CLL-1: predicted aa sequence Bakker et al.2004
KLRL1: translated aa sequence Han et al.2004 (= Zhang/Cao group; deposited under no. AF247788)
MICL: predicted aa sequence Marshall et al.2004 (deposited under no. AY498550)
DCAL-2: predicted aa sequence Chen et al.2006 (= E.A. Clark group deposited under no. AY426759)
CLEC12B: Predicted aa sequence H.F. Clark et al. 2003 (deposited under no. AY358810)

```
KLRL1      ----------MSEEVTYADLQFQNSSEMEKIPEIGKFGEKAPPAPSHVWRPAALFLTLLCLLLLIGLGVLASMFHVTLK---IEMKKMNKLQNI
MICL       ----------MSEEVTYADLQFQNSSEMEKIPEIGKFGEKAPPAPSHVWRPAALFLTLLCLLLLIGLGVLASMFHVTLK---IEMKKMNKLQNI
DCAL-2     ----------MSEEVTYADLQFQNSSEMEKIPEIGKFGEKAPPAPSHVWRPAALFLTLLCLLLLIGLGVLASMFHVTLK---IEMKKMNKLQNI
CLL-1      MWIDFFTYSSMSEEVTYADLQFQNSSEMEKIPEIGKFGEKAPPAPSHVWRPAALFLTLLCLLLLIGLGVLASMFHVTLK---IEMKKMNKLQNI
CLEC12B    ----------MSEEVTYATLTFQDSAGARNNRDGNNLRKRGHPAPSPIWRHAALGLVTLCLMLLIGLVTLGMMFLQISNDINSDSEKLSQLQKT

KLRL1      SEELQRNISLQLMSNMNI-------SNKIRNLSTTLQTIATKLCRELYSKEQEHKCKPCPRRWIWHKDSCYFLS-DDVQTWQESKMACAAQNAS
MICL       SEELQRNISLQLMSNMNI-------SNKIRNLSTTLQTIATKLCRELYSKEQEHKCKPCPRRWIWHKDSCYFLS-DDVQTWQESKMACAAQNAS
DCAL-2     SEELQRNISLQLMSNMNI-------SNKIRNLSTTLQTIATKLCRELYSKEQEHKCKPCPRRWIWHKDSCYFLS-DDVQTWQESKMACAAQNAS
CLL-1      SEELQRNISLQLMSNMNI-------SNKIRNLSTTLQTIATKLCRELYSKEQEHKCKPCPRRWIWHKDSCYFLS-DDVQTWQESKMACAAQNAS
CLEC12B    IQQQQDNLSQQLGNSNNLSMEEEFLKSQISSVLKRQEQMAIKLCQELIIHTSDHRCNPCPKMWQWYQNSCYYFTTNEEKTWANSRKDCIDKNST

KLRL1      LLKINNKNALEFIKSQSRS--YDYWLGLSPEEDSTRGMRVDNIINSSAW-VIRNAPDL-NNMYCGYINRLYVQYYHCTYKQRMICEKMANPVQL
MICL       LLKINNKNALEFIKSQSRS--YDYWLGLSPEEDSTRGMRVDNIINSSAW-VIRNAPDL-NNMYCGYINRLYVQYYHCTYKQRMICEKMANPVQL
DCAL-2     LLKINNKNALEFIKSQSRS--YDYWLGLSPEEDSTRGMRVDNIINSSAW-VIRNAPDL-NNMYCGYINRLYVQYYHCTYKQRMICEKMANPVQL
CLL-1      LLKINNKNALEFIKSQSRS--YDYWLGLSPEEDSTRGMRVDNIINSSAW-VIRNAPDL-NNMYCGYINRLYVQYYHCTYKKRMICEKMANPVQL
CLEC12B    LVKIDSLEEKDFLMSQPLLMFSFFWLGLSWDSSGRSWFWEDGSVPSPSLFSTKELDQINGSKGCAYFQKGNIYISRCSAEIFWICEKTAAPVKT

KLRL1      GSTYFREA
MICL       GSTYFREA
DCAL-2     GSTYFREA
CLL-1      GSTYFREA
CLEC12B    EDLD----
```

FIG. 1

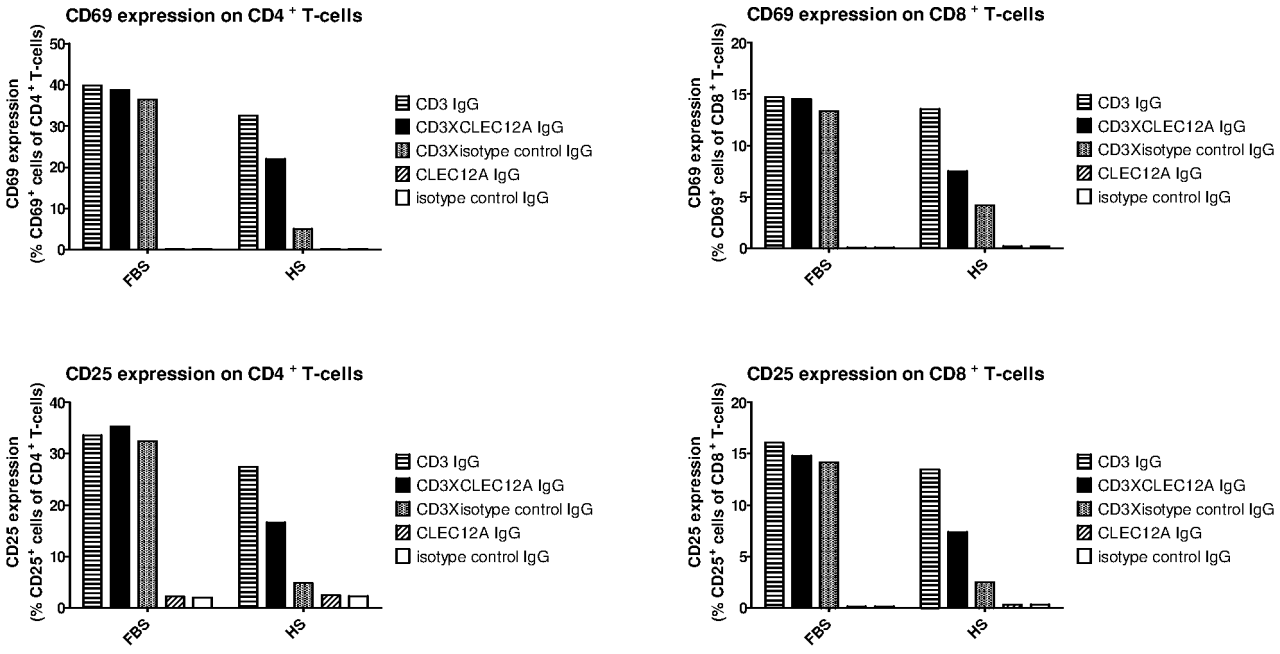

CD69 expression on CD4 + T-cells
CD69 expression (% CD69+ cells of CD4+ T-cells)
50
40
30
20
10
0
FBS
HS
CD3 IgG
CD3XCLEC12A IgG
CD3Xisotype control IgG
CLEC12A IgG
isotype control IgG
CD69 expression on CD8 + T-cells
CD69 expression (% CD69+ cells of CD8+ T-cells)
20
15
10
5
0
FBS
HS
CD3 IgG
CD3XCLEC12A IgG
CD3Xisotype control IgG
CLEC12A IgG
isotype control IgG
CD25 expression on CD4 + T-cells
CD25 expression (% CD25+ cells of CD4+ T-cells)
40
30
20
10
0
FBS
HS
CD3 IgG
CD3XCLEC12A IgG
CD3Xisotype control IgG
CLEC12A IgG
isotype control IgG
CD25 expression on CD8 + T-cells
CD25 expression (% CD25+ cells of CD8+ T-cells)
20
15
10
5
0
FBS
HS
CD3 IgG
CD3XCLEC12A IgG
CD3Xisotype control IgG
CLEC12A IgG
isotype control IgG

