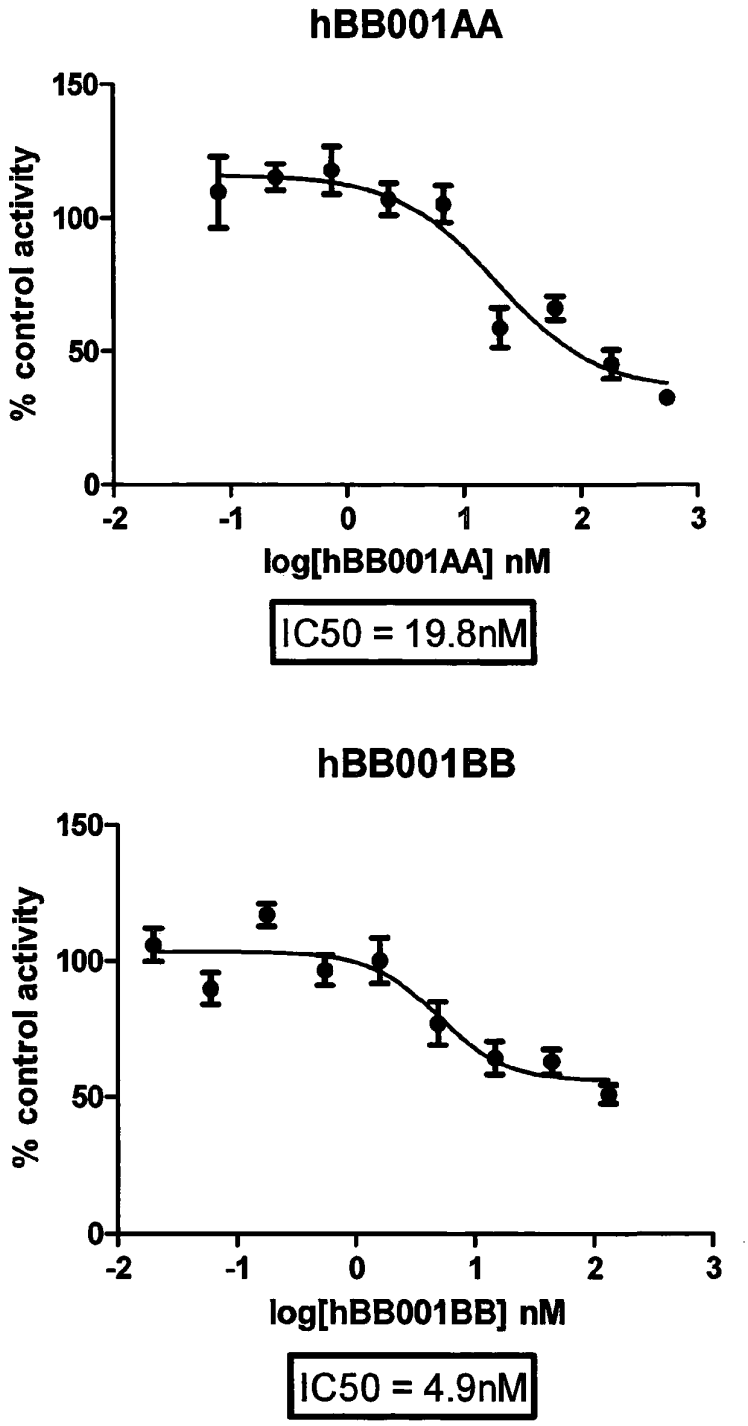

hBB001AA
150
100
50
0
% control activity
-2
-1
0
1
2
3
log[hBB001AA] nM
IC50 = 19.8nM
hBB001BB
150
100
50
0
% control activity
-2
-1
0
1
2
3
log[hBB001BB] nM
IC50 = 4.9nM

