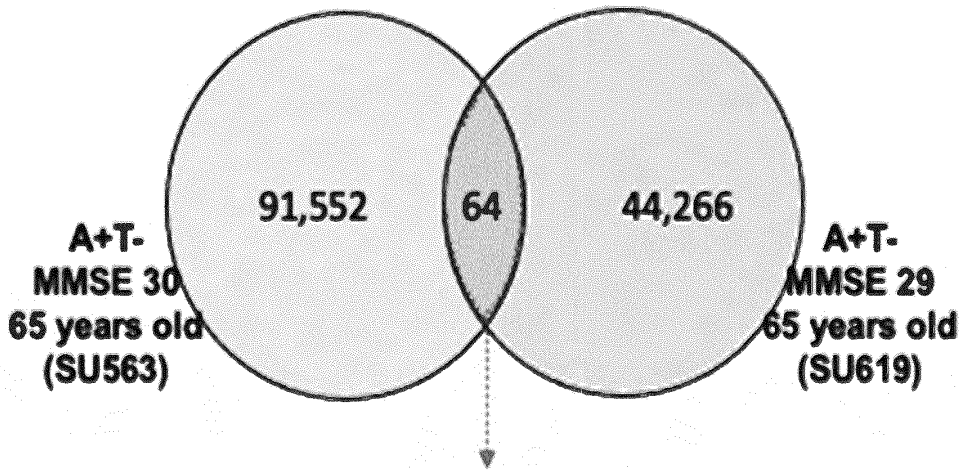

91,552
64
44,266
A+T-
MMSE 30
65 years old
(SU563)
A+T-
MMSE 29
65 years old
(SU619)
CD33 reactivity

Fig. 1

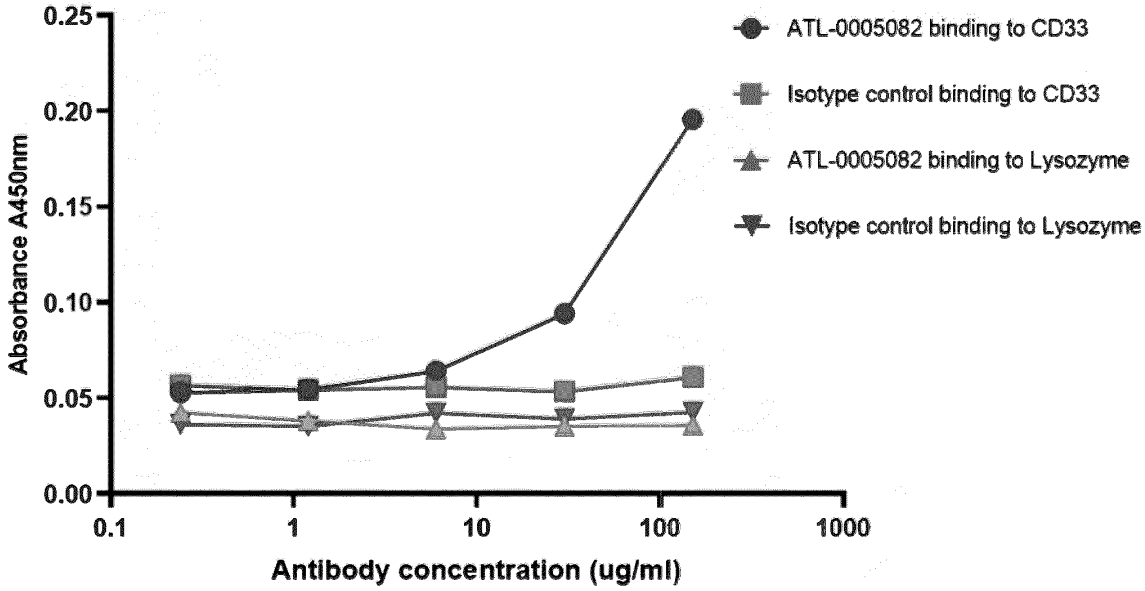

0.25
0.20
0.15
0.10
0.05
0.00
Absorbance A450nm
0.1
1
10
100
1000
Antibody concentration (ug/ml)
ATL-0005082 binding to CD33
Isotype control binding to CD33
ATL-0005082 binding to Lysozyme
Isotype control binding to Lysozyme

Fig. 2

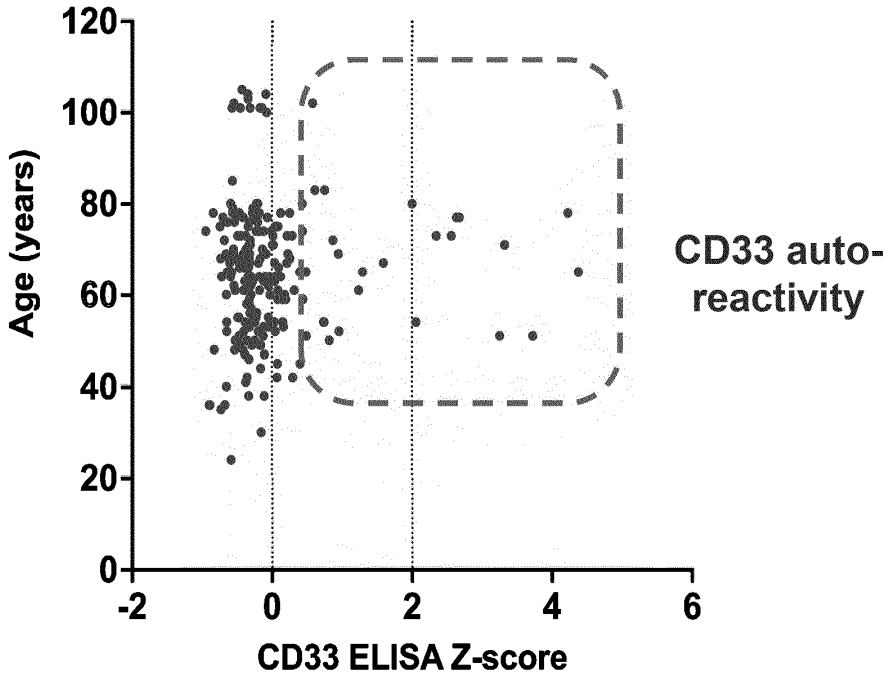

120
100
80
60
40
20
0
Age (years)
-2
0
2
4
6
CD33 ELISA Z-score
CD33 auto-
reactivity

Fig. 3

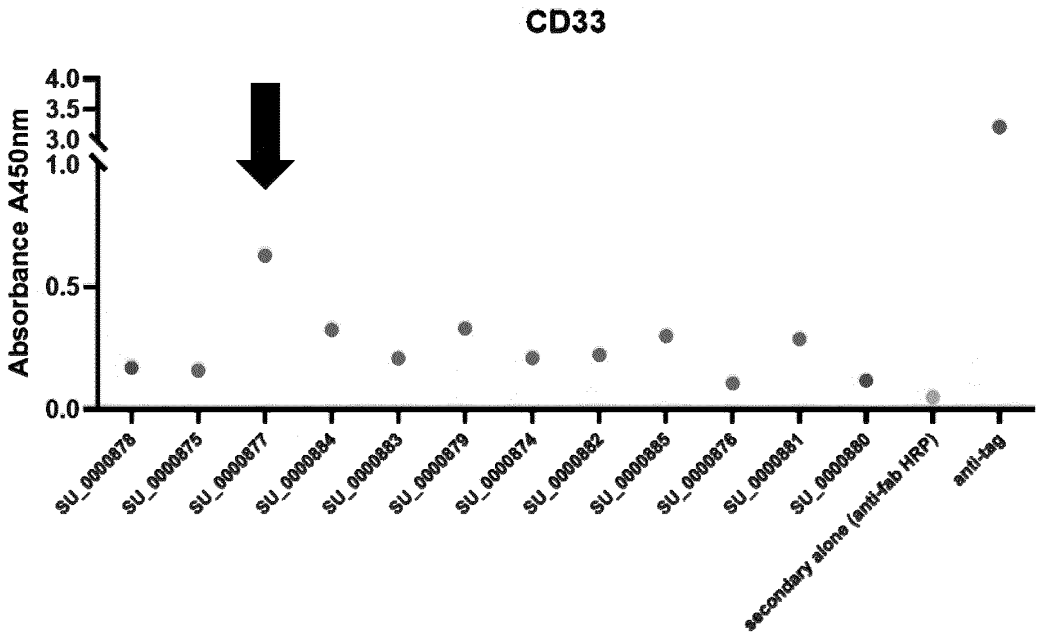

CD33
Absorbance A450nm
4.0
3.5
3.0
1.0
0.5
0.0
SU_0000878
SU_0000875
SU_0000877
SU_0000884
SU_0000883
SU_0000879
SU_0000874
SU_0000882
SU_0000885
SU_0000876
SU_0000881
SU_0000880
secondary alone (anti-fab HRP)
anti-tag

Fig. 4A

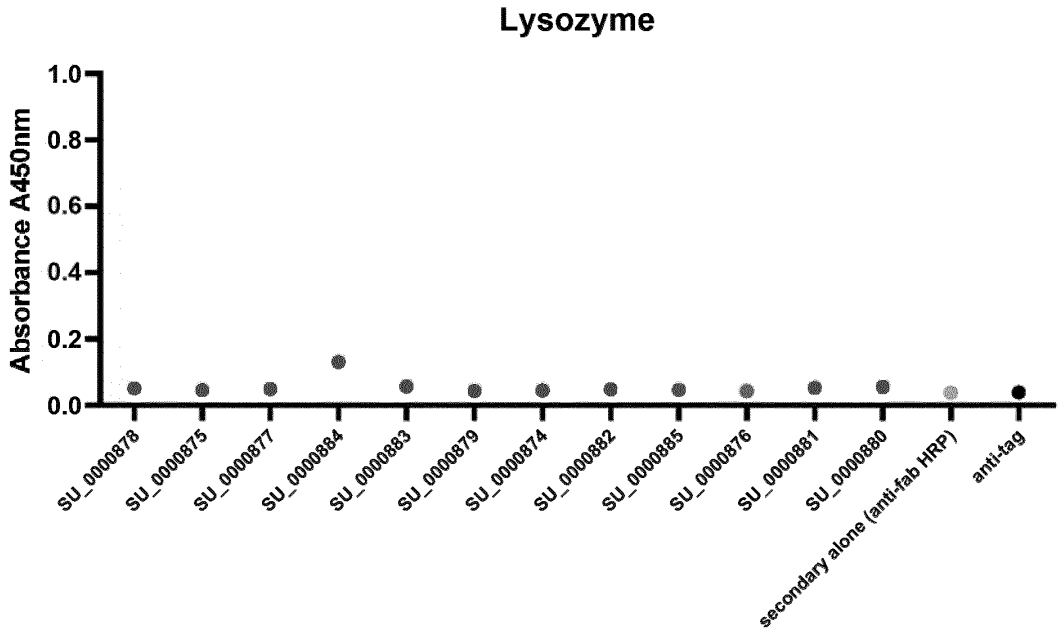

Lysozyme
Absorbance A450nm
1.0
0.8
0.6
0.4
0.2
0.0
SU_0000878
SU_0000875
SU_0000877
SU_0000884
SU_0000883
SU_0000879
SU_0000874
SU_0000882
SU_0000885
SU_0000876
SU_0000881
SU_0000880
secondary alone (anti-fab HRP)
anti-tag

Fig. 4B

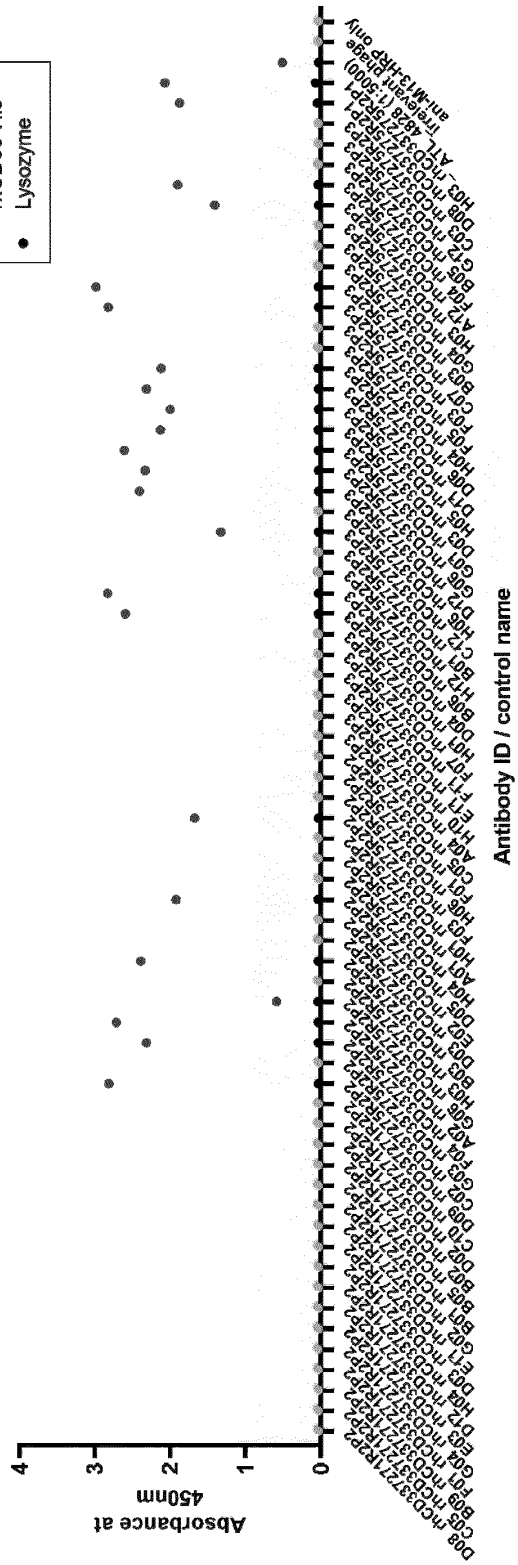

rhCD33 - Phage ELISA
rhCD33-His
Lysozyme
Absorbance at 450nm
0
1
2
3
4
Antibody ID / control name

Fig. 5

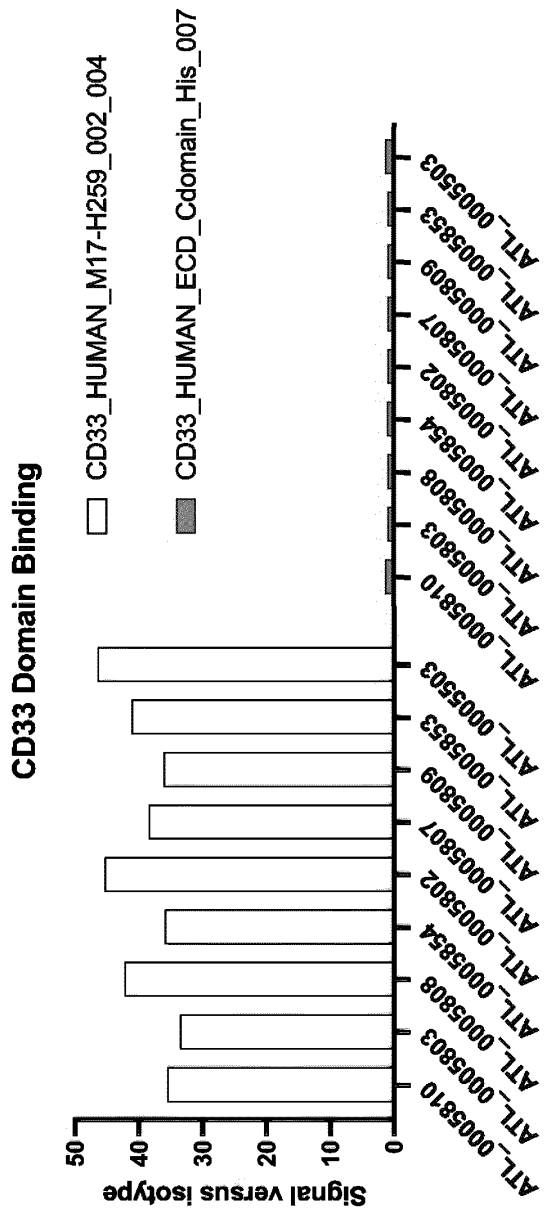

CD33 Domain Binding
CD33_HUMAN_M17-H259_002_004
CD33_HUMAN_ECD_Cdomain_His_007
Signal versus isotype
50
40
30
20
10
0
ATL_000503
ATL_000553
ATL_000580
ATL_000581
ATL_000580
ATL_000580
ATL_000585
ATL_000580
ATL_000580
ATL_000585
ATL_000553
ATL_000503