FIG. 2

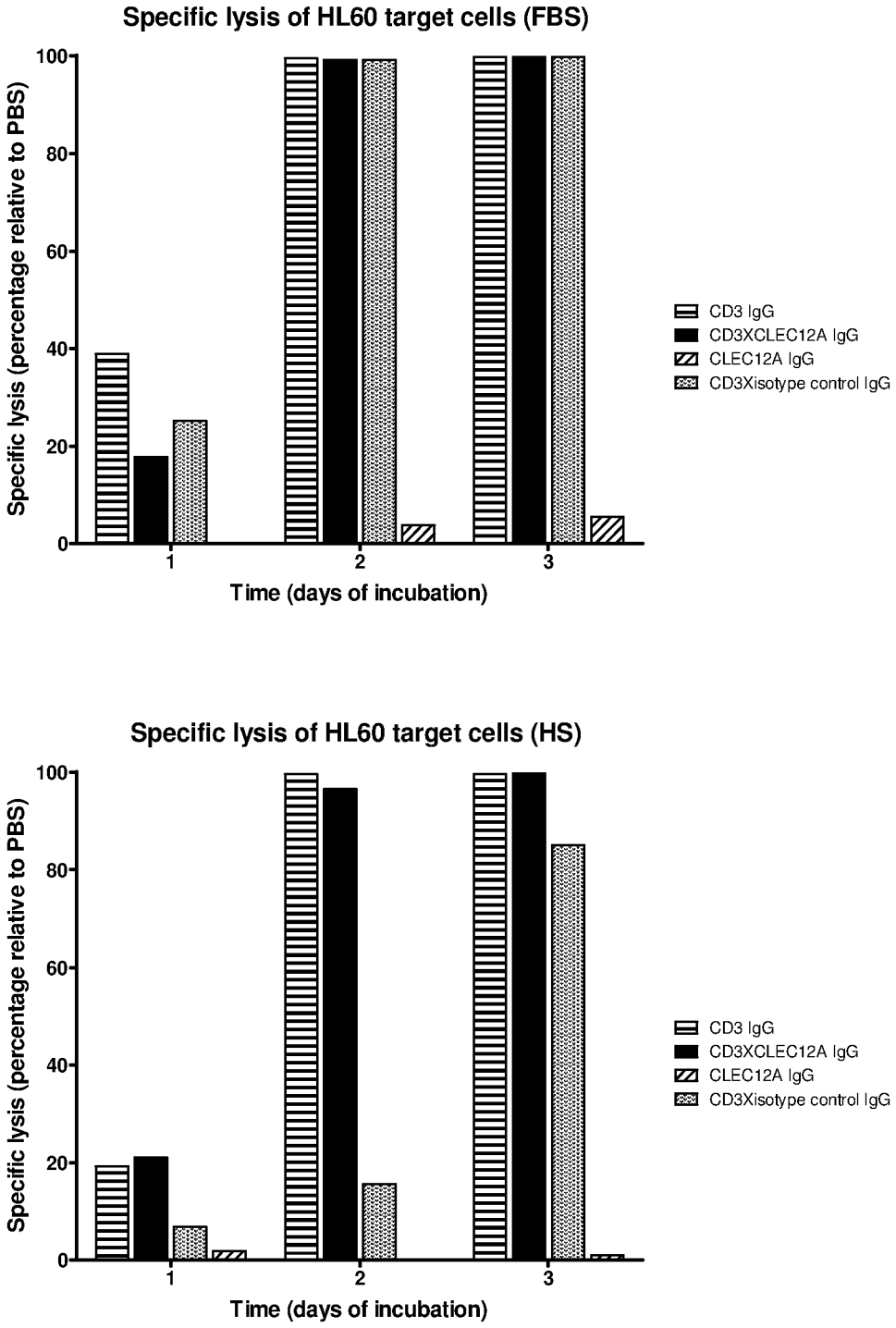

Specific lysis of HL60 target cells (FBS)
Specific lysis (percentage relative to PBS)
100
80
60
40
20
0
1
2
3
Time (days of incubation)
CD3 IgG
CD3XCLEC12A IgG
CLEC12A IgG
CD3Xisotype control IgG
Specific lysis of HL60 target cells (HS)
Specific lysis (percentage relative to PBS)
100
80
60
40
20
0
1
2
3
Time (days of incubation)
CD3 IgG
CD3XCLEC12A IgG
CLEC12A IgG
CD3Xisotype control IgG

FIG. 3

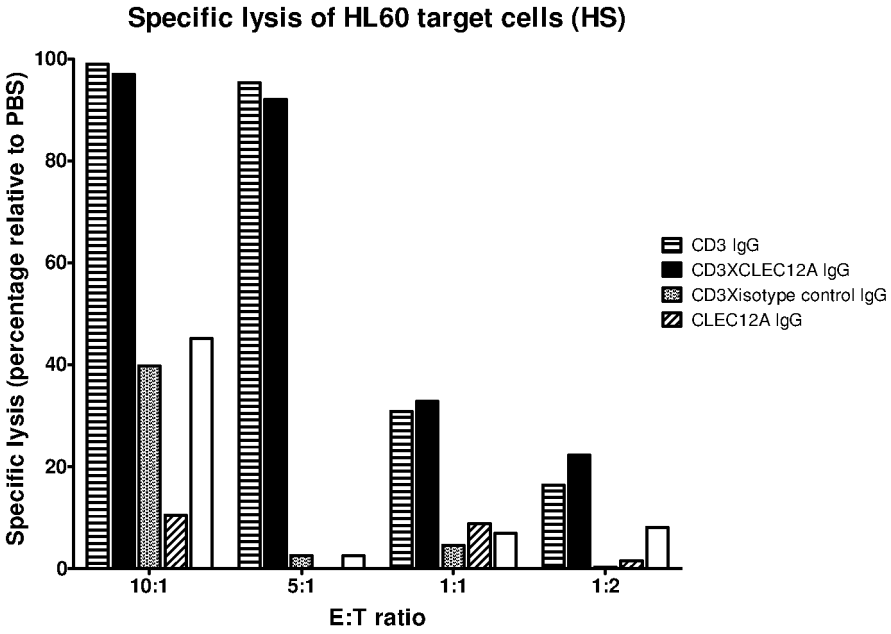

Specific lysis of HL60 target cells (HS)
Specific lysis (percentage relative to PBS)
100
80
60
40
20
0
10:1
5:1
1:1
1:2
E:T ratio
CD3 IgG
CD3XCLEC12A IgG
CD3Xisotype control IgG
CLEC12A IgG