FIG. 40

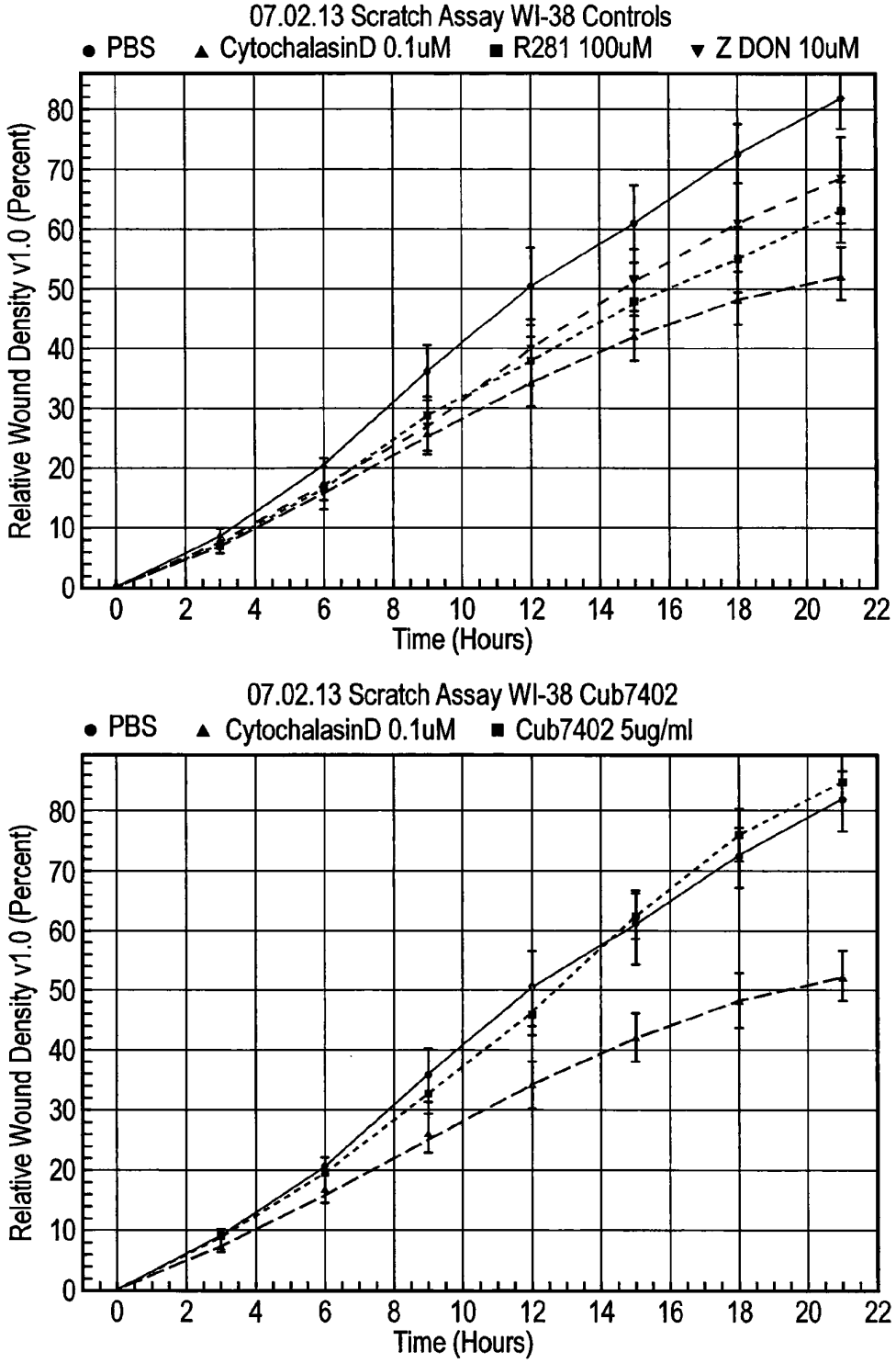

07.02.13 Scratch Assay WI-38 Controls
● PBS ▲ CytochalasinD 0.1uM ■ R281 100uM ▼ Z DON 10uM
Relative Wound Density v1.0 (Percent)
Time (Hours)
07.02.13 Scratch Assay WI-38 Cub7402
● PBS ▲ CytochalasinD 0.1uM ■ Cub7402 5ug/ml
Relative Wound Density v1.0 (Percent)
Time (Hours)