Fig. 6

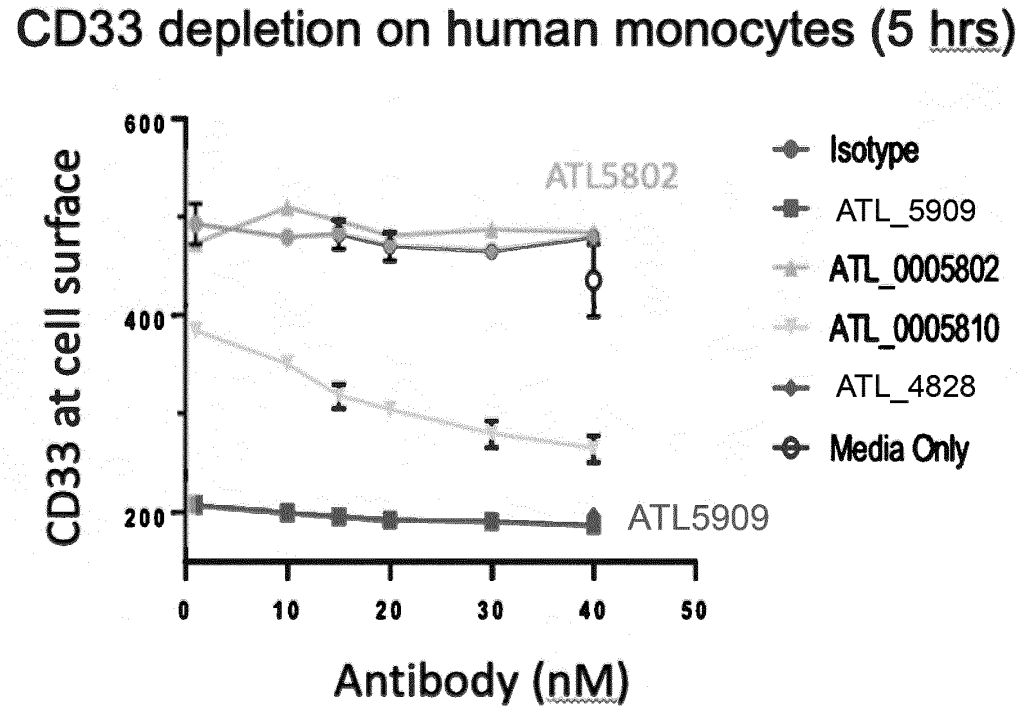

CD33 depletion on human monocytes (5 hrs)
CD33 at cell surface
600
400
200
0
10
20
30
40
50
Antibody (nM)
ATL5802
ATL5909
Isotype
ATL_5909
ATL_0005802
ATL_0005810
ATL_4828
Media Only

Fig. 7A

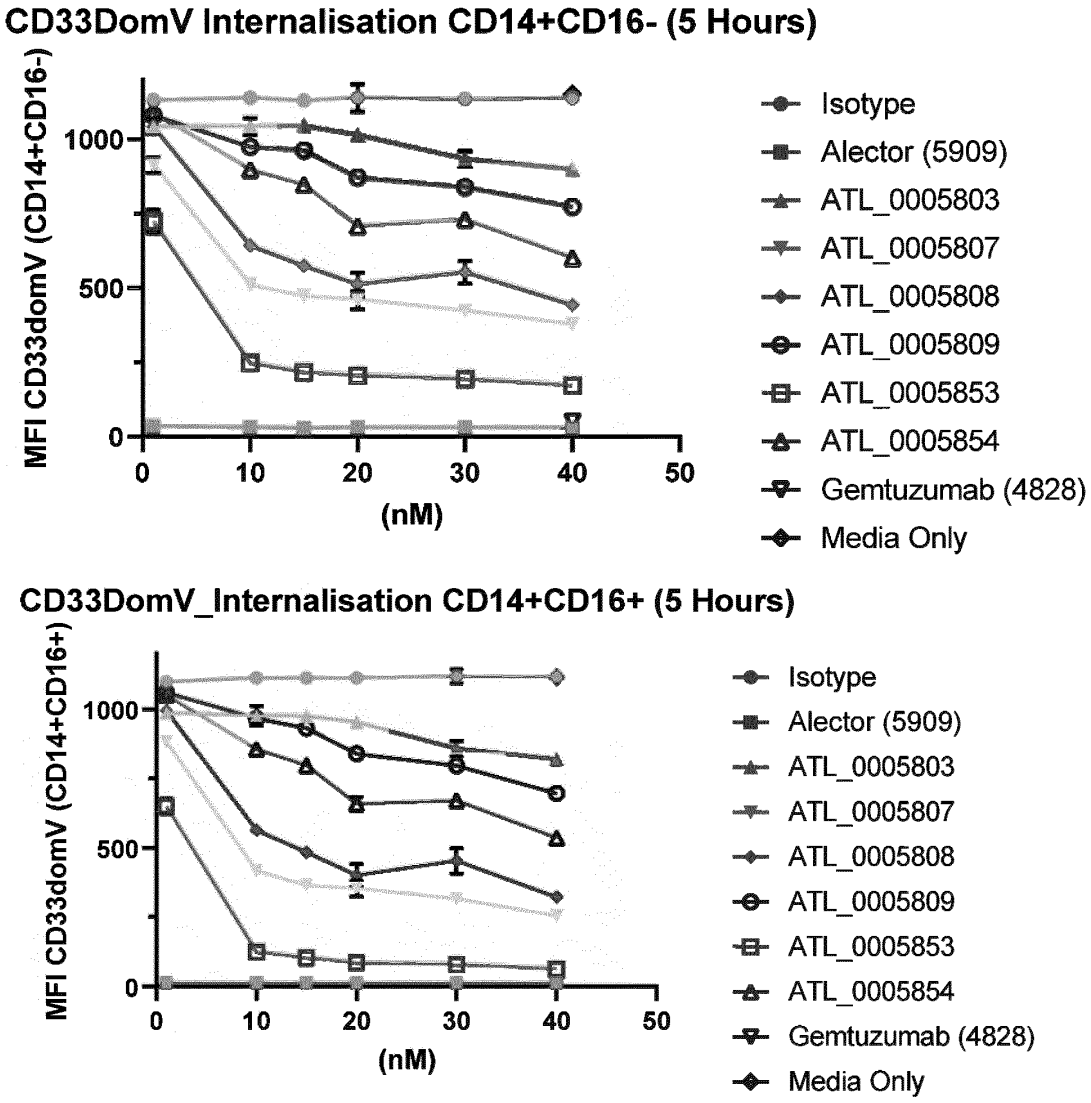

CD33DomV Internalisation CD14+CD16- (5 Hours)
MFI CD33domV (CD14+CD16-)
1000
500
0
0
10
20
30
40
50
(nM)
Isotype
Alector (5909)
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005853
ATL_0005854
Gemtuzumab (4828)
Media Only
CD33DomV_Internalisation CD14+CD16+ (5 Hours)
MFI CD33domV (CD14+CD16+)
1000
500
0
0
10
20
30
40
50
(nM)
Isotype
Alector (5909)
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005853
ATL_0005854
Gemtuzumab (4828)
Media Only

Fig. 7B

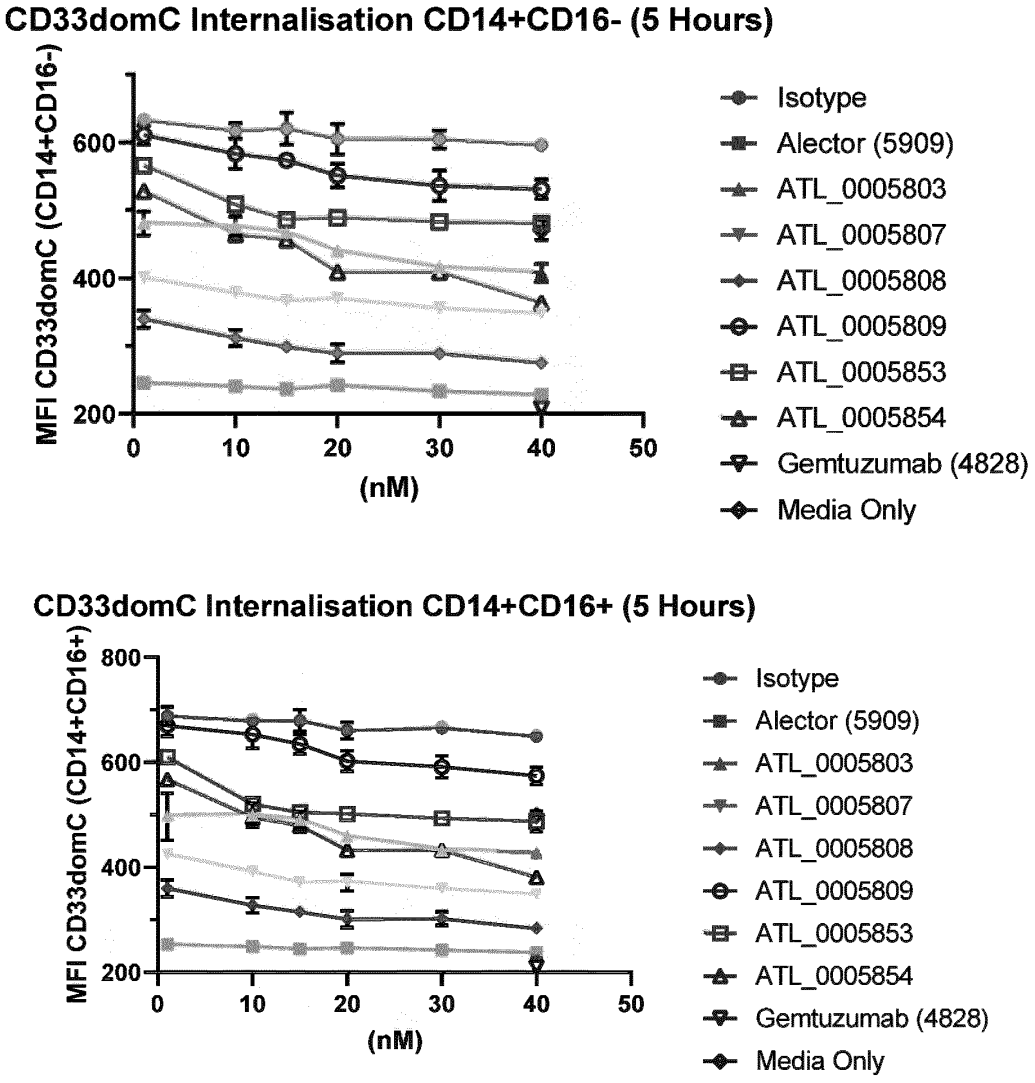

CD33domC Internalisation CD14+CD16- (5 Hours)
MFI CD33domC (CD14+CD16-)
600
400
200
0
10
20
30
40
50
(nM)
Isotype
Alector (5909)
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005853
ATL_0005854
Gemtuzumab (4828)
Media Only
CD33domC Internalisation CD14+CD16+ (5 Hours)
MFI CD33domC (CD14+CD16+)
800
600
400
200
0
10
20
30
40
50
(nM)
Isotype
Alector (5909)
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005853
ATL_0005854
Gemtuzumab (4828)
Media Only

Fig. 7C

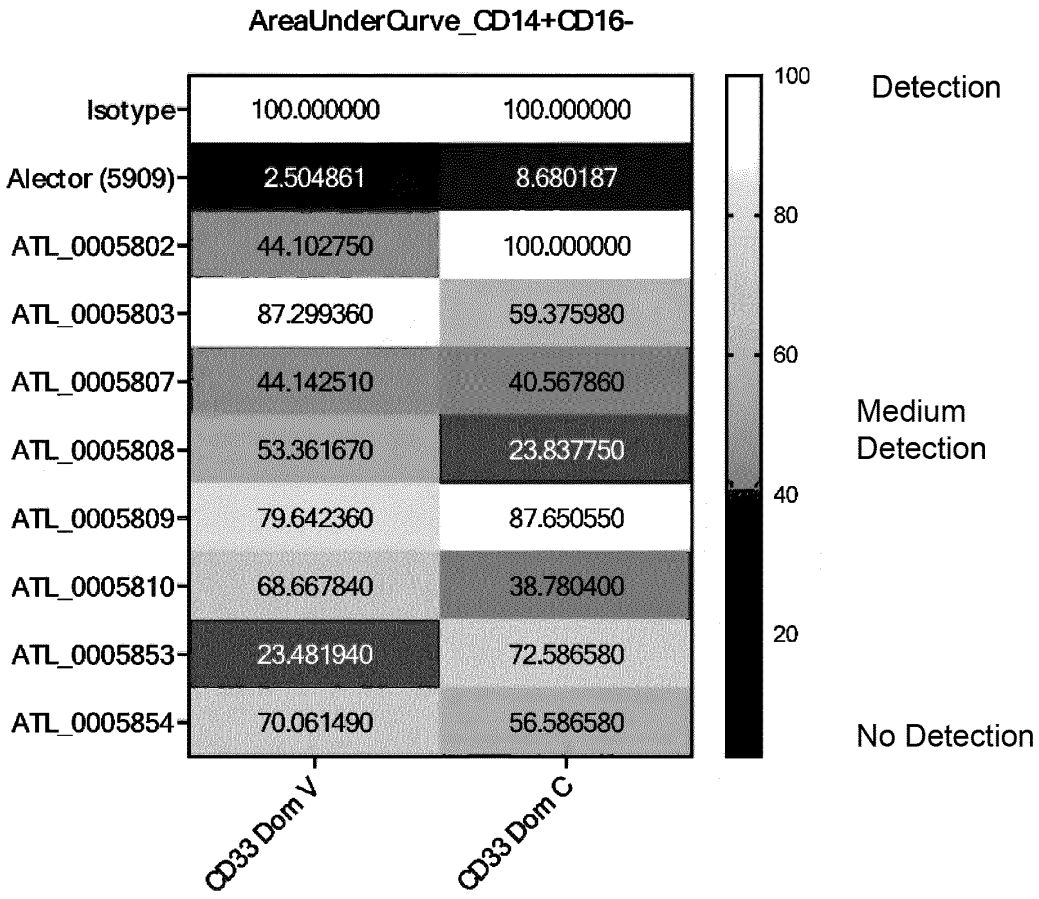

AreaUnderCurve_CD14+CD16-
Isotype
Alector (5909)
ATL_0005802
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005810
ATL_0005853
ATL_0005854
100.000000
100.000000
2.504861
8.680187
44.102750
100.000000
87.299360
59.375980
44.142510
40.567860
53.361670
23.837750
79.642360
87.650550
68.667840
38.780400
23.481940
72.586580
70.061490
56.586580
CD33 Dom V
CD33 Dom C
100
80
60
40
20
Detection
Medium Detection
No Detection