FIG. 4

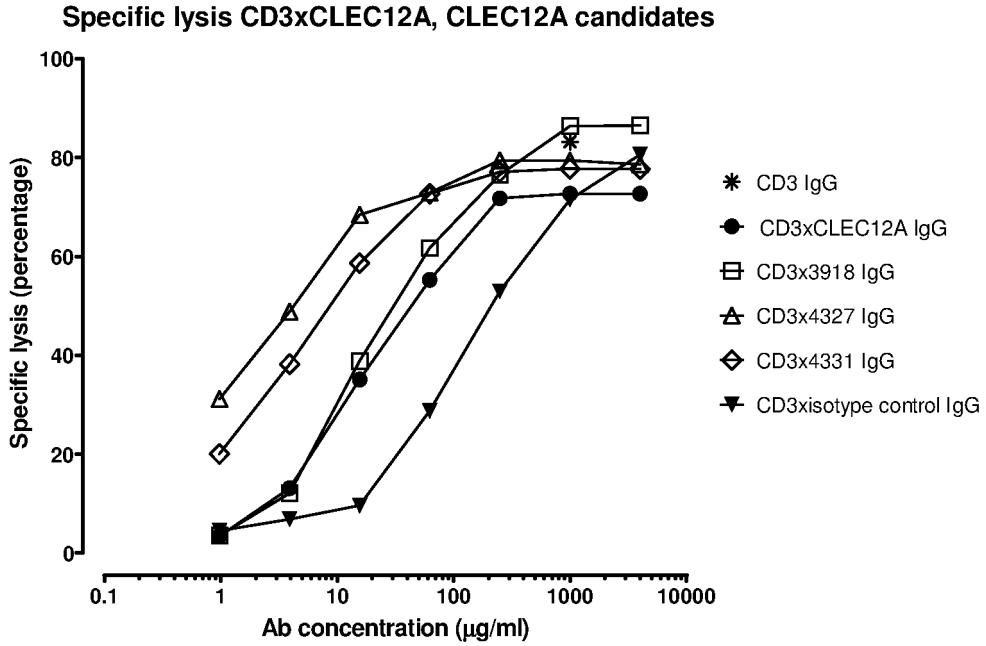

Specific lysis CD3xCLEC12A, CLEC12A candidates
Specific lysis (percentage)
100
80
60
40
20
0
0.1
1
10
100
1000
10000
Ab concentration (µg/ml)
CD3 IgG
CD3xCLEC12A IgG
CD3x3918 IgG
CD3x4327 IgG
CD3x4331 IgG
CD3xisotype control IgG

FIG. 5

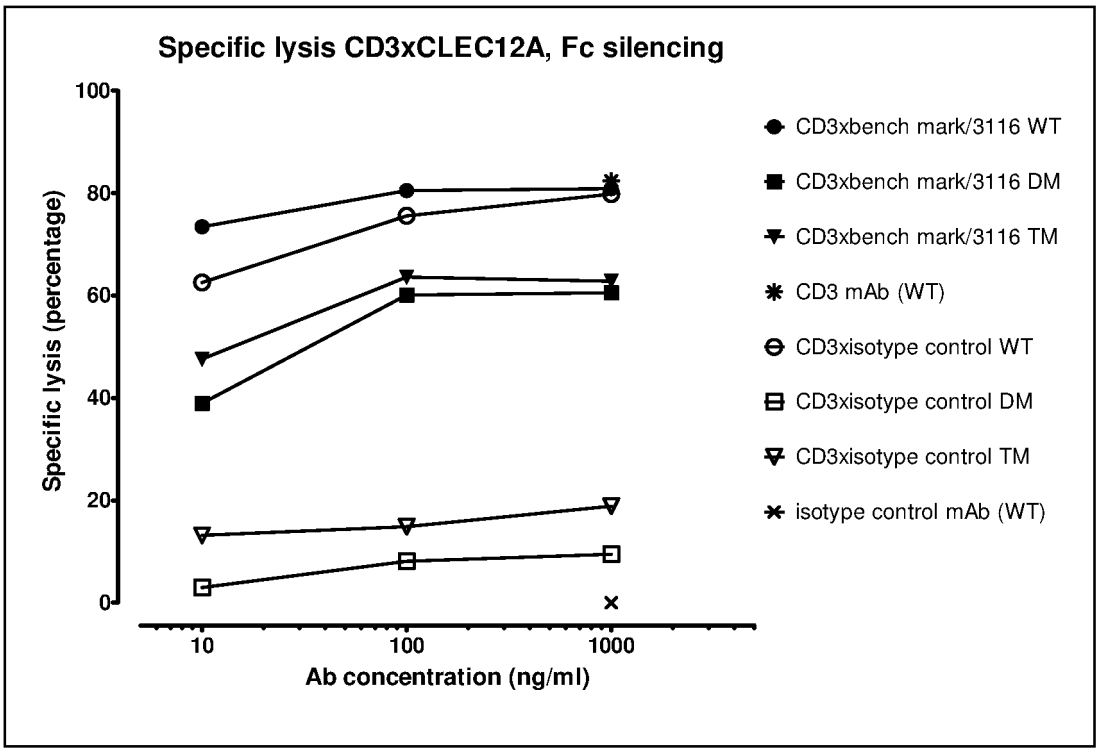

Specific lysis CD3xCLEC12A, Fc silencing
Specific lysis (percentage)
100
80
60
40
20
0
10
100
1000
Ab concentration (ng/ml)
CD3xbench mark/3116 WT
CD3xbench mark/3116 DM
CD3xbench mark/3116 TM
CD3 mAb (WT)
CD3xisotype control WT
CD3xisotype control DM
CD3xisotype control TM
isotype control mAb (WT)

FIG. 6

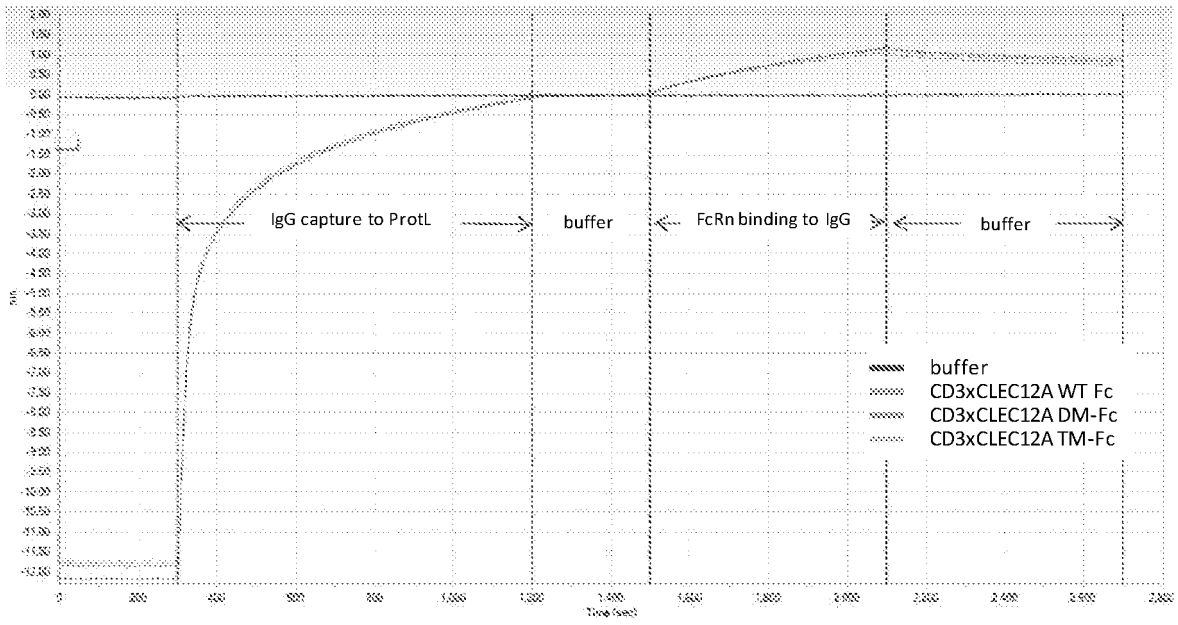

IgG capture to ProtL
buffer
FcRn binding to IgG
buffer
buffer
CD3xCLEC12A WT Fc
CD3xCLEC12A DM-Fc
CD3xCLEC12A TM-Fc