FIG. 41

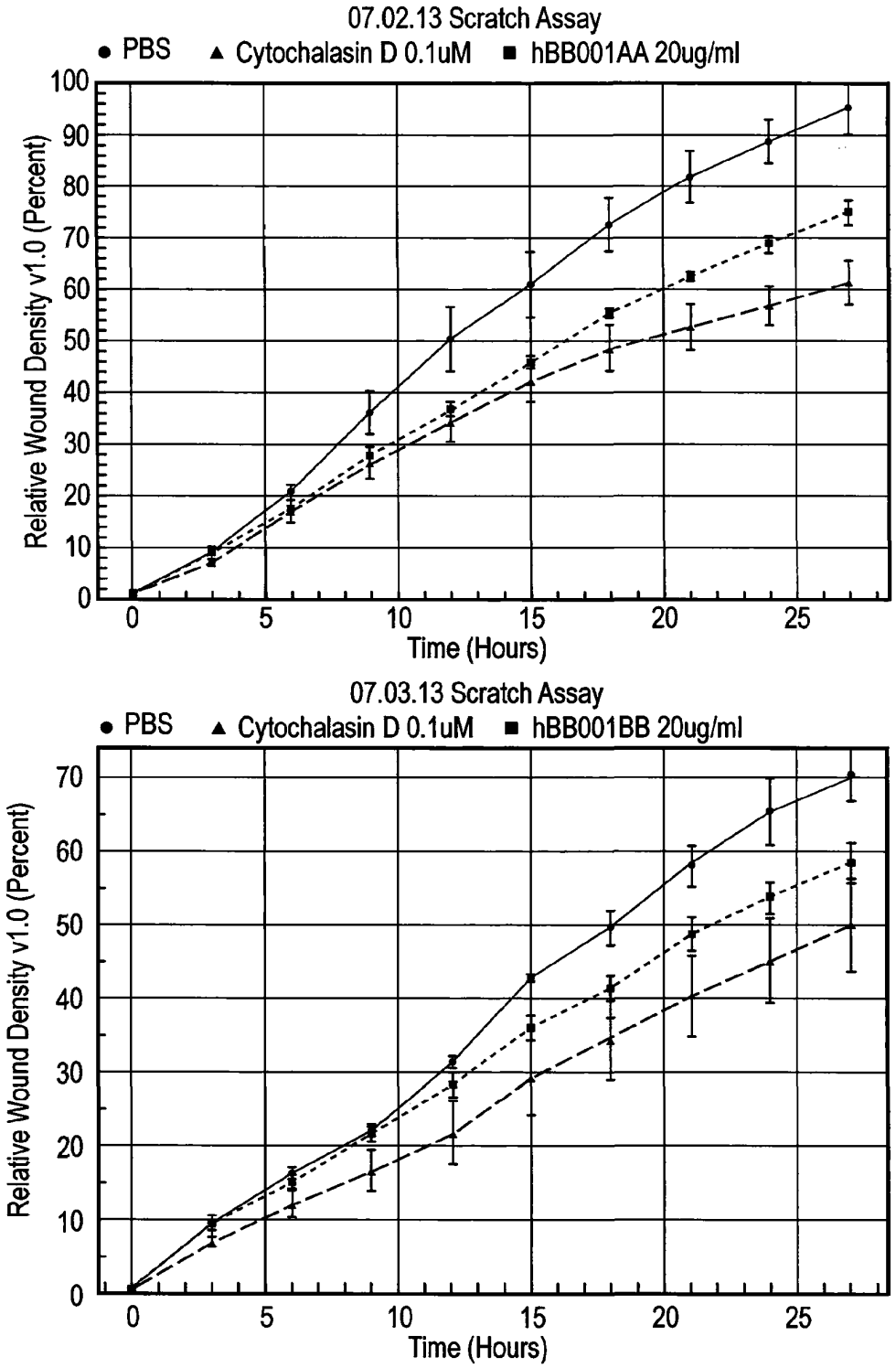

07.02.13 Scratch Assay
● PBS ▲ Cytochalasin D 0.1uM ■ hBB001AA 20ug/ml
Relative Wound Density v1.0 (Percent)
Time (Hours)
07.03.13 Scratch Assay
● PBS ▲ Cytochalasin D 0.1uM ■ hBB001BB 20ug/ml
Relative Wound Density v1.0 (Percent)
Time (Hours)