Fig. 7D

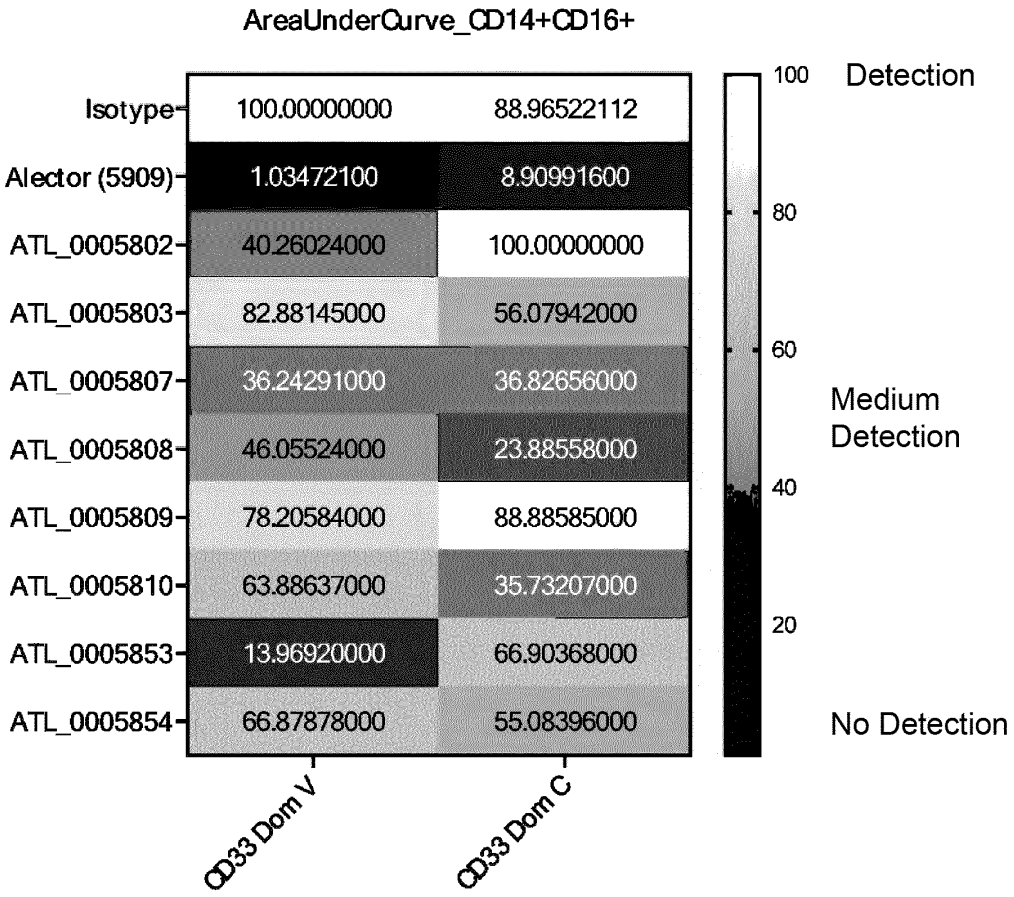

AreaUnderCurve_CD14+CD16+
Isotype
Alector (5909)
ATL_0005802
ATL_0005803
ATL_0005807
ATL_0005808
ATL_0005809
ATL_0005810
ATL_0005853
ATL_0005854
100.00000000
88.96522112
1.03472100
8.90991600
40.26024000
100.00000000
82.88145000
56.07942000
36.24291000
36.82656000
46.05524000
23.88558000
78.20584000
88.88585000
63.88637000
35.73207000
13.96920000
66.90368000
66.87878000
55.08396000
CD33 Dom V
CD33 Dom C
100
80
60
40
20
Detection
Medium Detection
No Detection

Fig. 7E

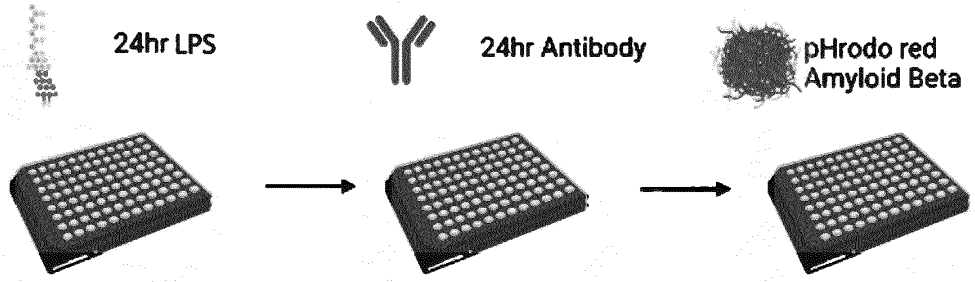

24hr LPS
24hr Antibody
pHrodo red
Amyloid Beta

Fig. 8A

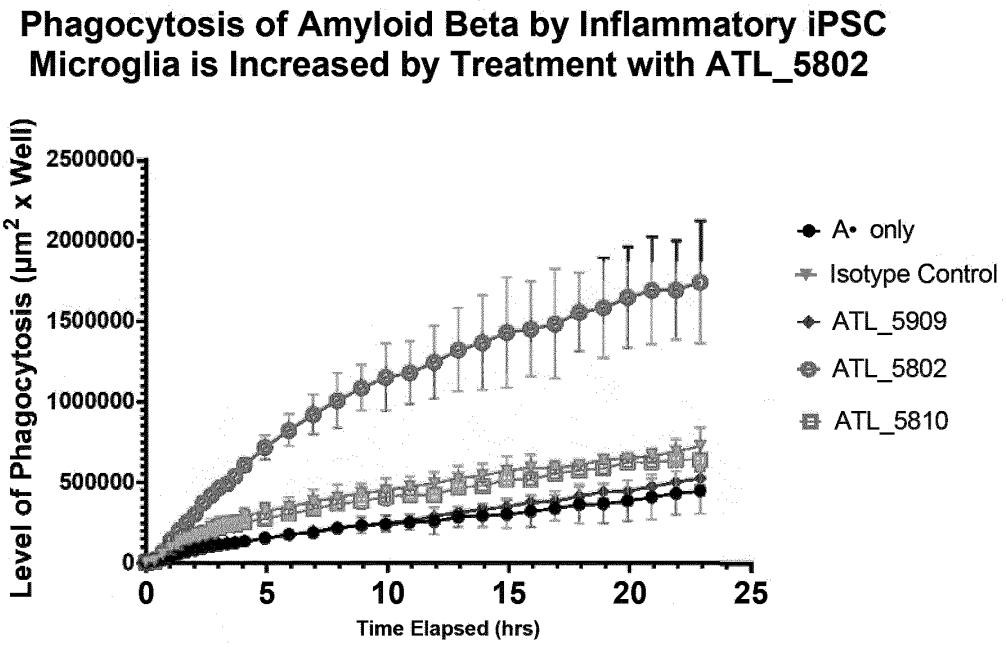

Phagocytosis of Amyloid Beta by Inflammatory iPSC Microglia is Increased by Treatment with ATL_5802
Level of Phagocytosis (µm² x Well)
2500000
2000000
1500000
1000000
500000
0
0
5
10
15
20
25
Time Elapsed (hrs)
A• only
Isotype Control
ATL_5909
ATL_5802
ATL_5810

Fig. 8B

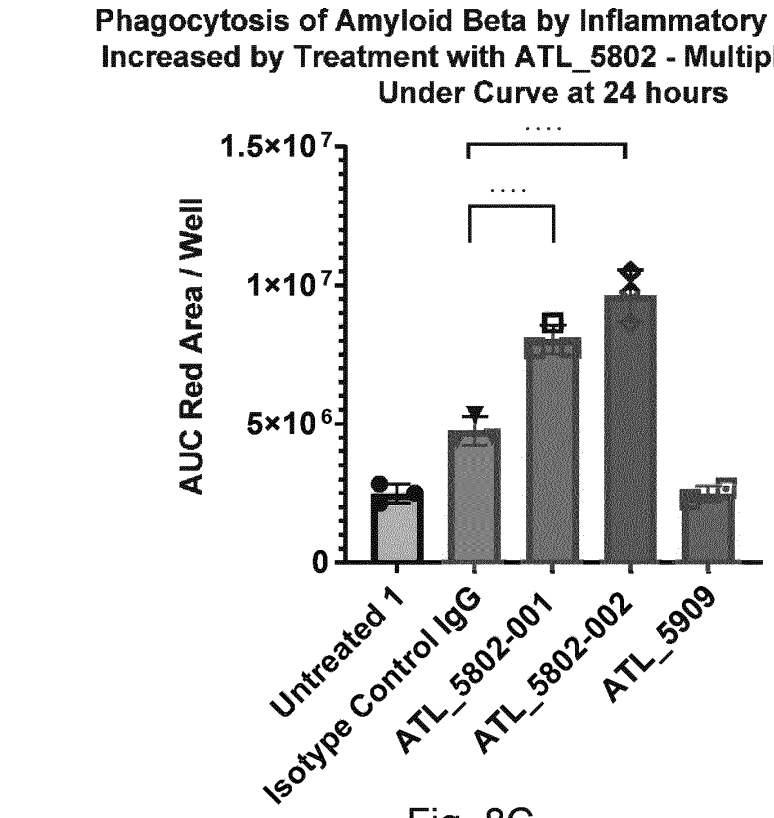

Phagocytosis of Amyloid Beta by Inflammatory iPSC Microglia is Increased by Treatment with ATL_5802 - Multiple Batches. Area Under Curve at 24 hours
AUC Red Area / Well
1.5×10^7
1×10^7
5×10^6
0
Untreated 1
Isotype Control IgG
ATL_5802-001
ATL_5802-002
ATL_5909

Fig. 8C

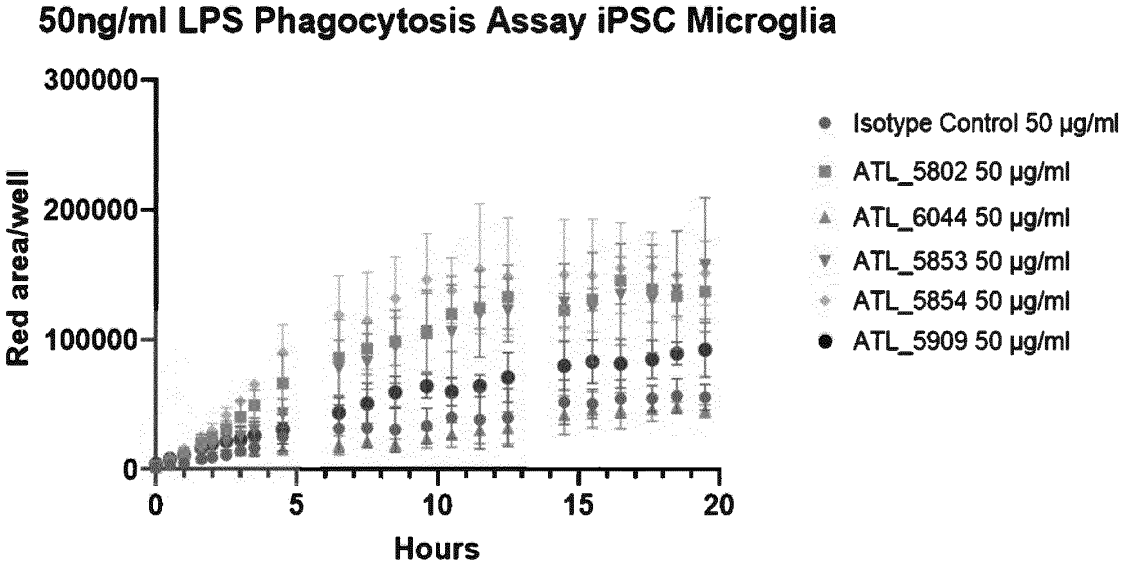

50ng/ml LPS Phagocytosis Assay iPSC Microglia
Red area/well
300000
200000
100000
0
0
5
10
15
20
Hours
Isotype Control 50 µg/ml
ATL_5802 50 µg/ml
ATL_6044 50 µg/ml
ATL_5853 50 µg/ml
ATL_5854 50 µg/ml
ATL_5909 50 µg/ml

Fig. 8D

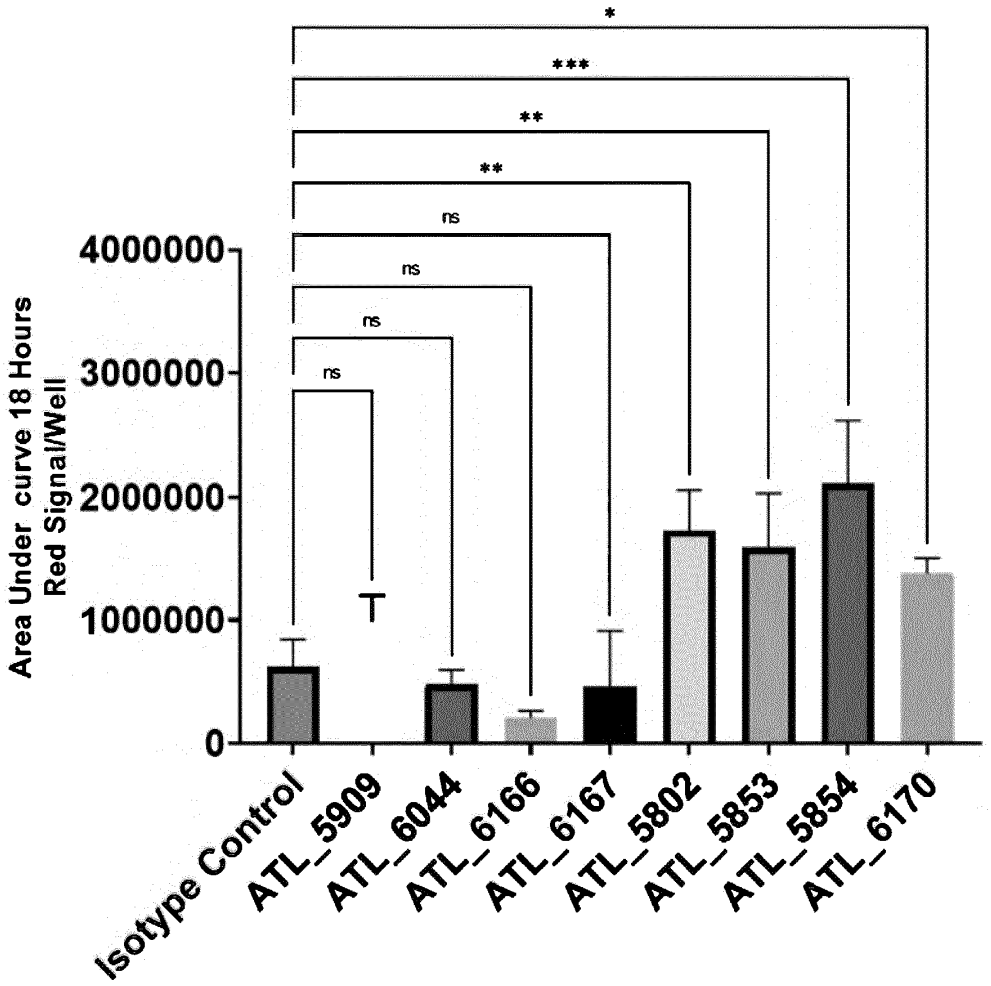

*
***
**
**
ns
ns
ns
ns
4000000
3000000
2000000
1000000
0
Area Under curve 18 Hours
Red Signal/Well
Isotype Control
ATL_5909
ATL_6044
ATL_6166
ATL_6167
ATL_5802
ATL_5853
ATL_5854
ATL_6170