FIG. 7

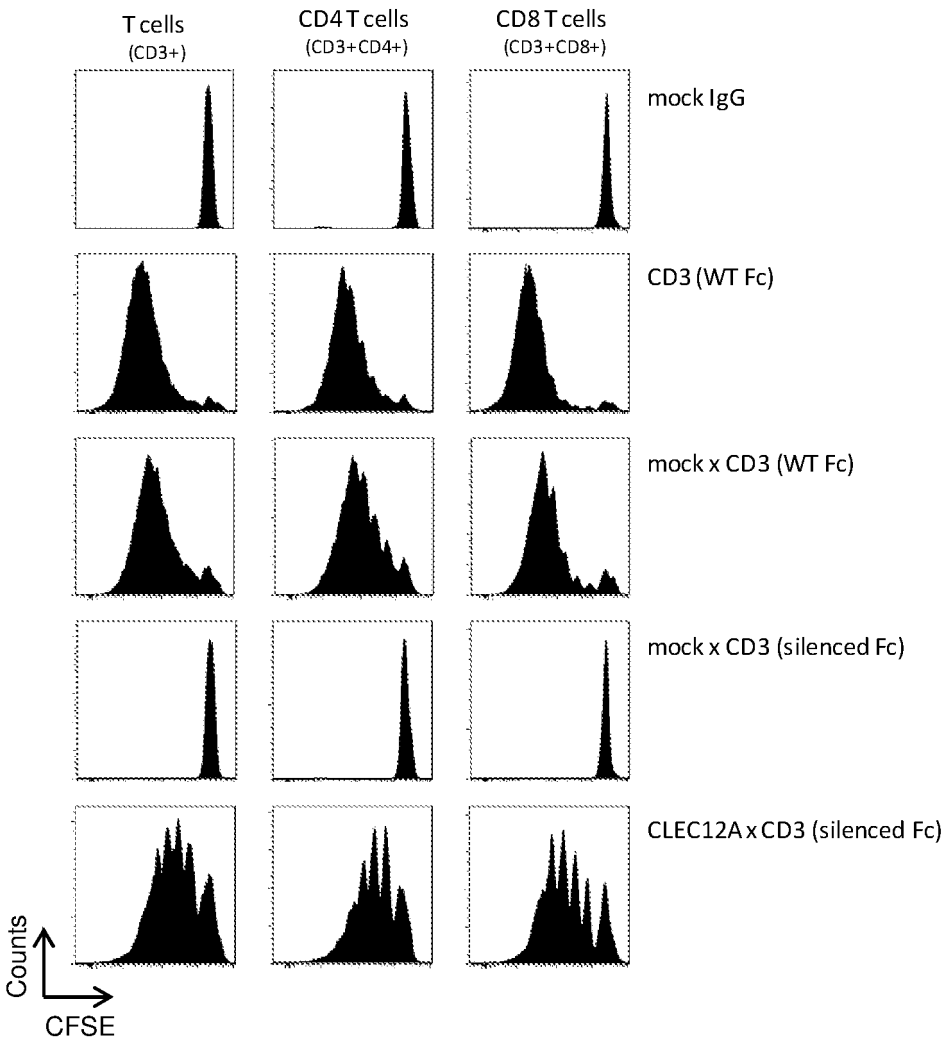

T cells
(CD3+)
CD4 T cells
(CD3+CD4+)
CD8 T cells
(CD3+CD8+)
mock IgG
CD3 (WT Fc)
mock x CD3 (WT Fc)
mock x CD3 (silenced Fc)
CLEC12A x CD3 (silenced Fc)
Counts
CFSE

FIG. 8

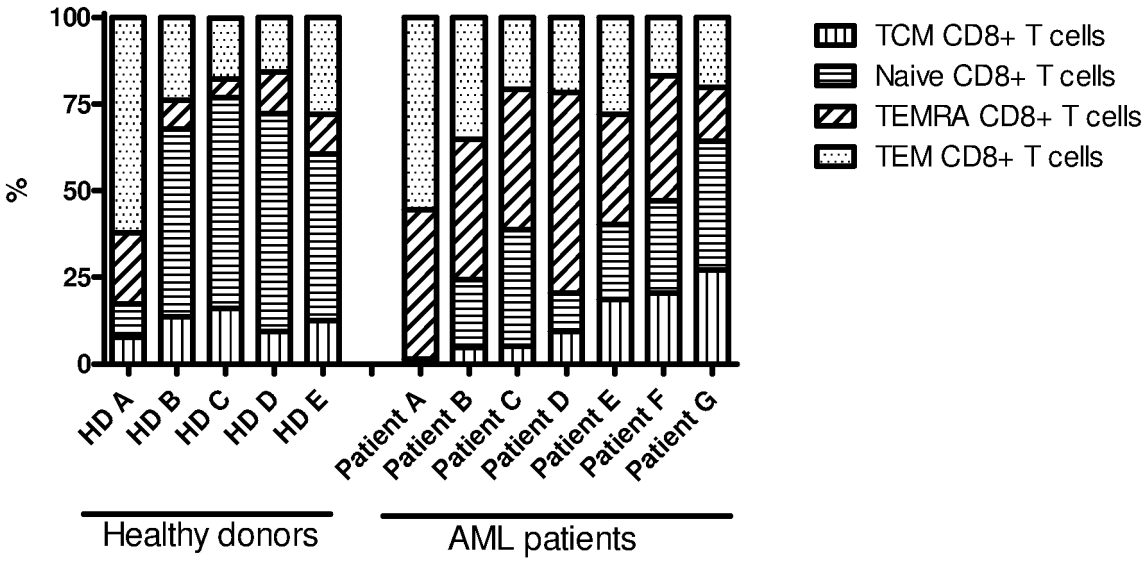

100
75
50
25
0
%
HD A
HD B
HD C
HD D
HD E
Patient A
Patient B
Patient C
Patient D
Patient E
Patient F
Patient G
Healthy donors
AML patients
TCM CD8+ T cells
Naive CD8+ T cells
TEMRA CD8+ T cells
TEM CD8+ T cells