FIG. 42

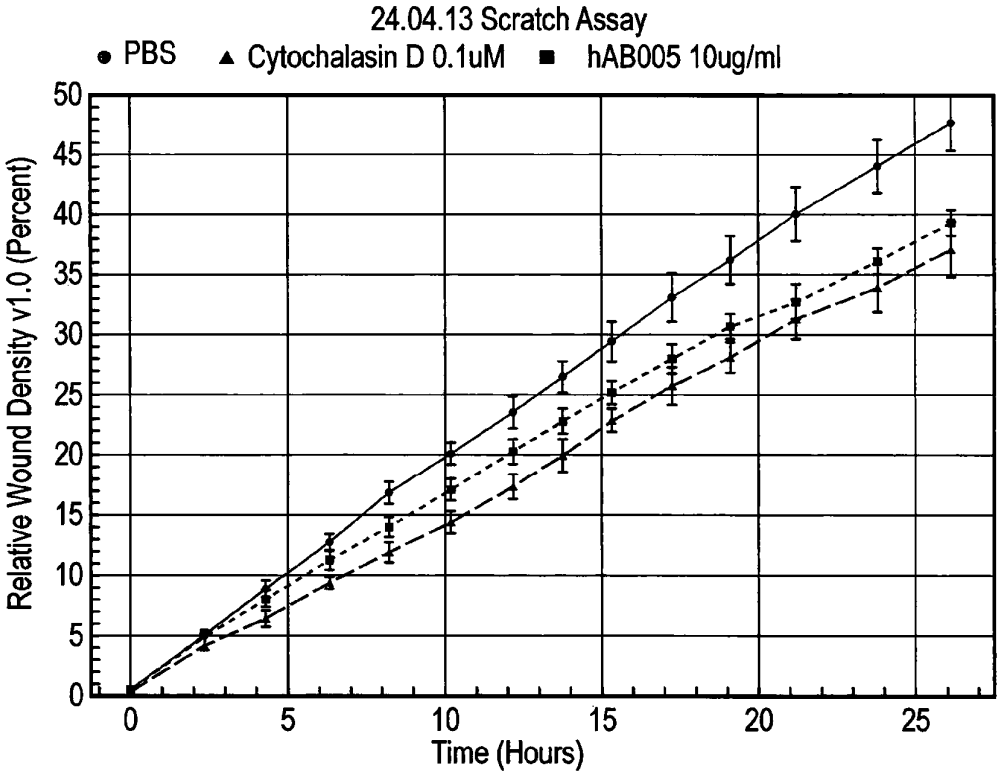

24.04.13 Scratch Assay
● PBS ▲ Cytochalasin D 0.1uM ■ hAB005 10ug/ml
Relative Wound Density v1.0 (Percent)
0
5
10
15
20
25
30
35
40
45
50
0
5
10
15
20
25
Time (Hours)

FIG. 43

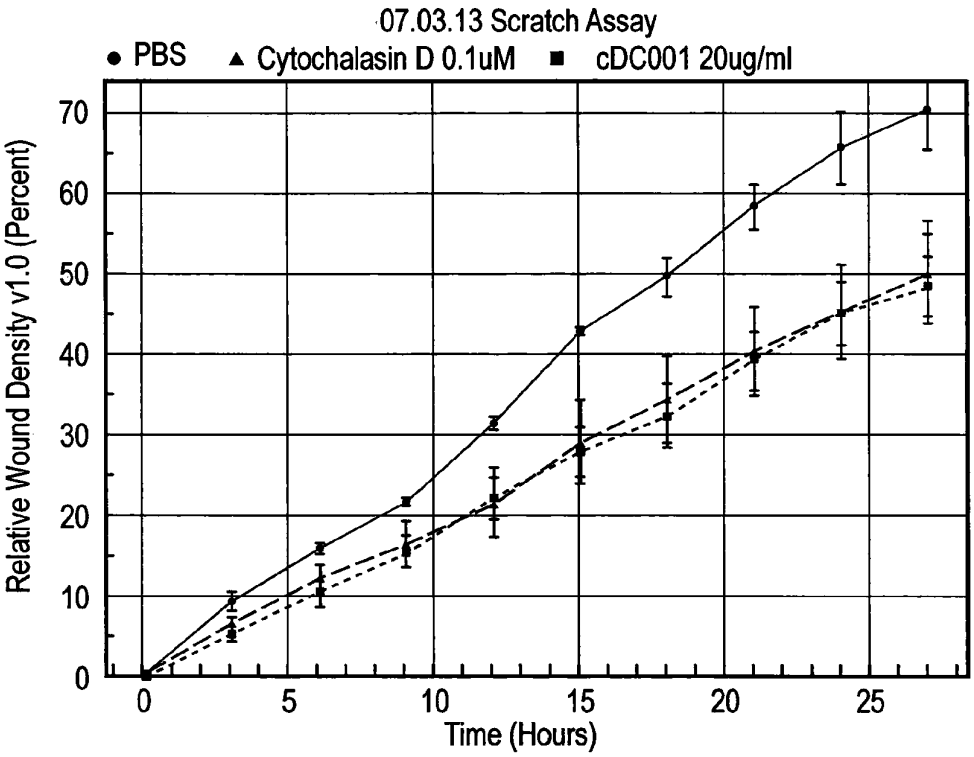

07.03.13 Scratch Assay
● PBS ▲ Cytochalasin D 0.1uM ■ cDC001 20ug/ml
Relative Wound Density v1.0 (Percent)
0
10
20
30
40
50
60
70
0
5
10
15
20
25
Time (Hours)