Fig. 8E

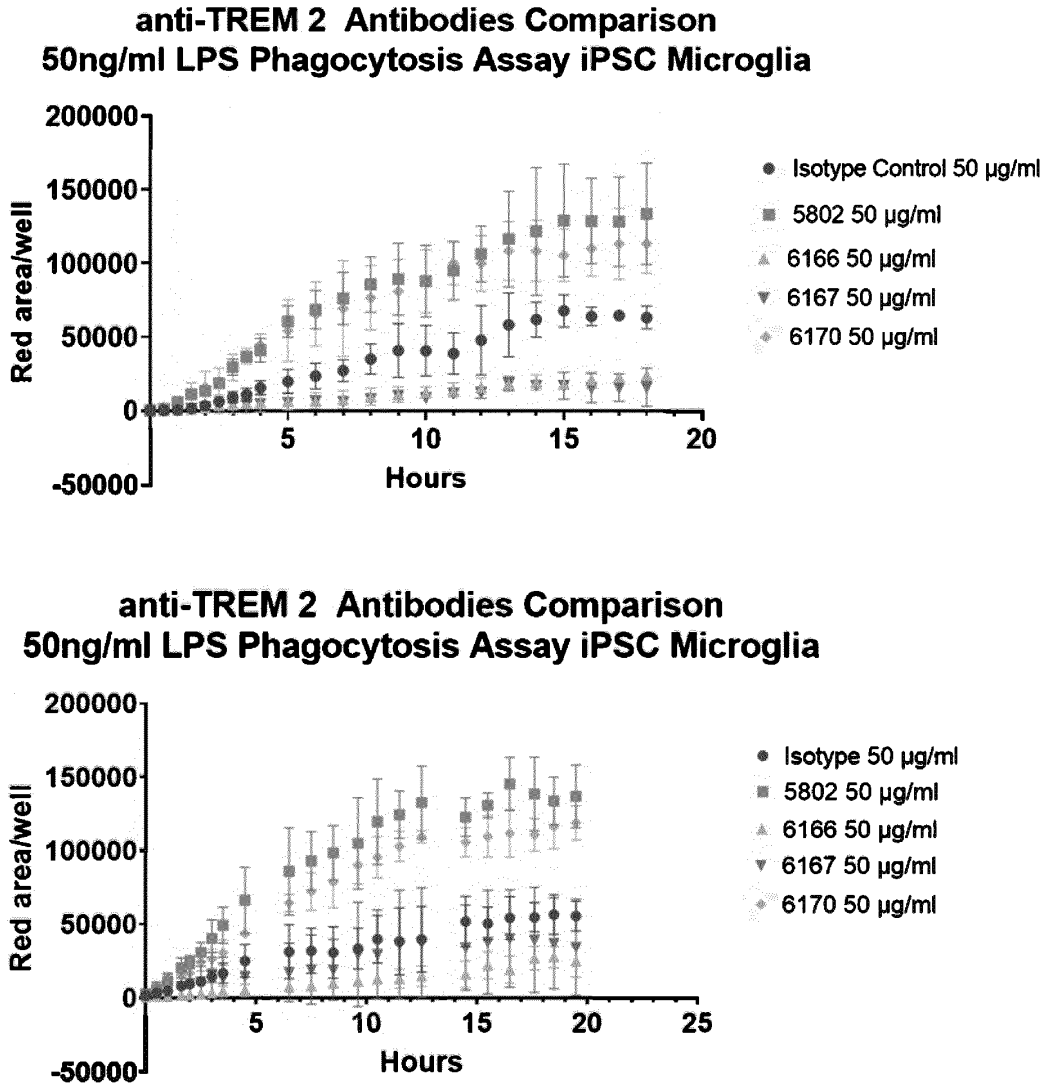

anti-TREM 2 Antibodies Comparison
50ng/ml LPS Phagocytosis Assay iPSC Microglia
Red area/well
200000
150000
100000
50000
0
-50000
5
10
15
20
Hours
Isotype Control 50 µg/ml
5802 50 µg/ml
6166 50 µg/ml
6167 50 µg/ml
6170 50 µg/ml
anti-TREM 2 Antibodies Comparison
50ng/ml LPS Phagocytosis Assay iPSC Microglia
Red area/well
200000
150000
100000
50000
0
-50000
5
10
15
20
25
Hours
Isotype 50 µg/ml
5802 50 µg/ml
6166 50 µg/ml
6167 50 µg/ml
6170 50 µg/ml

Fig. 8F

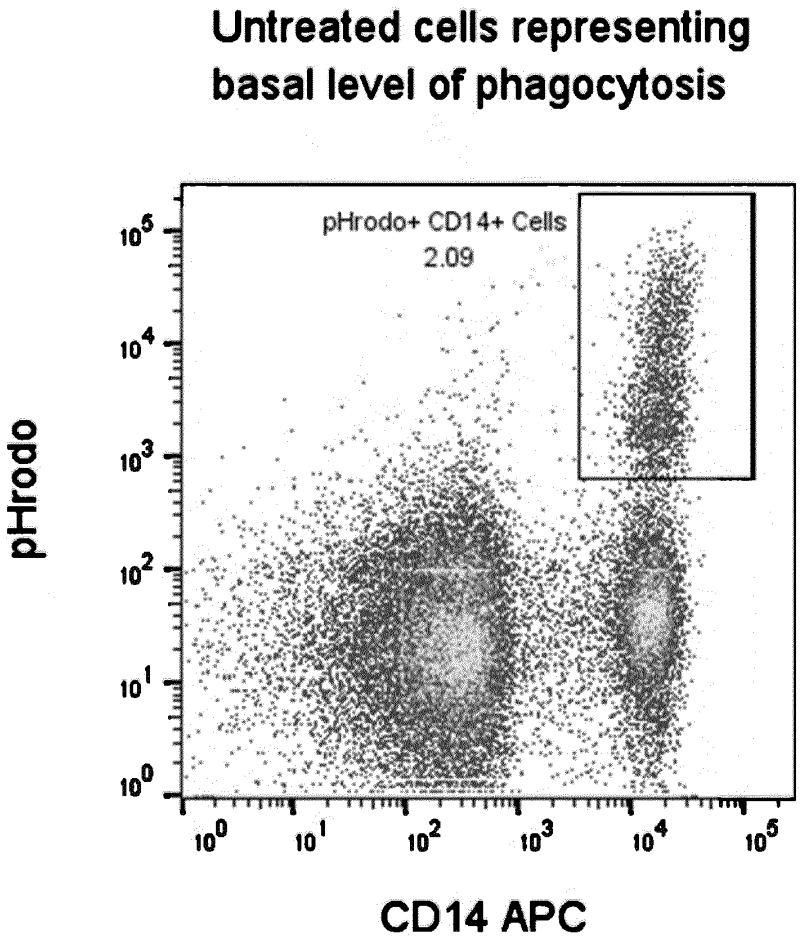

Untreated cells representing
basal level of phagocytosis
pHrodo+ CD14+ Cells
2.09
pHrodo
CD14 APC
10^0
10^1
10^2
10^3
10^4
10^5

Fig. 9A

Incubation of lysed whole blood with anti-CD33 antibodies causes increased phagocytosis of S.aureus by monocytes

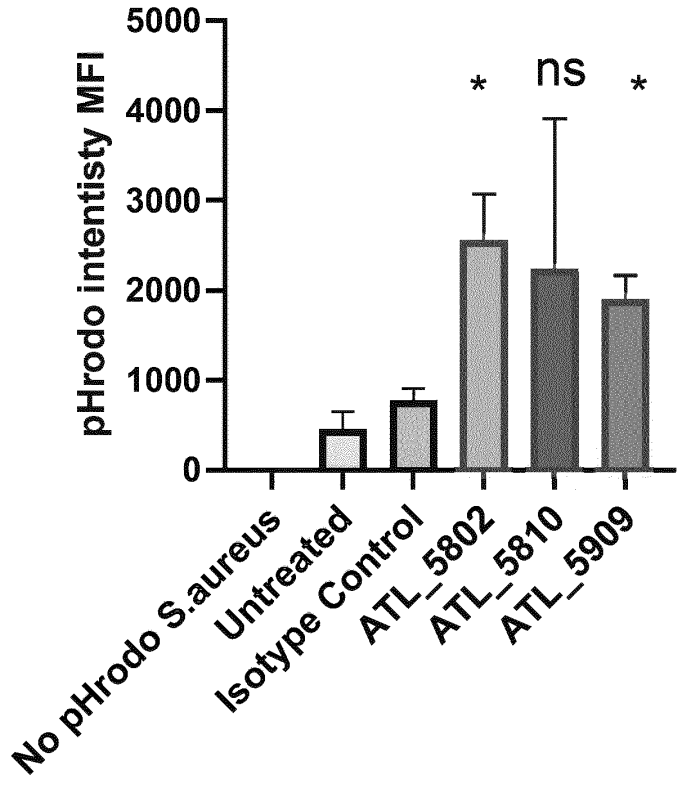


Fig. 9B

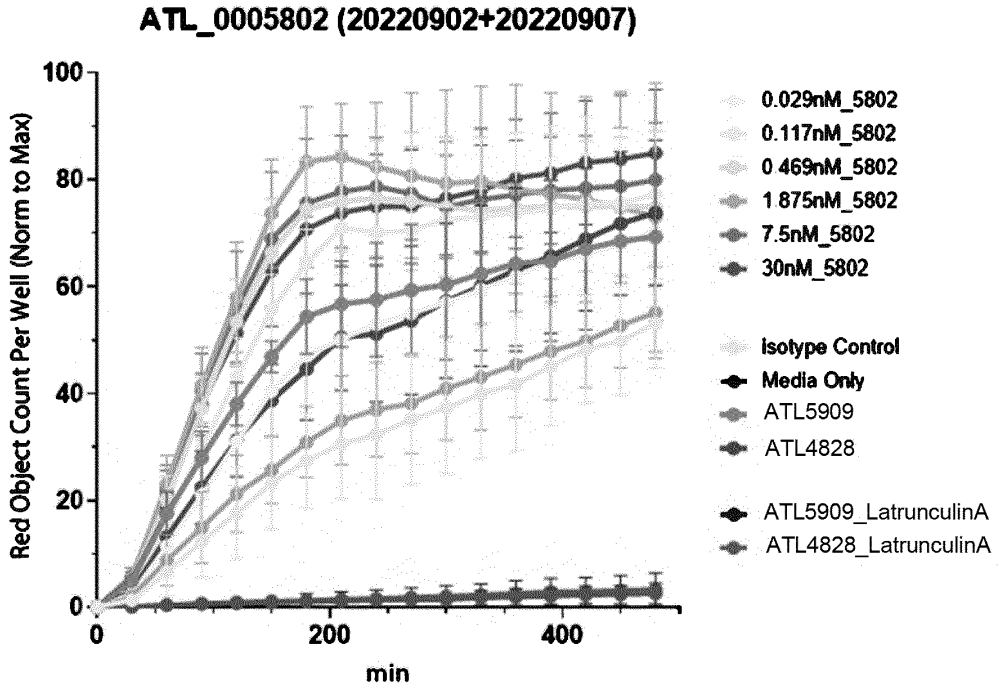

ATL_0005802 (20220902+20220907)
Red Object Count Per Well (Norm to Max)
100
80
60
40
20
0
0
200
400
min
0.029nM_5802
0.117nM_5802
0.469nM_5802
1.875nM_5802
7.5nM_5802
30nM_5802
Isotype Control
Media Only
ATL5909
ATL4828
ATL5909_LatrunculinA
ATL4828_LatrunculinA

Fig. 9C

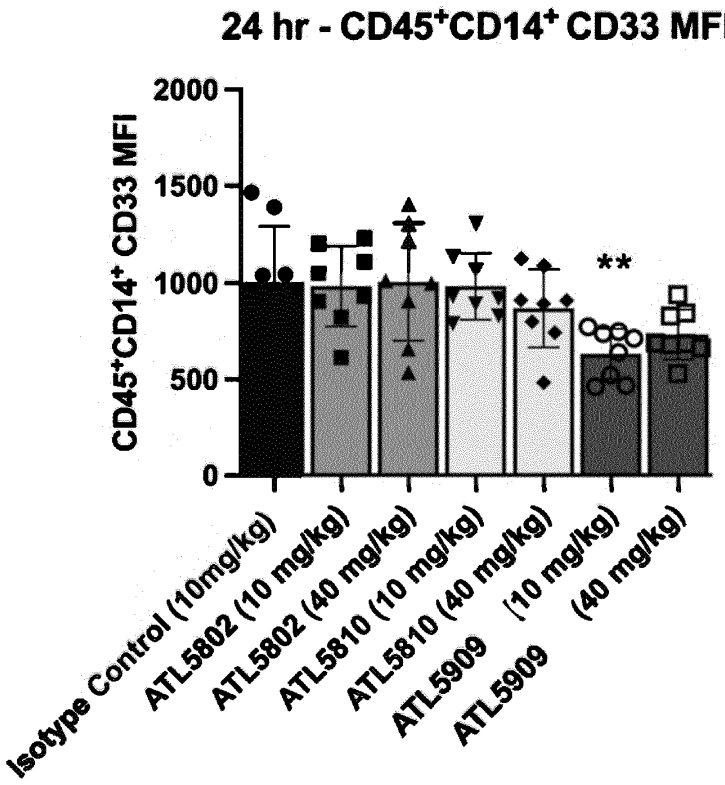

24 hr - CD45+CD14+ CD33 MFI
CD45+CD14+ CD33 MFI
2000
1500
1000
500
0
**
Isotype Control (10mg/kg)
ATL5802 (10 mg/kg)
ATL5802 (40 mg/kg)
ATL5810 (10 mg/kg)
ATL5810 (40 mg/kg)
ATL5909 (10 mg/kg)
ATL5909 (40 mg/kg)