FIG. 9

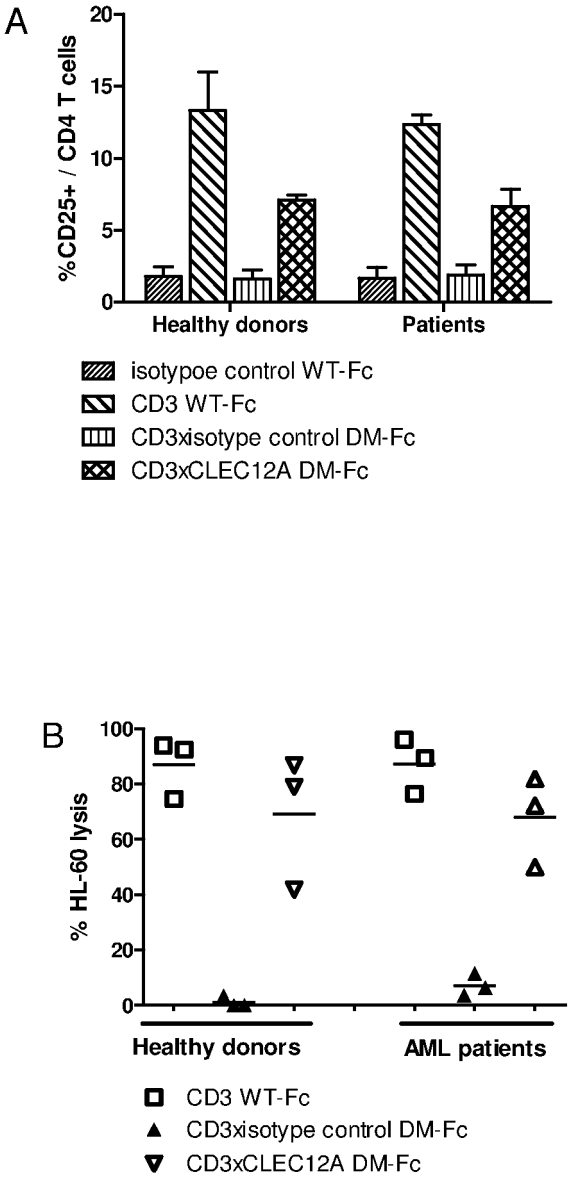

A
%CD25+ / CD4 T cells
20
15
10
5
0
Healthy donors
Patients
isotypoe control WT-Fc
CD3 WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A DM-Fc
B
% HL-60 lysis
100
80
60
40
20
0
Healthy donors
AML patients
CD3 WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A DM-Fc

FIG. 10

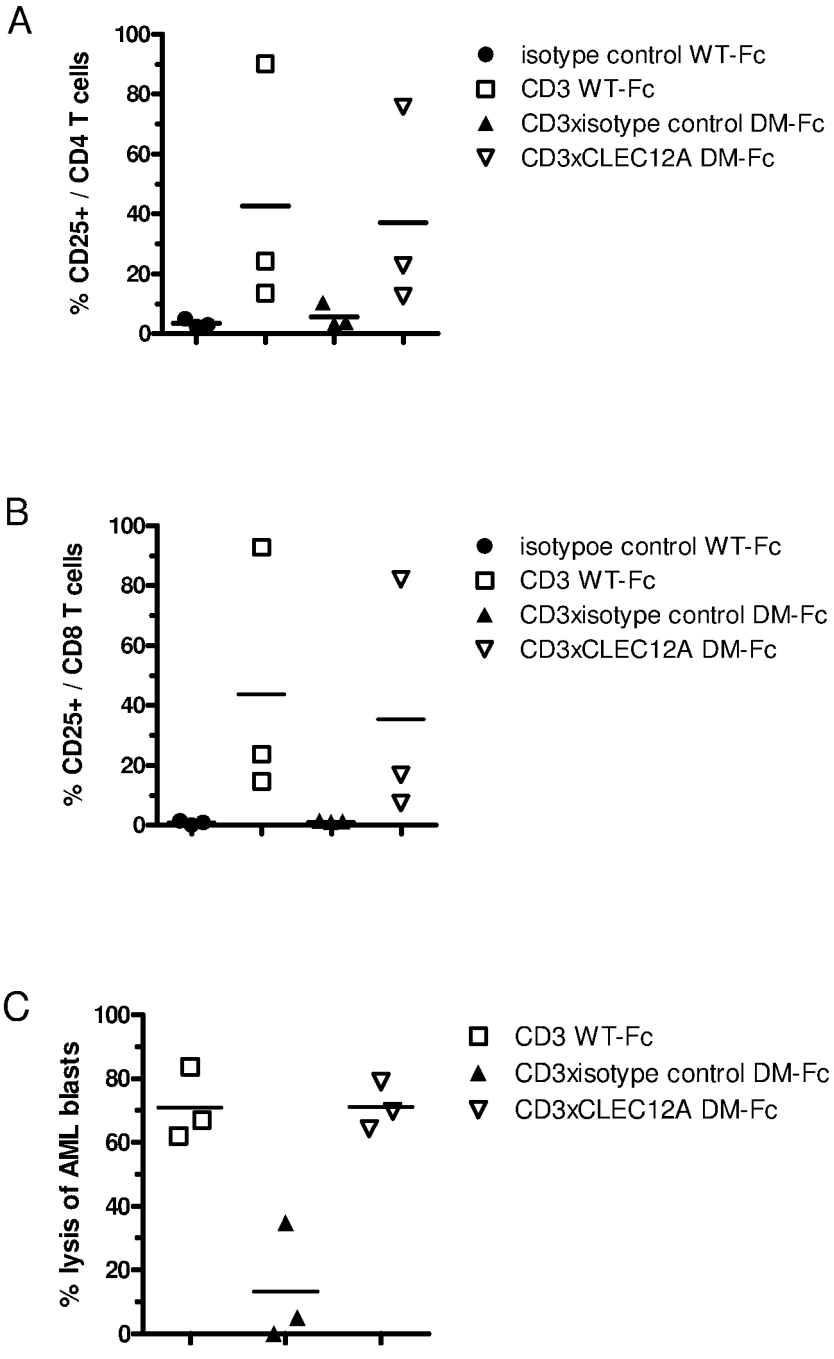

A
% CD25+ / CD4 T cells
100
80
60
40
20
0
isotype control WT-Fc
CD3 WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A DM-Fc
B
% CD25+ / CD8 T cells
100
80
60
40
20
0
isotypoe control WT-Fc
CD3 WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A DM-Fc
C
% lysis of AML blasts
100
80
60
40
20
0
CD3 WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A DM-Fc

FIG. 11

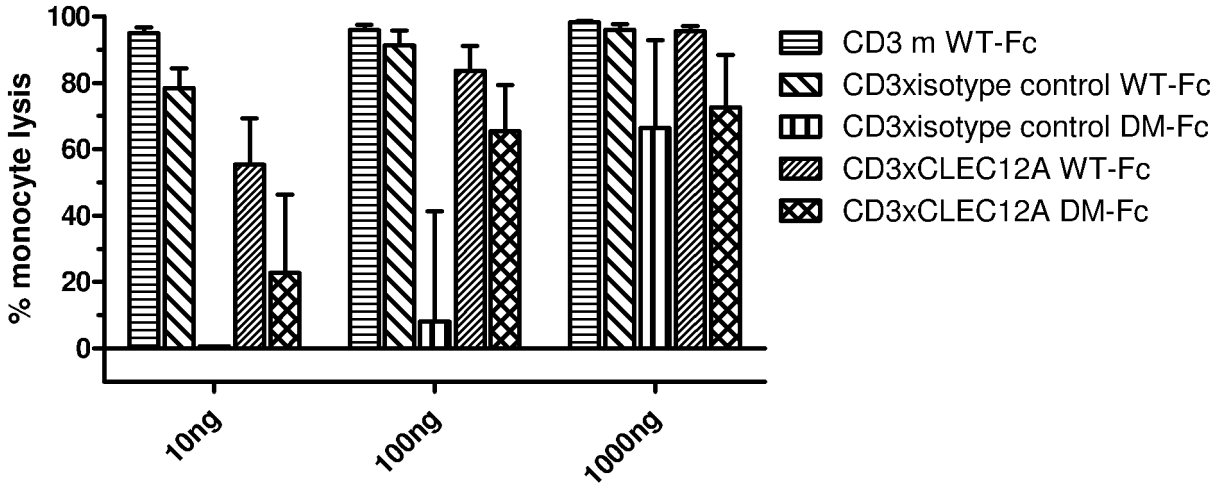

% monocyte lysis
100
80
60
40
20
0
10ng
100ng
1000ng
CD3 m WT-Fc
CD3xisotype control WT-Fc
CD3xisotype control DM-Fc
CD3xCLEC12A WT-Fc
CD3xCLEC12A DM-Fc