FIG. 44

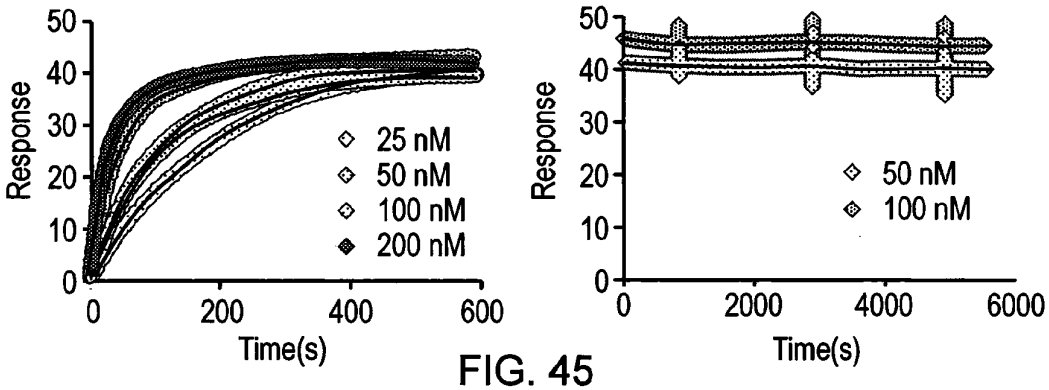


FIG. 45

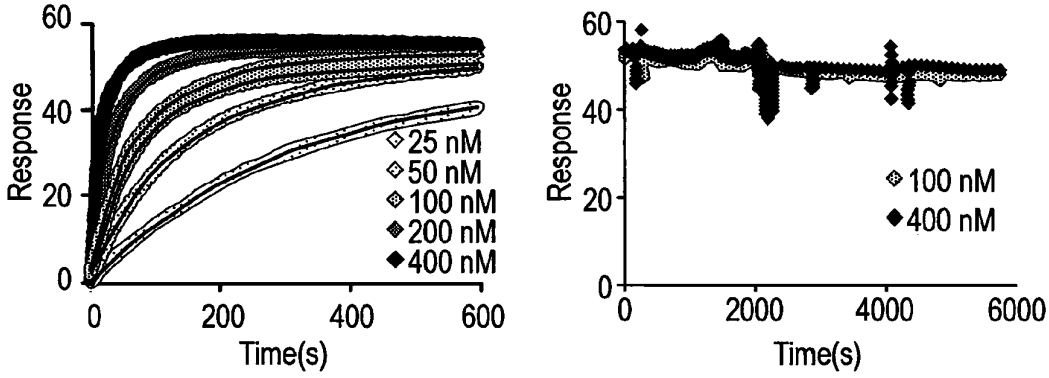


FIG. 46

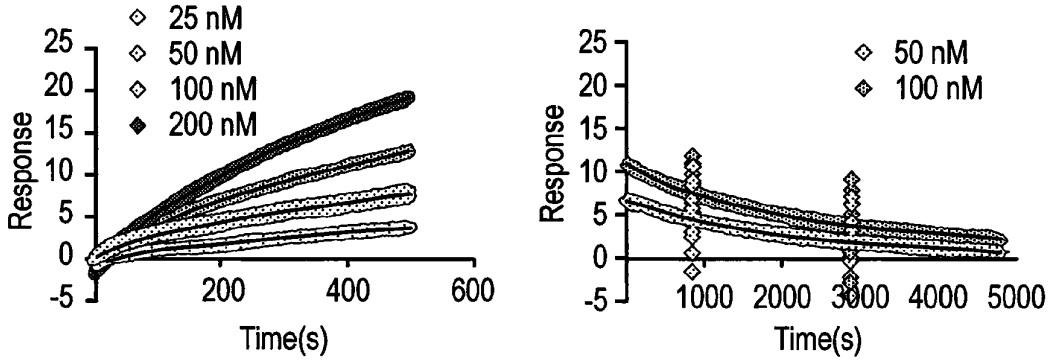


FIG. 47