Fig. 10

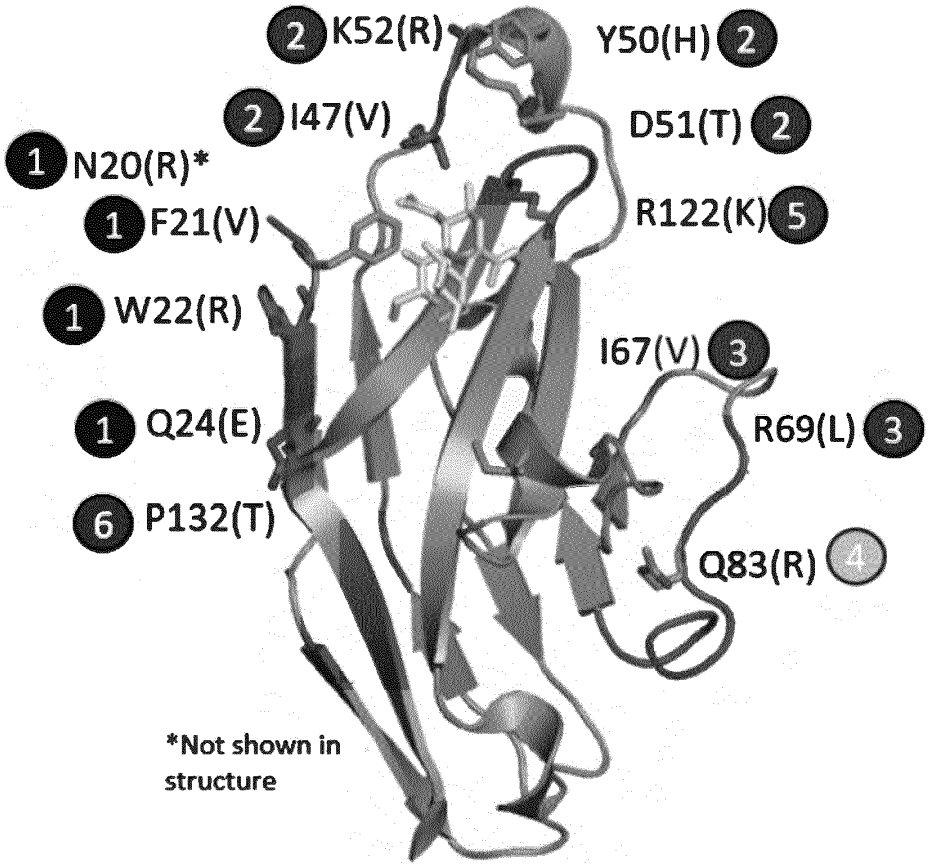

2 K52(R)
Y50(H) 2
2 I47(V)
D51(T) 2
1 N20(R)*
1 F21(V)
R122(K) 5
1 W22(R)
I67(V) 3
1 Q24(E)
R69(L) 3
6 P132(T)
Q83(R) 4
*Not shown in structure

Fig. 11A

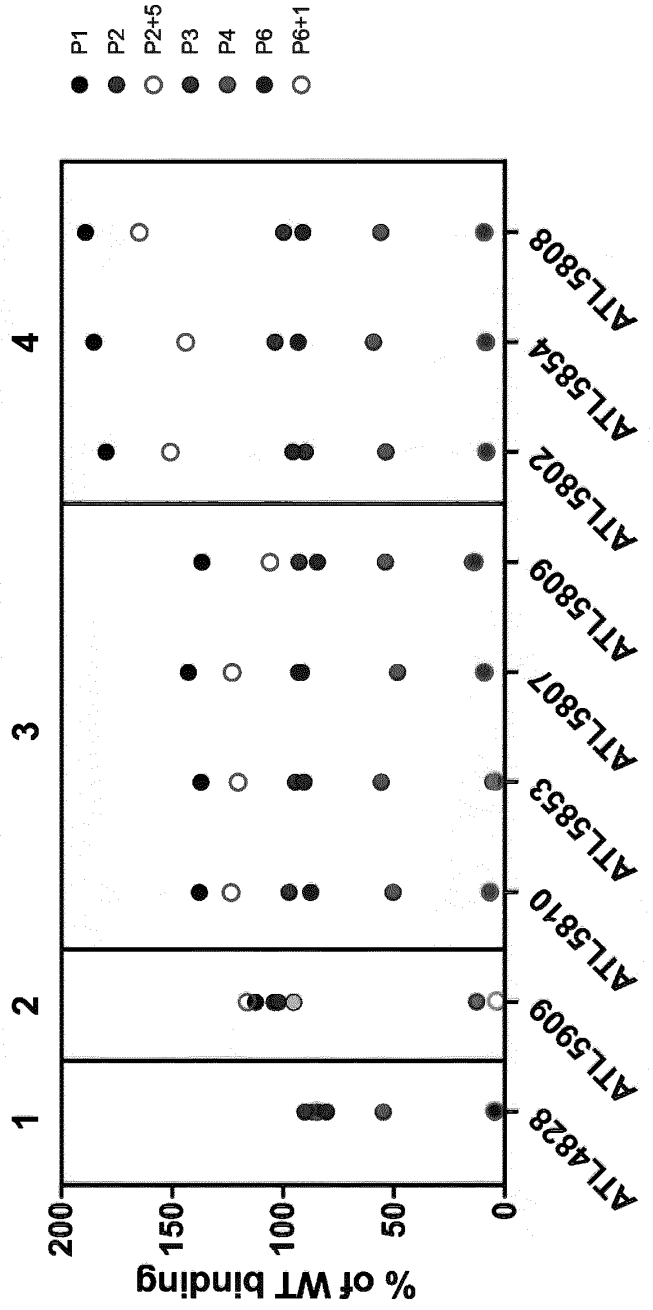

P1
P2
P2+5
P3
P4
P6
P6+1
% of WT binding
200
150
100
50
0
1
2
3
4
ATL4828
ATL5909
ATL5810
ATL5853
ATL5807
ATL5809
ATL5802
ATL5854
ATL5808

Fig. 11B

Fig. 12

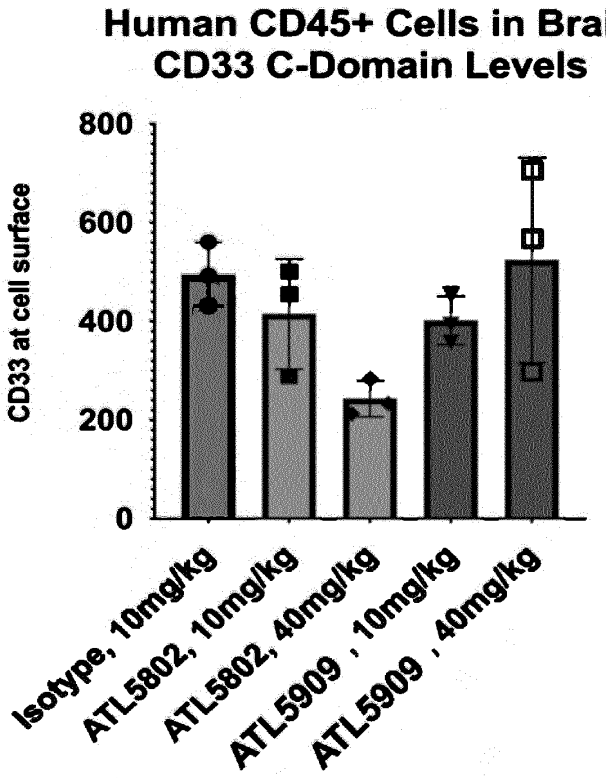
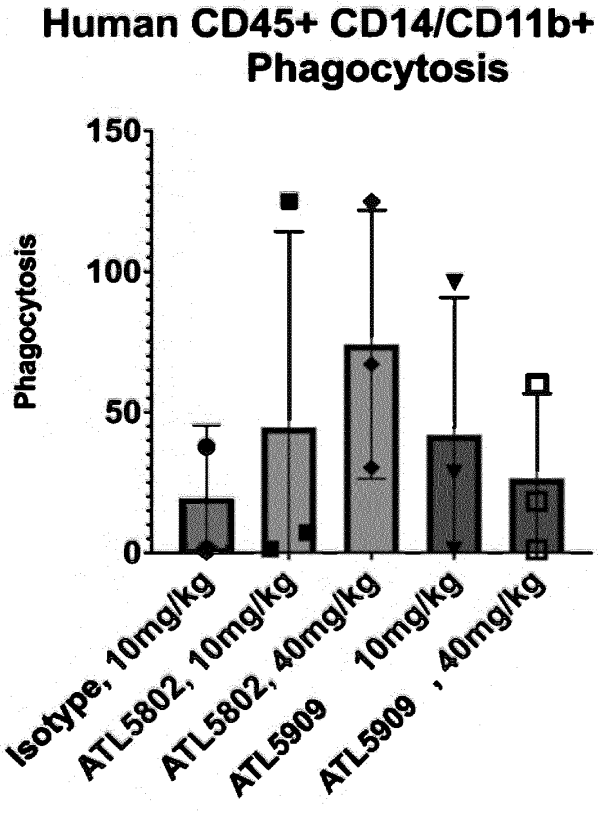

Human CD45+ Cells in Brain
CD33 C-Domain Levels
CD33 at cell surface
800
600
400
200
0
Isotype, 10mg/kg
ATL5802, 10mg/kg
ATL5802, 40mg/kg
ATL5909 , 10mg/kg
ATL5909 , 40mg/kg

Fig. 13


Human CD45+ CD14/CD11b+ Cells
Phagocytosis
Phagocytosis
150
100
50
0
Isotype, 10mg/kg
ATL5802, 10mg/kg
ATL5802, 40mg/kg
ATL5909 10mg/kg
ATL5909 , 40mg/kg

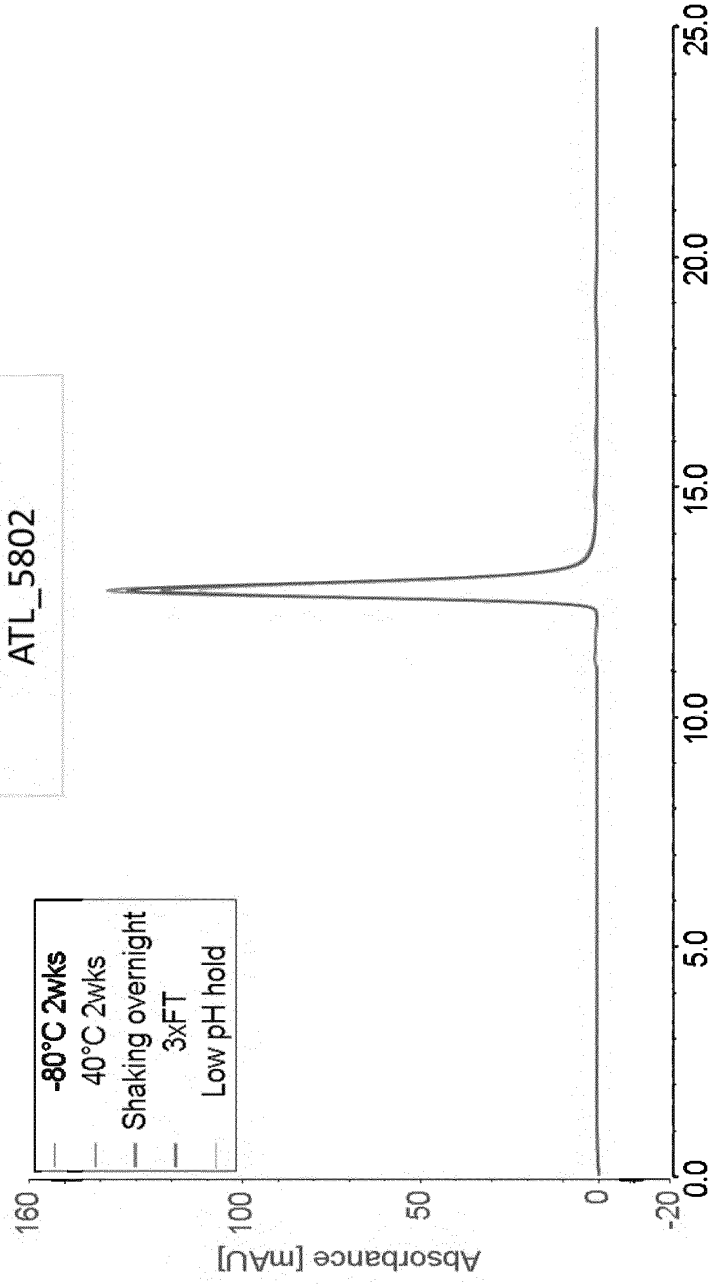

ATL_5802
-80°C 2wks
40°C 2wks
Shaking overnight
3xFT
Low pH hold
Absorbance [mAU]
160
100
50
0
-20
0.0
5.0
10.0
15.0
20.0
25.0
Time [min]

Fig. 14

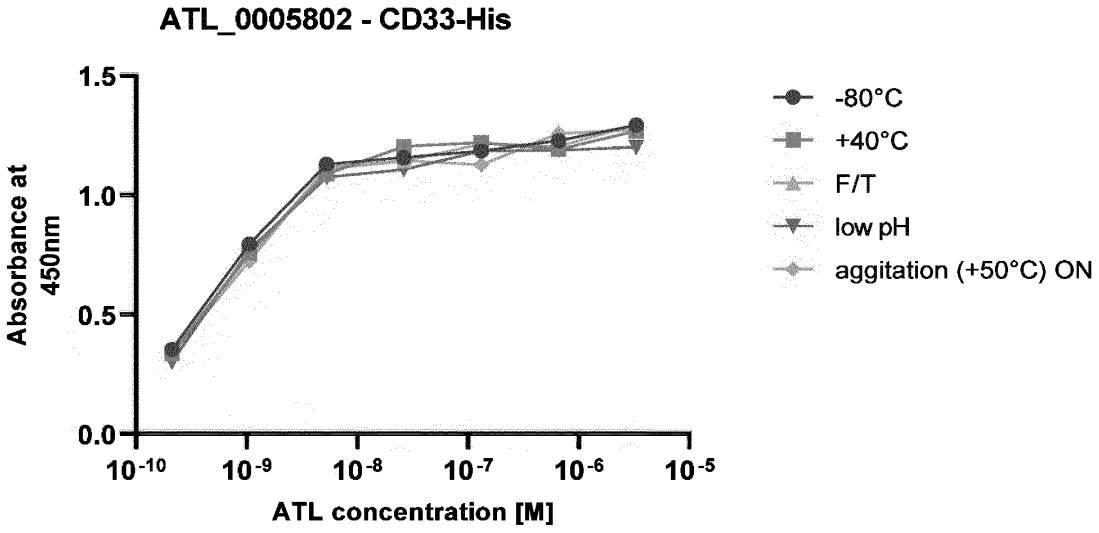

ATL_0005802 - CD33-His
Absorbance at 450nm
1.5
1.0
0.5
0.0
10-10
10-9
10-8
10-7
10-6
10-5
ATL concentration [M]
-80°C
+40°C
F/T
low pH
aggitation (+50°C) ON