FIG. 12

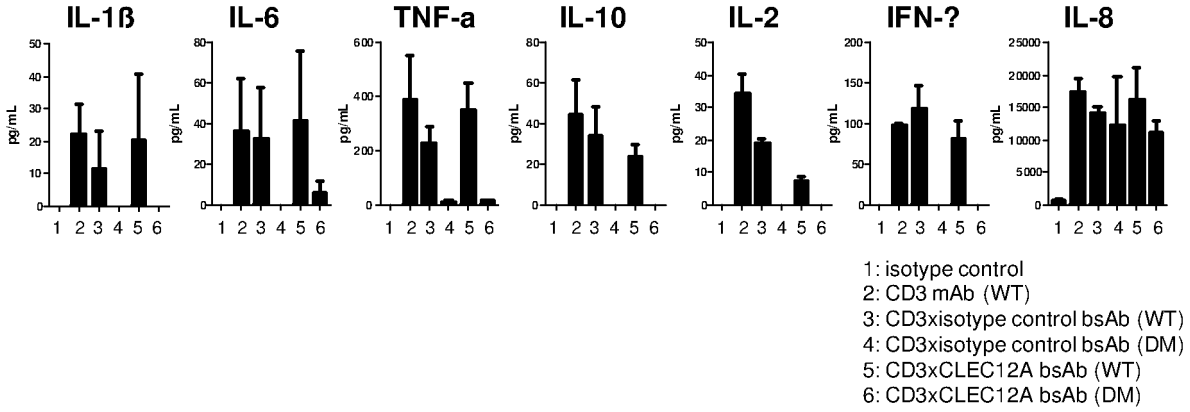

IL-1ß
IL-6
TNF-a
IL-10
IL-2
IFN-?
IL-8
pg/mL
1 2 3 4 5 6
1: isotype control
2: CD3 mAb (WT)
3: CD3xisotype control bsAb (WT)
4: CD3xisotype control bsAb (DM)
5: CD3xCLEC12A bsAb (WT)
6: CD3xCLEC12A bsAb (DM)

FIG. 13

Figure 14A

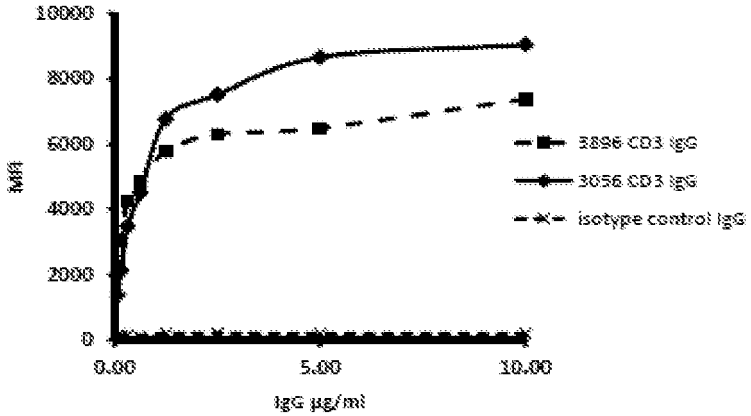


Figure 14B

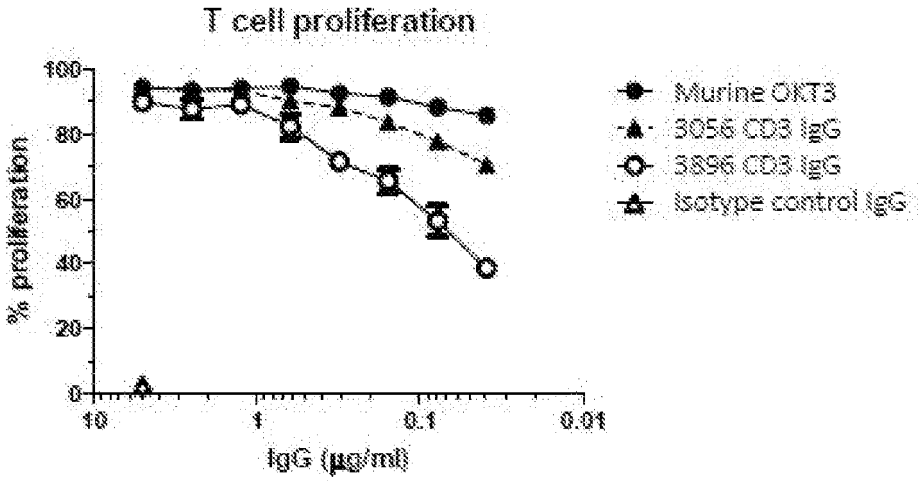


Figure 15

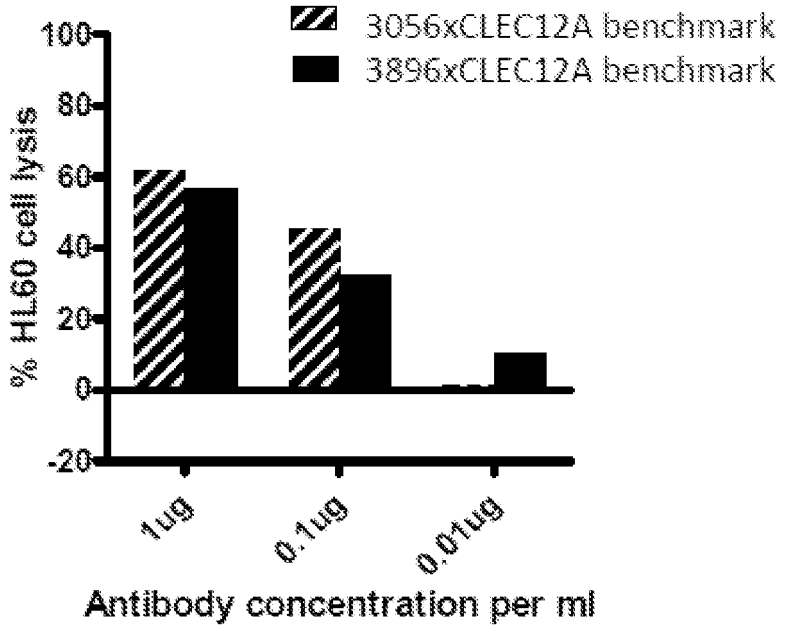


Figure 16

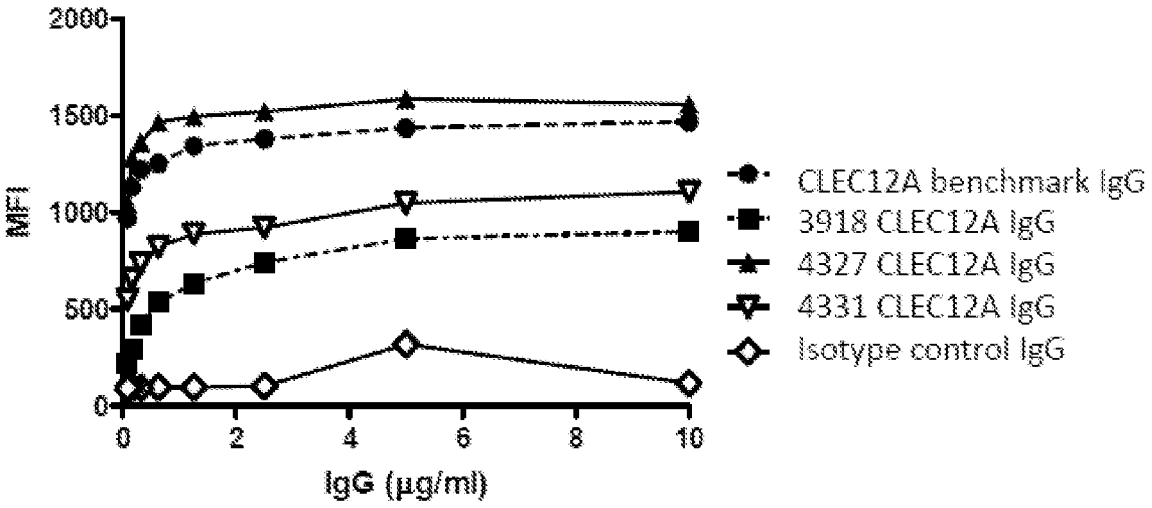
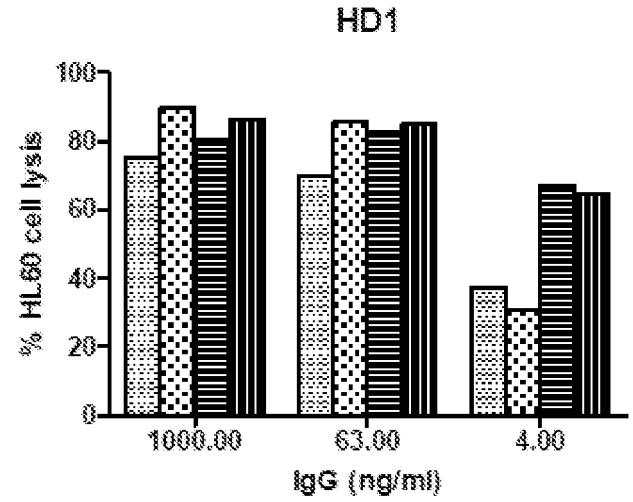


Figure 17


HD1
% HL60 cell lysis
100
80
60
40
20
0
1000.00
63.00
4.00
IgG (ng/ml)

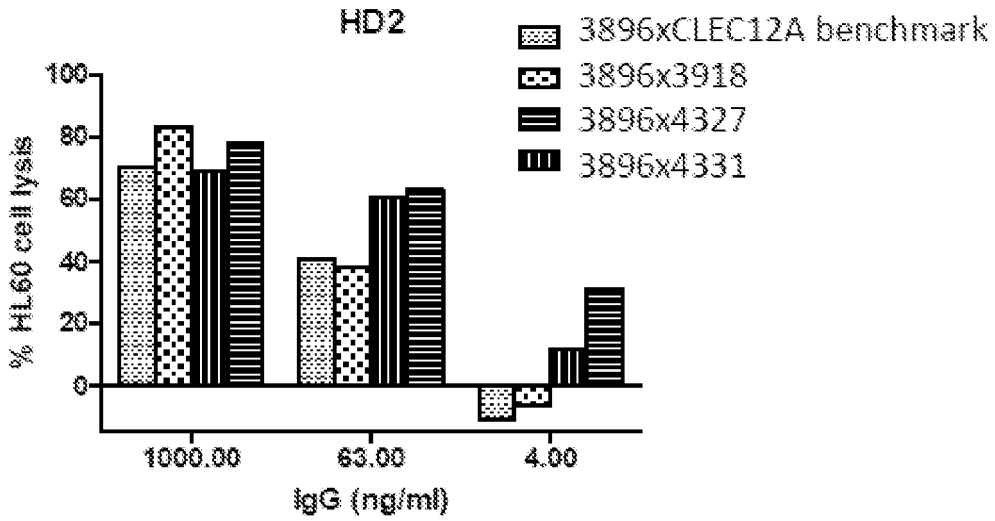

HD2
3896xCLEC12A benchmark
3896x3918
3896x4327
3896x4331
% HL60 cell lysis
100
80
60
40
20
0
1000.00
63.00
4.00
IgG (ng/ml)

Figure 18

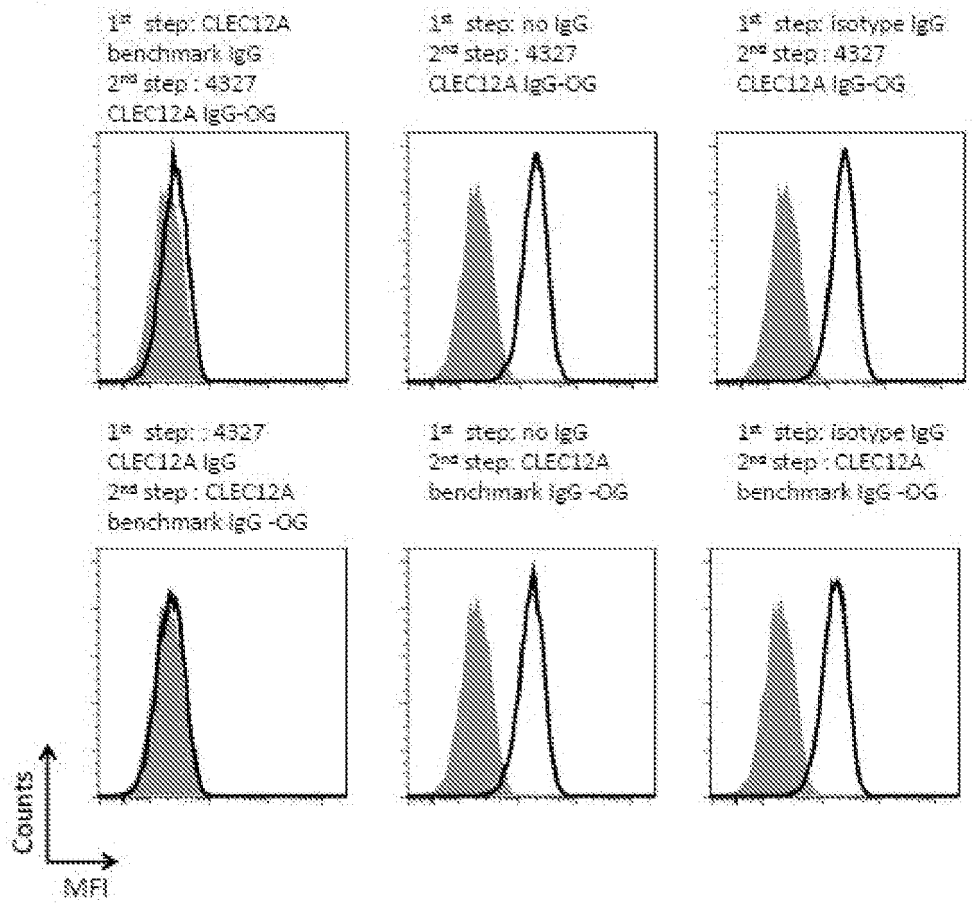

1st step: CLEC12A benchmark IgG
2nd step : 4327 CLEC12A IgG-OG
1st step: no IgG
2nd step : 4327 CLEC12A IgG-OG
1st step: isotype IgG
2nd step : 4327 CLEC12A IgG-OG
1st step: : 4327 CLEC12A IgG
2nd step : CLEC12A benchmark IgG -OG
1st step: no IgG
2nd step: CLEC12A benchmark IgG -OG
1st step: isotype IgG
2nd step : CLEC12A benchmark IgG -OG
Counts
MFI