Fig. 15

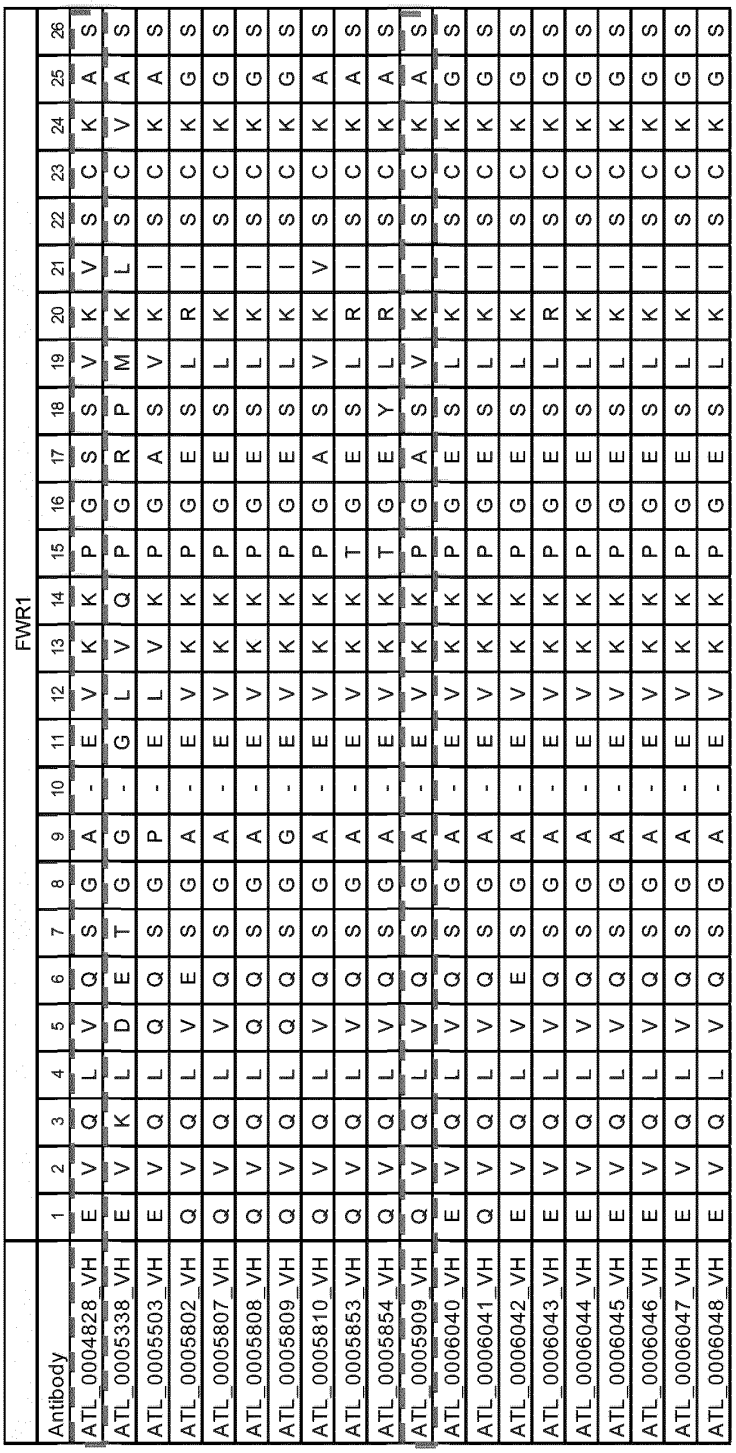

FWR1
Antibody
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26
ATL_0004828_VH E V Q L V Q S G A - E V K K P G S S V K V S C K A S
ATL_0005338_VH E V K L D E T G G - G L V Q P G G P M K L S C V A S
ATL_0005503_VH E V Q L Q Q S G P - E L V K P G A S V K I S C K A S
ATL_0005802_VH Q V Q L V E S G A - E V K K P G E S L R I S C K G S
ATL_0005807_VH Q V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0005808_VH Q V Q L Q Q S G A - E V K K P G E S L K I S C K G S
ATL_0005809_VH Q V Q L Q Q S G G - E V K K P G E S L K I S C K G S
ATL_0005810_VH Q V Q L V Q S G A - E V K K P G A S V V I S C K A S
ATL_0005853_VH Q V Q L V Q S G A - E V K K T G E S L R I S C K A S
ATL_0005854_VH Q V Q L V Q S G A - E V K K T G E Y L R I S C K A S
ATL_0005909_VH Q V Q L V Q S G A - E V K K P G A S V K I S C K A S
ATL_0006040_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006041_VH Q V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006042_VH E V Q L V E S G A - E V K K P G E S L K I S C K G S
ATL_0006043_VH E V Q L V Q S G A - E V K K P G E S L R I S C K G S
ATL_0006044_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006045_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006046_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006047_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S
ATL_0006048_VH E V Q L V Q S G A - E V K K P G E S L K I S C K G S

Fig. 16A

	CDR1											
Antibody	27	28	29	30	31	32	33	34	35	36	37	38
ATL_0004828_VH	G	Y	T	I	-	-	-	-	T	D	S	N
ATL_0005338_VH	G	F	T	F	-	-	-	-	S	D	Y	W
ATL_0005503_VH	G	Y	T	F	-	-	-	-	T	D	Y	N
ATL_0005802_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0005807_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0005808_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0005809_VH	G	Y	S	F	-	-	-	-	N	T	Y	W
ATL_0005810_VH	G	Y	T	F	-	-	-	-	T	S	Y	Y
ATL_0005853_VH	G	Y	K	F	-	-	-	-	N	N	N	W
ATL_0005854_VH	G	Y	K	F	-	-	-	-	S	N	N	W
ATL_0005909_VH	G	Y	T	F	-	-	-	-	T	D	Y	N
ATL_0006040_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006041_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006042_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006043_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006044_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006045_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006046_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006047_VH	G	Y	S	F	-	-	-	-	T	S	Y	W
ATL_0006048_VH	G	Y	S	F	-	-	-	-	T	S	Y	W

Fig. 16B

	FWR2																
Antibody	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
ATL_0004828_VH	I	H	W	V	R	Q	A	P	G	Q	S	L	E	W	I	G	Y
ATL_0005338_VH	M	N	W	V	R	Q	S	P	E	K	G	L	E	W	V	A	Q
ATL_0005503_VH	L	H	W	V	K	L	S	H	G	K	S	L	E	W	I	G	F
ATL_0005802_VH	I	A	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0005807_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0005808_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0005809_VH	I	A	W	V	R	H	A	P	G	K	G	L	E	W	M	G	I
ATL_0005810_VH	M	H	W	V	R	Q	A	P	G	Q	G	L	E	W	M	G	I
ATL_0005853_VH	I	A	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0005854_VH	I	A	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0005909_VH	L	H	W	V	R	Q	A	P	G	Q	G	L	E	W	I	G	F
ATL_0006040_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006041_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006042_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006043_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006044_VH	I	A	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006045_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006046_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006047_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I
ATL_0006048_VH	I	G	W	V	R	Q	M	P	G	K	G	L	E	W	M	G	I

Fig. 16C

	CDR2									
Antibody	56	57	58	59	60	61	62	63	64	65
ATL_0004828_VH	I	Y	P	Y	-	-	N	G	G	T
ATL_0005338_VH	I	R	N	K	P	Y	N	Y	E	T
ATL_0005503_VH	I	Y	P	S	-	-	N	G	I	T
ATL_0005802_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0005807_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0005808_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0005809_VH	I	Y	P	G	-	-	D	S	E	T
ATL_0005810_VH	I	N	P	S	-	-	G	G	S	T
ATL_0005853_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0005854_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0005909_VH	I	Y	P	S	-	-	N	R	I	T
ATL_0006040_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006041_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006042_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006043_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006044_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006045_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006046_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006047_VH	I	Y	P	G	-	-	D	S	D	T
ATL_0006048_VH	I	Y	P	G	-	-	D	S	D	T

Fig. 16D

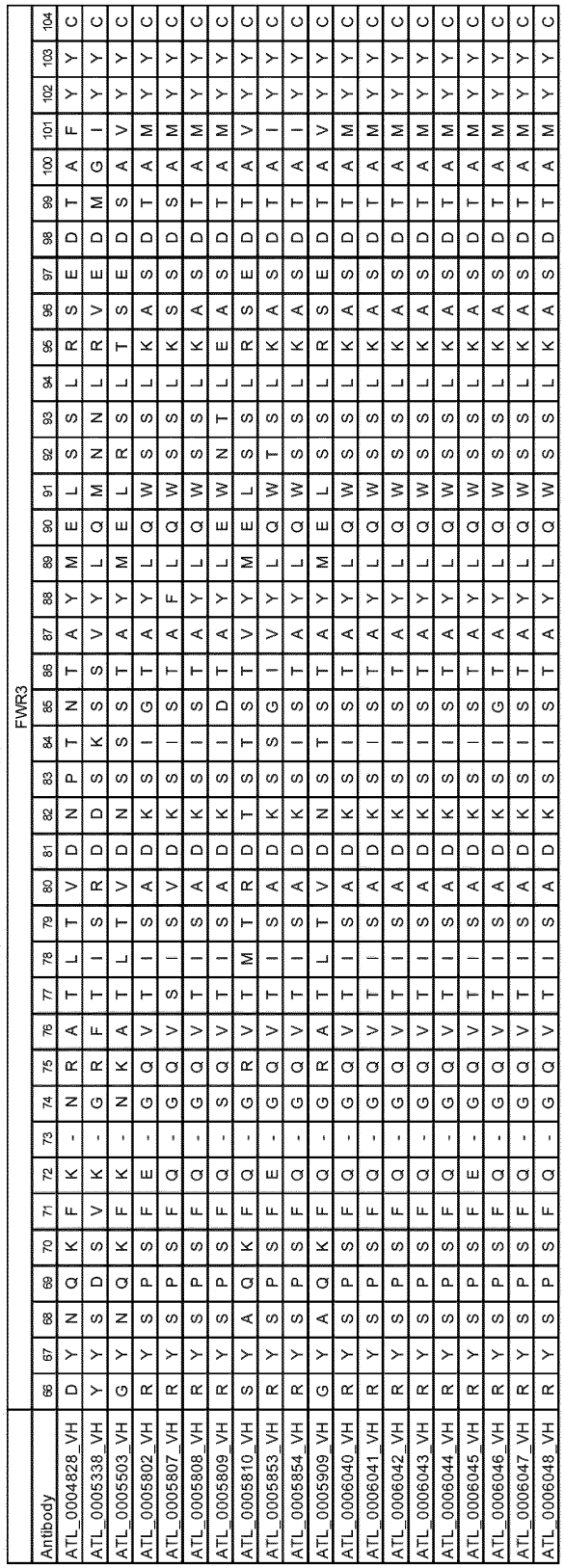
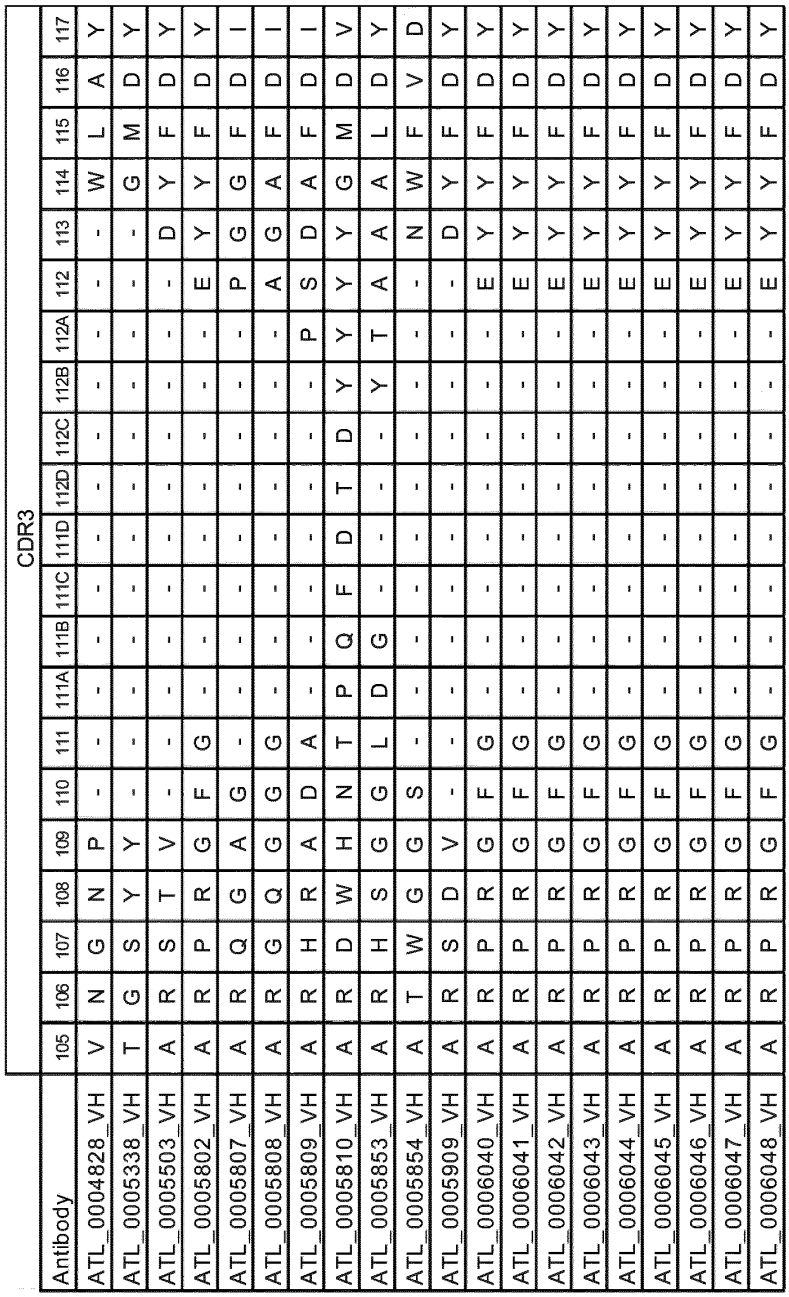

FWR3
Antibody
66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104
ATL_0004828_VH D Y N Q K F K - N R A T L T V D N P T N T A Y M E L S S L R S E D T A F Y C
ATL_0005338_VH Y Y S D S V K - G R F T I S R D D S K S S V Y L Q M N N L R V E D M G I Y Y C
ATL_0005503_VH G Y N Q K F K - N K A T L T V D N S S T A Y M E L R S L T S E D S A V Y Y C
ATL_0005802_VH R Y S P S F E - G Q V T I S A D K S I G T A Y L Q W S S L K A S D T A M Y Y C
ATL_0005807_VH R Y S P S F Q - G Q V S I S V D K S I S T A F L Q W S S L K S D S A M Y Y C
ATL_0005808_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0005809_VH R Y S P S F Q - S Q V T I S A D K S I D T A Y L E W N T L E A S D T A M Y Y C
ATL_0005810_VH S Y A Q K F Q - G R V T M T R D T S T S T V Y M E L S S L R S E D T A V Y Y C
ATL_0005853_VH R Y S P S F E - G Q V T I S A D K S S G I V Y L Q W T S L K A S D T A I Y Y C
ATL_0005854_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L R S E D T A I Y Y C
ATL_0005909_VH G Y A Q K F Q - G R A T L V D N S T S T A Y M E L S S L R S E D T A V Y Y C
ATL_0006040_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006041_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006042_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006043_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006044_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006045_VH R Y S P S F E - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006046_VH R Y S P S F Q - G Q V T I S A D K S I G T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006047_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C
ATL_0006048_VH R Y S P S F Q - G Q V T I S A D K S I S T A Y L Q W S S L K A S D T A M Y Y C