Figure 19

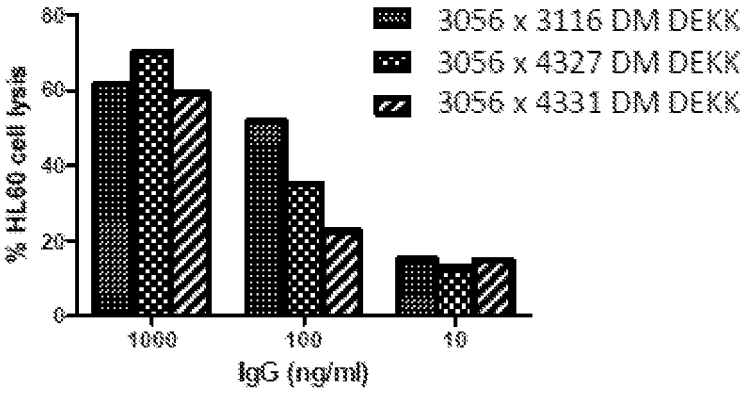

3056 x 3116 DM DEKK
3056 x 4327 DM DEKK
3056 x 4331 DM DEKK
% HL60 cell lysis
0
20
40
60
80
1000
100
10
IgG (ng/ml)

Figure 20

3056

VH (VDJ):

caggtgcagctggtgcagtctggcggcggagtggtgcagcccggcagaagcctgagactgagctgcgtgg
ccagcggcttcaccttcagcagctacggcatgcactgggtccgccaggcccctggcaagggactggaatg
ggtggccgccatctggtacaacggccggaagcaggactacgccgacagcgtgaagggccggttcaccatc
agccgggacaacagcaagaacaccctgtacctgcagatgaacagcctccgggccgaggacaccgccgtgt
actactgtacccggggcaccggctacaattggttcgacccttggggccagggcaccctggtcaccgtctc
cagt

QVQLVQSGGGVVQPGRSLRLSCVASGFTFSSYGMHWVRQAPGKGLEWVAXIWYNGRKQDYADSVKGRFTI
SRDNSKNTLYLQMNSLRAEDTAVYYCTRGTGYNWFDPWGQGTLVTVSS

VL/O12 (VJ):

Gacatccagatgacccagtctccatcctccctgtctgcatctgtaggagacagagtcaccatcacttgccgggca
agtcagagcattagcagctacttaaattggtatcagcagaaaccagggaaagcccctaagctcctgatctatgct
gcatccagtttgcaaagtggggtcccatcaaggttcagtggcagtggatctgggacagatttcactctcaccatc
agcagtctgcaacctgaagattttgcaacttactactgtcaacagagttacagtacccctccaacgttcggccaa
gggaccaaggtggagatcaaac

DIQMTQSPSSLSASVGDRVTITCRASQSISSYLNWYQQKPGKAPKLLIYAASSLQSGVPSRFSGSGSGTD
FTLTISSLQPEDFATYYCQQSYSTPPTFGQGTKVEIK

3896

VH:

caggtgcagctggtggagtctggcggcggagtggtgcagcccggcagaagcctgagactgagctgcgccg
ccagcggcttcaccttcagaagctacggcatgcactgggtccgccaggcccctggcaagggactggaatg
ggtggccatcatctggtacagcggcagcaagaagaactacgccgacagcgtgaagggccggttcaccatc
agccgggacaacagcaagaacaccctgtacctgcagatgaacagcctccgggccgaggacaccgccgtgt
actactgtgcccggggcaccggctacaattggttcgacccttggggccagggcaccctggtcaccgtctc
cagt

QVQLVESGGGVVQPGRSLRLSCAASGFTFRSYGMHWVRQAPGKGLEWVATIWYSGSKKNYADSVKGRFTI
SRDNSKNTLYLQMNSLRAEDTAVYYCARGTGYNWFDPWGQGTLVTVSS

VL:

O12

CLEC12A BENCHMARK (3116)

VH:

caggtgcagctgcaggaatctggacccggactggtcaagcccagcgagacactgagcctgacctgtgtgg
tgtccggcggcagcatcagcagcagcaattggtggtcttgggtccgacagccccctggcaagggcctgga
atggatcggcgagatctaccacagcggcagccccgactacaaccccagcctgaagtccagagtgaccatc
agcgtggacaagagccggaaccagttcagcctgaagctgagcagcgtgacagccgccgataccgccgtgt
actactgcgccaaagtgtccaccggcggctttttcgactactggggccagggcacactggtcaccgtctc
cagt

QVQLQESGPGLVKPSETLSLTCVVSGGSISSSNWWSWVRQPPGKGLEWIGEIYHSGSPDYNPSLKSRVTI
SVDKSRNQFSLKLSSVTAADTAVYYCAKVSTGGFFDYWGQGTLVTSS

VL:

O12

3918

VH:

caggtgcagctggtgcagtctggggctgaggtgaagaagcctggggcctcagtgaaggtctcctgcaagg
cttctggatacaccttcaccggctactatatgcactgggtgcgacaggcccctggacaagggcttgagtg
gatgggatggatcaaccctaacagtggtggcacaaactatgcacagaagtttcagggcagggtcacgatg
accagggacacgtccatcagcacagcctacatggagctgagcaggctgagatctgacgacacggccgtgt
attactgtgcaagagatggttacttcgctgacgcctttgattattggggccaaggtaccctggtcaccgt
ctccagt

QVQLVQSGAEVKKPGASVKVSCKASGYTFTGYYMHWVRQAPGQGLEWMGWINPNSGGTNYAQKFQGRVTM
TRDTSISTAYMELSRLRSDDTAVYYCARDGYFADAFDYWGQGTLVTVSS

VL:

O12

4327

VH:

caggtgcagctggtgcagtctggggctgaggtgaagaagcctggggcctcagtgaaggtttcctgcaagg
catctggatacaccttcaccagctactatatgcactgggtgcgacaggcccctggacaagggcttgagtg
gatgggaataatcaaccctagtggtggtagcacaagctacgcacagaagttccagggcagagtcaccatg
accagggacacgtccacgagcacagtctacatggagctgagcagcctgagatctgaggacacggccgtgt
attactgtgcaaagggcactactggtgattggtttgactactggggccaaggtaccctggtcaccgtctc
cagt

QVQLVQSGAEVKKPGASVKVSCKASGYTFTSYYMHWVRQAPGQGLEWMGIINPSGGSTSYAQKFQGRVTM
TRDTSTSTVYMELSSLRSEDTAVYYCAKGTTGDWFDYWGQGTLVTVSS

VL:
O12

4331
VH:

gaggtccagctggtgcagtctggggctgaggtgaagaagcctggggcctcagtgaaggtttcctgcaagg
catctggatacaccttcaccagctactatatgcactgggtgcgacaggcccctggacaagggcttgagtg
gatgggaataatcaaccctagtggtggtagcacaagctacgcacagaagttccagggcagagtcaccatg
accagggacacgtccacgagcacagtctacatggagctgagcagcctgagatctgaggacacggccgtgt
attactgtgcaaggggcaattatggtgatgagtttgactactggggccaaggtaccctggtcaccgtctc
cagt

EVQLVQSGAEVKKPGASVKVSCKASGYTFTSYYMHWVRQAPGQGLEWMGIINPSGGSTSYAQKFQGRVTM
TRDTSTSTVYMELSSLRSEDTAVYYCARGNYGDEFDYWGQGTLVTVSS

VL:
O12