Fig. 16E

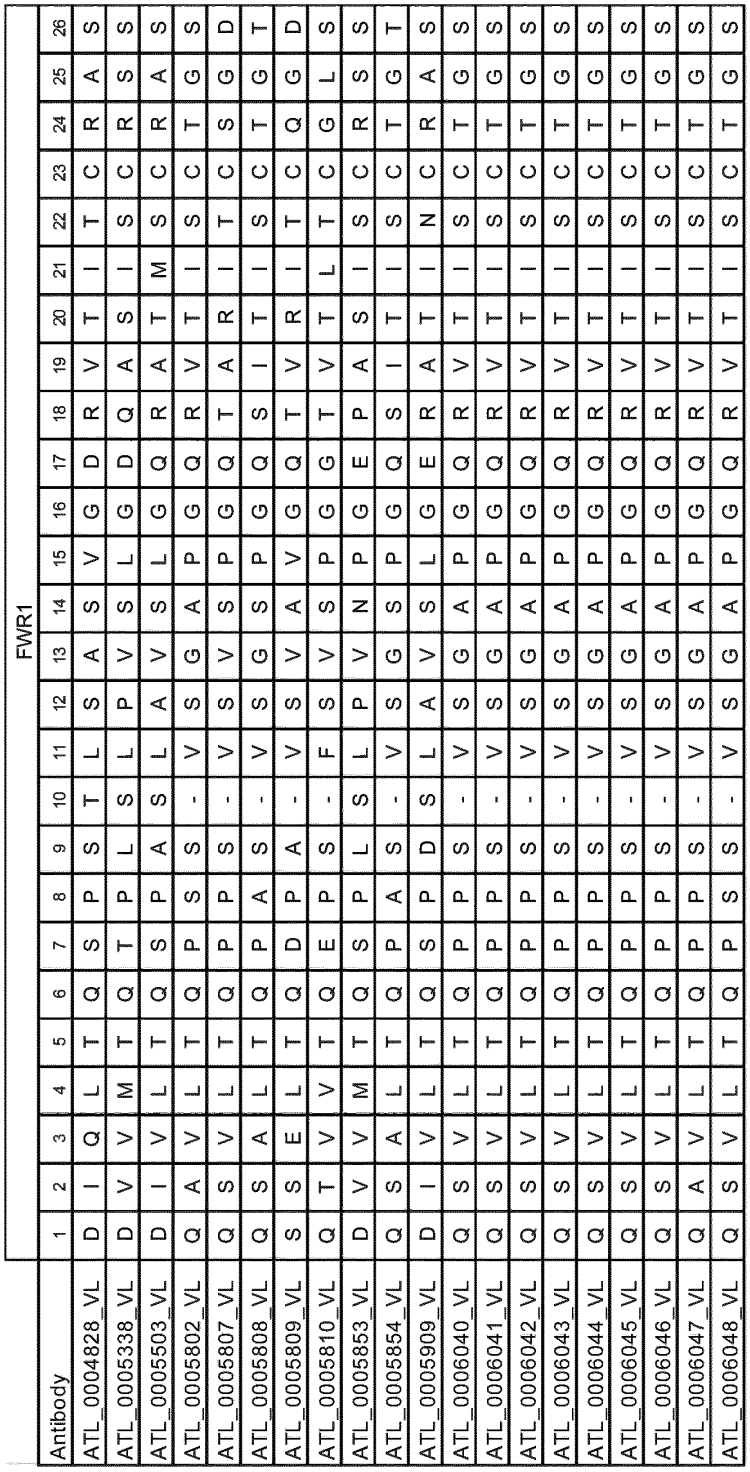


	CDR3																					
Antibody	105	106	107	108	109	110	111	111A	111B	111C	111D	112D	112C	112B	112A	112	113	114	115	116	117
ATL_0004828_VH	V	N	G	N	P	-	-	-	-	-	-	-	-	-	-	-	-	W	L	A	Y
ATL_0005338_VH	T	G	S	Y	Y	-	-	-	-	-	-	-	-	-	-	-	-	G	M	D	Y
ATL_0005503_VH	A	R	S	T	V	-	-	-	-	-	-	-	-	-	-	-	D	Y	F	D	Y
ATL_0005802_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0005807_VH	A	R	Q	G	A	G	-	-	-	-	-	-	-	-	-	P	G	G	F	D	I
ATL_0005808_VH	A	R	G	Q	G	G	G	-	-	-	-	-	-	-	-	A	G	A	F	D	I
ATL_0005809_VH	A	R	H	R	A	D	A	-	-	-	-	-	-	-	P	S	D	A	F	D	I
ATL_0005810_VH	A	R	D	W	H	N	T	P	Q	F	D	T	D	Y	Y	Y	Y	G	M	D	V
ATL_0005853_VH	A	R	H	S	G	G	L	D	G	-	-	-	-	Y	T	A	A	A	L	D	Y
ATL_0005854_VH	A	T	W	G	G	S	-	-	-	-	-	-	-	-	-	-	N	W	F	V	D
ATL_0005909_VH	A	R	S	D	V	-	-	-	-	-	-	-	-	-	-	-	D	Y	F	D	Y
ATL_0006040_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006041_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006042_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006043_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006044_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006045_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006046_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006047_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y
ATL_0006048_VH	A	R	P	R	G	F	G	-	-	-	-	-	-	-	-	E	Y	Y	F	D	Y

Fig. 16F

	FWR4										
Antibody	118	119	120	121	122	123	124	125	126	127	128
ATL_0004828_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0005338_VH	W	G	Q	G	T	S	V	T	V	S	S
ATL_0005503_VH	W	G	Q	G	T	T	L	T	V	S	S
ATL_0005802_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0005807_VH	W	G	Q	G	T	M	V	T	V	S	S
ATL_0005808_VH	W	G	Q	G	T	M	V	T	V	S	S
ATL_0005809_VH	W	G	Q	G	T	M	V	T	V	S	S
ATL_0005810_VH	W	G	Q	G	T	T	V	T	V	S	S
ATL_0005853_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0005854_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0005909_VH	W	G	Q	G	T	L	L	T	V	S	S
ATL_0006040_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006041_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006042_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006043_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006044_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006045_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006046_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006047_VH	W	G	Q	G	T	L	V	T	V	S	S
ATL_0006048_VH	W	G	Q	G	T	L	V	T	V	S	S

Fig. 16G

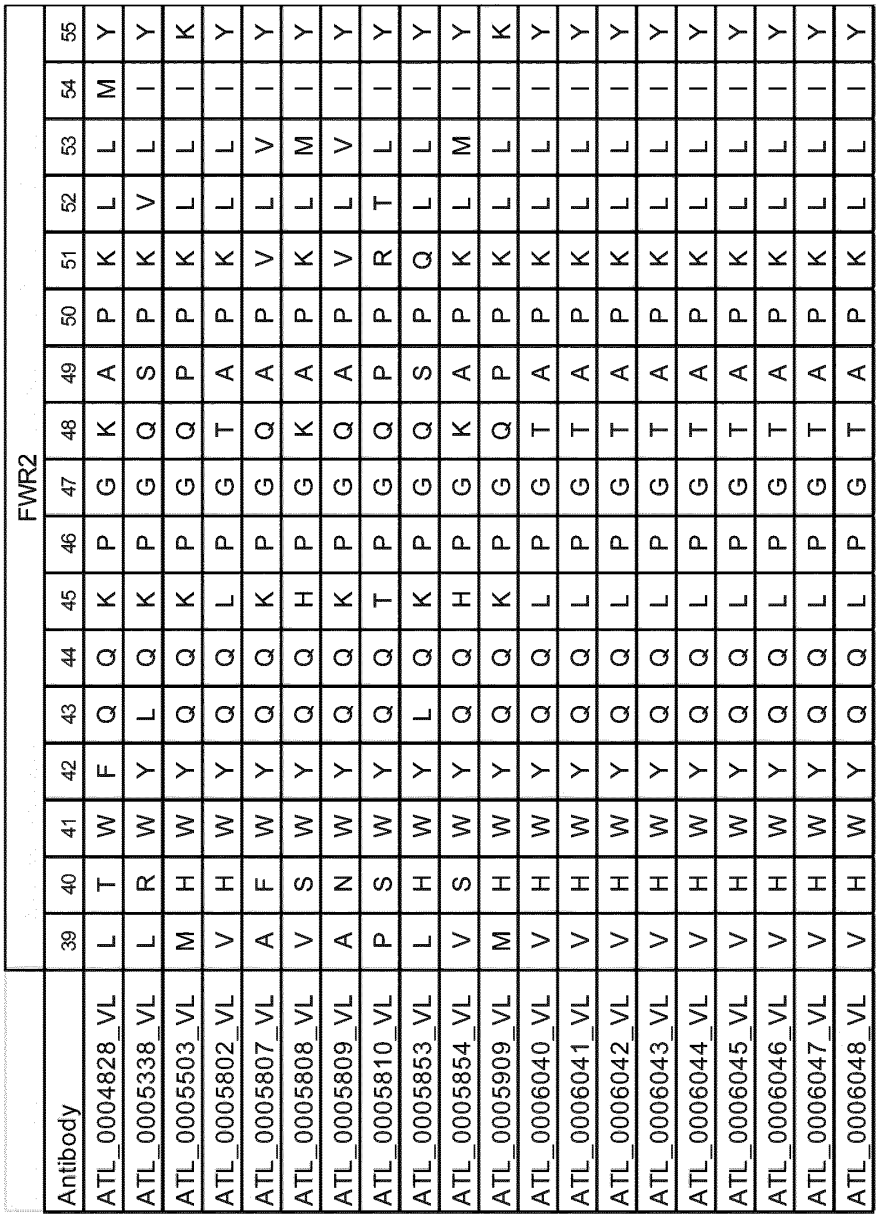


	FWR1																									
Antibody	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26
ATL_0004828_VL	D	I	Q	L	T	Q	S	P	S	T	L	S	A	S	V	G	D	R	V	T	I	T	C	R	A	S
ATL_0005338_VL	D	V	V	M	T	Q	T	P	L	S	L	P	V	S	L	G	D	Q	A	S	I	S	C	R	S	S
ATL_0005503_VL	D	I	V	L	T	Q	S	P	A	S	L	A	V	S	L	G	Q	R	A	T	M	S	C	R	A	S
ATL_0005802_VL	Q	A	V	L	T	Q	P	S	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0005807_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	V	S	P	G	Q	T	A	R	I	T	C	S	G	D
ATL_0005808_VL	Q	S	A	L	T	Q	P	A	S	-	V	S	G	S	P	G	Q	S	I	T	I	S	C	T	G	T
ATL_0005809_VL	S	S	E	L	T	Q	D	P	A	-	V	S	V	A	V	G	Q	T	V	R	I	T	C	Q	G	D
ATL_0005810_VL	Q	T	V	V	T	Q	E	P	S	-	F	S	V	S	P	G	G	T	V	T	L	T	C	G	L	S
ATL_0005853_VL	D	V	V	M	T	Q	S	P	L	S	L	P	V	N	P	G	E	P	A	S	I	S	C	R	S	S
ATL_0005854_VL	Q	S	A	L	T	Q	P	A	S	-	V	S	G	S	P	G	Q	S	I	T	I	S	C	T	G	T
ATL_0005909_VL	D	I	V	L	T	Q	S	P	D	S	L	A	V	S	L	G	E	R	A	T	I	N	C	R	A	S
ATL_0006040_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006041_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006042_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006043_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006044_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006045_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006046_VL	Q	S	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006047_VL	Q	A	V	L	T	Q	P	P	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S
ATL_0006048_VL	Q	S	V	L	T	Q	P	S	S	-	V	S	G	A	P	G	Q	R	V	T	I	S	C	T	G	S

Fig. 16H

	CDR1											
Antibody	27	28	29	30	31	32	33	34	35	36	37	38
ATL_0004828_VL	E	S	L	D	N	-	-	Y	G	I	R	F
ATL_0005338_VL	Q	S	L	V	N	S	-	N	G	N	T	Y
ATL_0005503_VL	Q	S	V	S	T	-	-	S	T	Y	S	Y
ATL_0005802_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0005807_VL	A	L	A	-	-	-	-	-	-	R	Q	Y
ATL_0005808_VL	S	S	D	V	G	-	-	-	G	Y	N	Y
ATL_0005809_VL	S	L	R	-	-	-	-	-	-	N	Y	Y
ATL_0005810_VL	S	G	S	V	S	-	-	-	T	S	Y	Y
ATL_0005853_VL	Q	S	L	L	H	S	-	D	G	Y	N	Y
ATL_0005854_VL	S	S	D	V	G	-	-	-	G	Y	N	Y
ATL_0005909_VL	Q	S	V	S	T	-	-	S	T	Y	S	Y
ATL_0006040_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006041_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006042_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006043_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006044_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006045_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006046_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006047_VL	S	S	N	I	G	-	-	-	A	G	Y	D
ATL_0006048_VL	S	S	N	I	G	-	-	-	A	G	Y	D

Fig. 16I

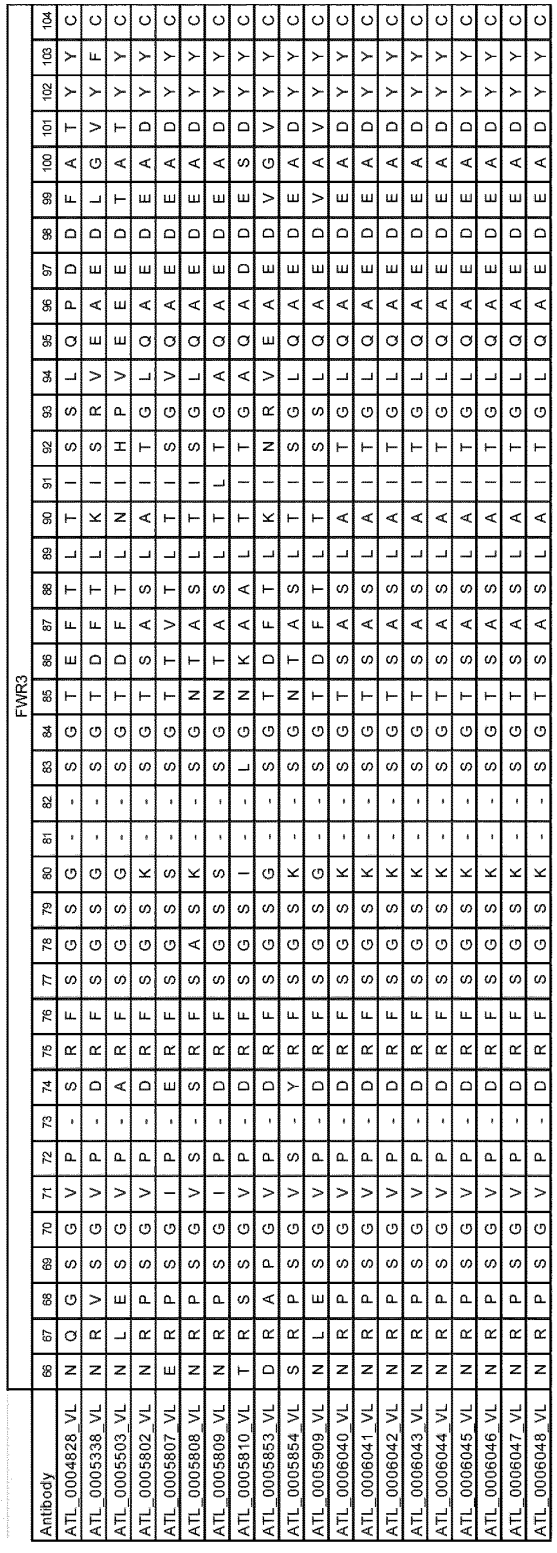


	FWR2															
Antibody	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55
ATL_0004828_VL	L	T	W	F	Q	Q	K	P	G	K	A	P	K	L	L	M	Y
ATL_0005338_VL	L	R	W	Y	L	Q	K	P	G	Q	S	P	K	V	L	I	Y
ATL_0005503_VL	M	H	W	Y	Q	Q	K	P	G	Q	P	P	K	L	L	I	K
ATL_0005802_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0005807_VL	A	F	W	Y	Q	Q	K	P	G	Q	A	P	V	L	V	I	Y
ATL_0005808_VL	V	S	W	Y	Q	Q	H	P	G	K	A	P	K	L	M	I	Y
ATL_0005809_VL	A	N	W	Y	Q	Q	K	P	G	Q	A	P	V	L	V	I	Y
ATL_0005810_VL	P	S	W	Y	Q	Q	T	P	G	Q	P	P	R	T	L	I	Y
ATL_0005853_VL	L	H	W	Y	L	Q	K	P	G	Q	S	P	Q	L	L	I	Y
ATL_0005854_VL	V	S	W	Y	Q	Q	H	P	G	K	A	P	K	L	M	I	Y
ATL_0005909_VL	M	H	W	Y	Q	Q	K	P	G	Q	P	P	K	L	L	I	K
ATL_0006040_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006041_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006042_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006043_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006044_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006045_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006046_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006047_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y
ATL_0006048_VL	V	H	W	Y	Q	Q	L	P	G	T	A	P	K	L	L	I	Y

Fig. 16J

	CDR2									
Antibody	56	57	58	59	60	61	62	63	64	65
ATL_0004828_VL	A	A	-	-	-	-	-	-	-	S
ATL_0005338_VL	K	V	-	-	-	-	-	-	-	S
ATL_0005503_VL	Y	A	-	-	-	-	-	-	-	S
ATL_0005802_VL	G	N	-	-	-	-	-	-	-	S
ATL_0005807_VL	K	D	-	-	-	-	-	-	-	S
ATL_0005808_VL	D	V	-	-	-	-	-	-	-	T
ATL_0005809_VL	G	K	-	-	-	-	-	-	-	N
ATL_0005810_VL	S	T	-	-	-	-	-	-	-	N
ATL_0005853_VL	V	G	-	-	-	-	-	-	-	S
ATL_0005854_VL	D	V	-	-	-	-	-	-	-	S
ATL_0005909_VL	Y	A	-	-	-	-	-	-	-	S
ATL_0006040_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006041_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006042_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006043_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006044_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006045_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006046_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006047_VL	G	N	-	-	-	-	-	-	-	S
ATL_0006048_VL	G	N	-	-	-	-	-	-	-	S

Fig. 16K



| | FWR3 | | |

	CDR3												
Antibody	105	106	107	108	109	110	111	112	113	114	115	116	117
ATL_0004828_VL	Q	Q	T	K	E	-	-	-	-	V	P	W	S
ATL_0005338_VL	S	Q	S	T	H	-	-	-	-	V	P	W	T
ATL_0005503_VL	Q	H	S	W	E	-	-	-	-	I	P	L	T
ATL_0005802_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0005807_VL	Q	S	P	D	S	S	-	-	G	T	Y	P	V
ATL_0005808_VL	S	S	Y	T	S	S	-	-	S	T	L	E	V
ATL_0005809_VL	N	S	R	D	S	S	-	G	Y	H	L	G	L
ATL_0005810_VL	L	L	Y	M	G	-	-	-	S	G	I	W	M
ATL_0005853_VL	M	Q	A	L	Q	-	-	-	-	T	P	I	T
ATL_0005854_VL	S	S	Y	T	N	S	-	-	S	T	L	E	V
ATL_0005909_VL	Q	H	S	W	E	-	-	-	-	I	P	L	T
ATL_0006040_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006041_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006042_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006043_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006044_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006045_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006046_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006047_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V
ATL_0006048_VL	Q	S	Y	D	S	S	-	-	L	S	G	D	V

Fig. 16M

	FWR4									
Antibody	118	119	120	121	122	123	124	125	126	127
ATL_0004828_VL	F	G	Q	G	T	K	V	E	V	K
ATL_0005338_VL	F	G	G	G	T	K	L	E	I	K
ATL_0005503_VL	F	G	A	G	T	K	L	E	L	K
ATL_0005802_VL	F	G	G	G	T	K	L	T	V	L
ATL_0005807_VL	F	G	G	G	T	K	V	T	V	L
ATL_0005808_VL	F	G	G	G	T	K	V	T	V	L
ATL_0005809_VL	F	G	G	G	T	K	L	T	V	L
ATL_0005810_VL	F	G	G	G	T	K	L	T	V	L
ATL_0005853_VL	F	G	Q	G	T	R	L	E	I	K
ATL_0005854_VL	F	G	G	G	T	K	V	T	V	L
ATL_0005909_VL	F	G	Q	G	T	K	L	E	I	K
ATL_0006040_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006041_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006042_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006043_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006044_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006045_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006046_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006047_VL	F	G	G	G	T	K	L	T	V	L
ATL_0006048_VL	F	G	G	G	T	K	L	T	V	L

Fig. 16N

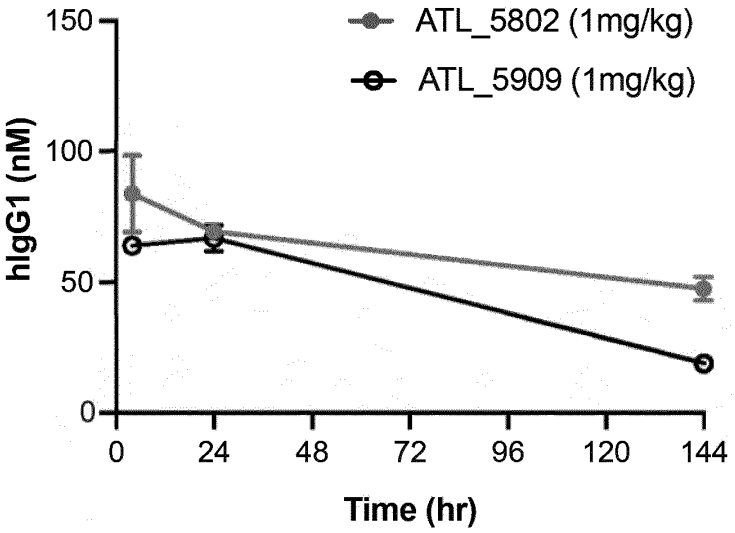


Fig. 17A

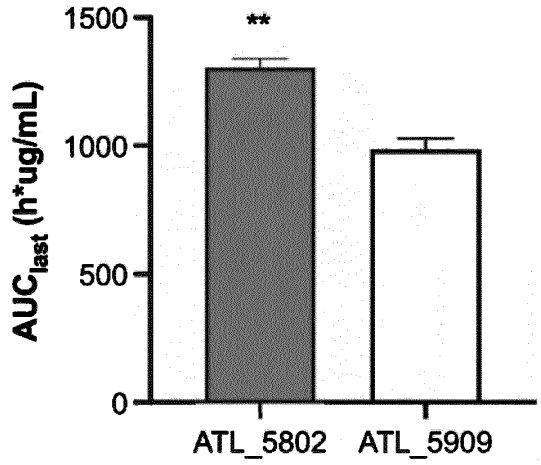


Fig. 17B

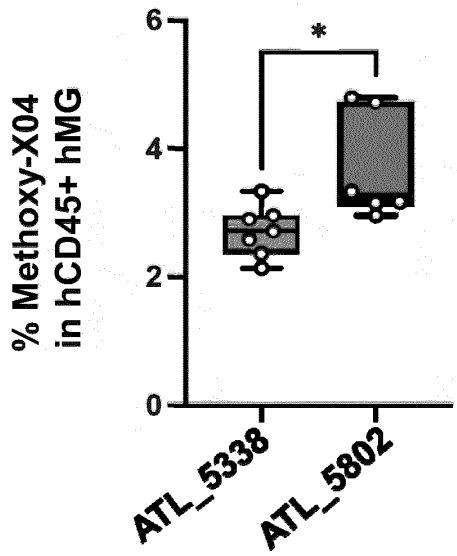


Fig. 18

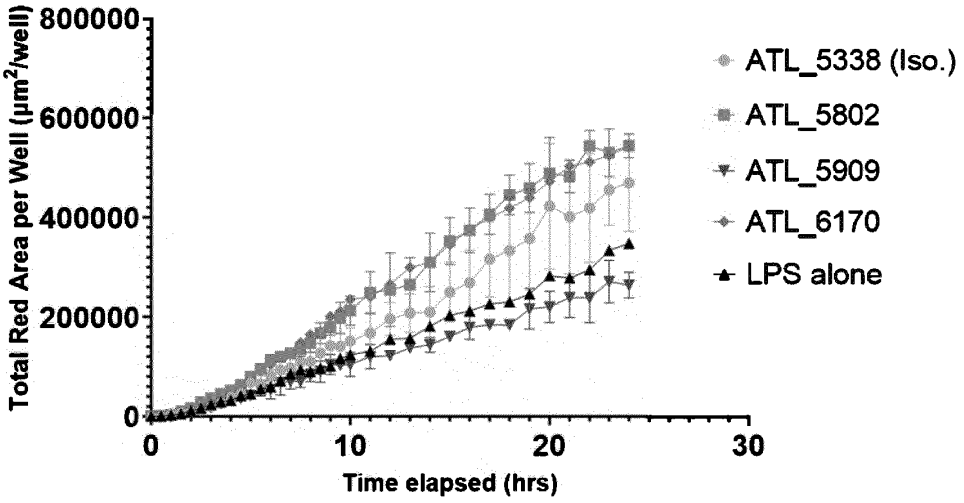


Fig. 19A

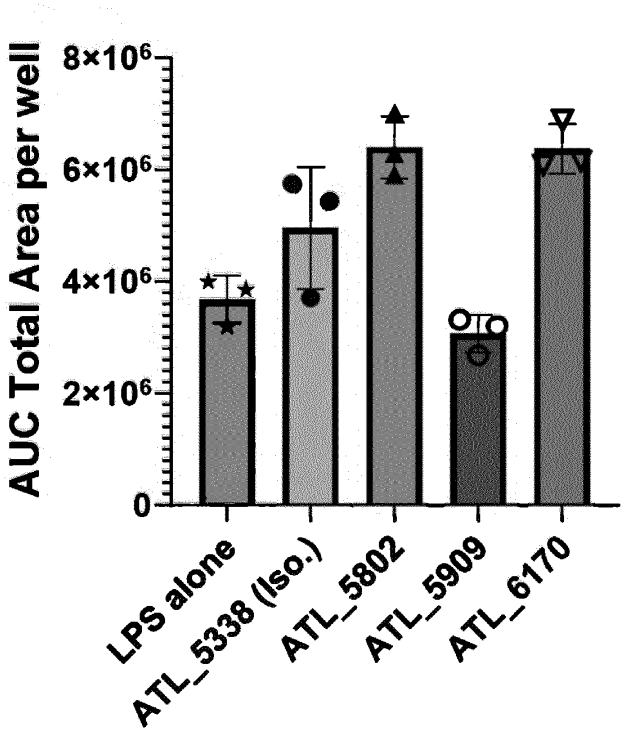


Fig. 19B

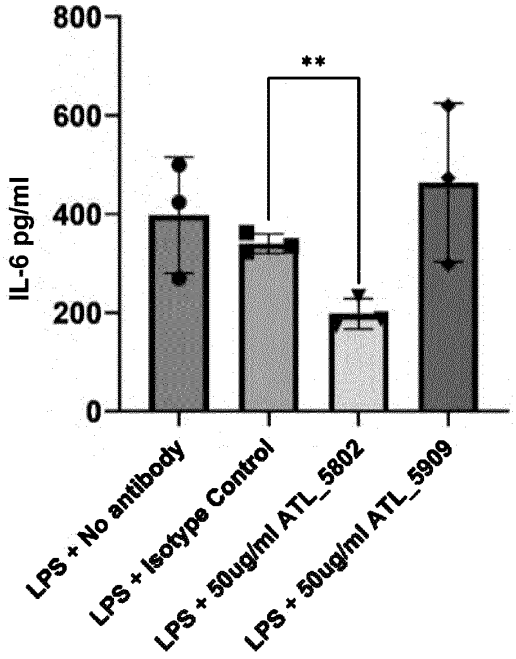


Fig. 20A

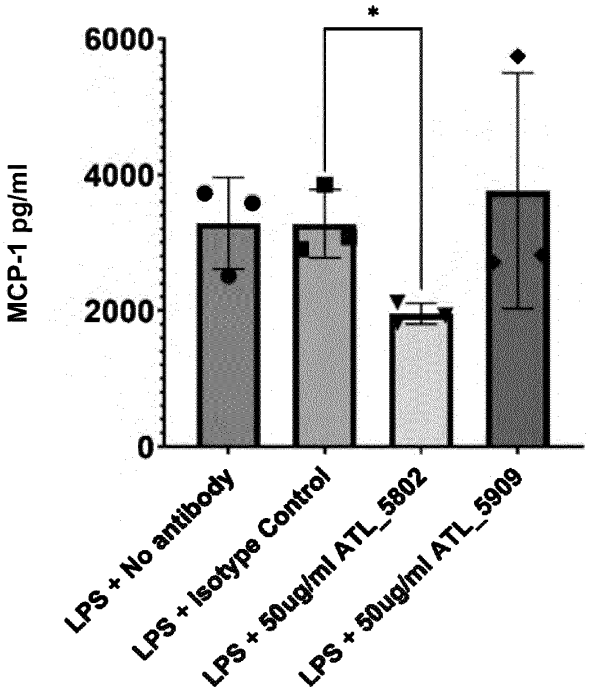


Fig. 20B

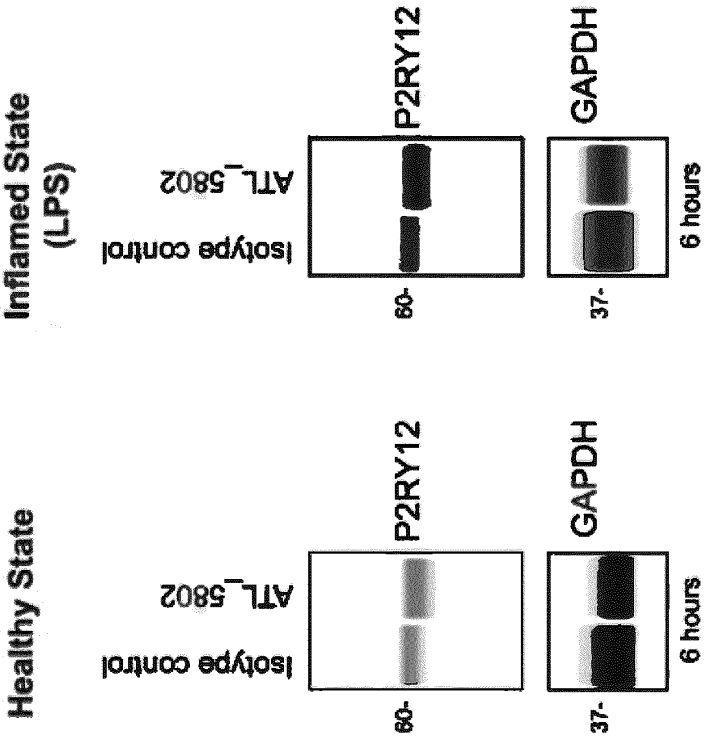

Inflamed State (LPS)
Healthy State
Isotype control
ATL_5802
P2RY12
GAPDH
60-
37-
6 hours

Fig. 22

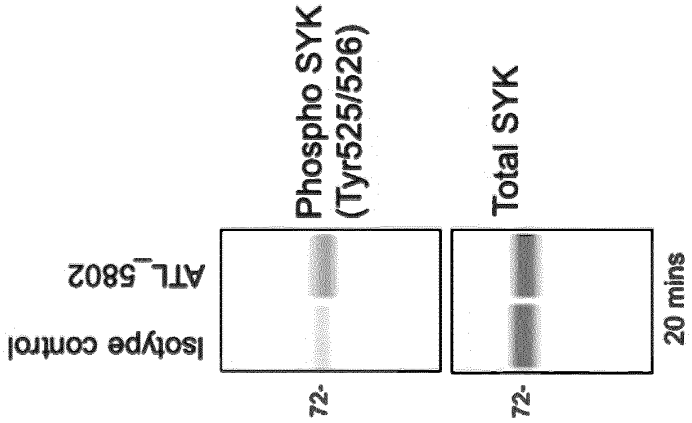

Isotype control
ATL_5802
Phospho SYK (Tyr525/526)
Total SYK
72-
20 mins

Fig. 21

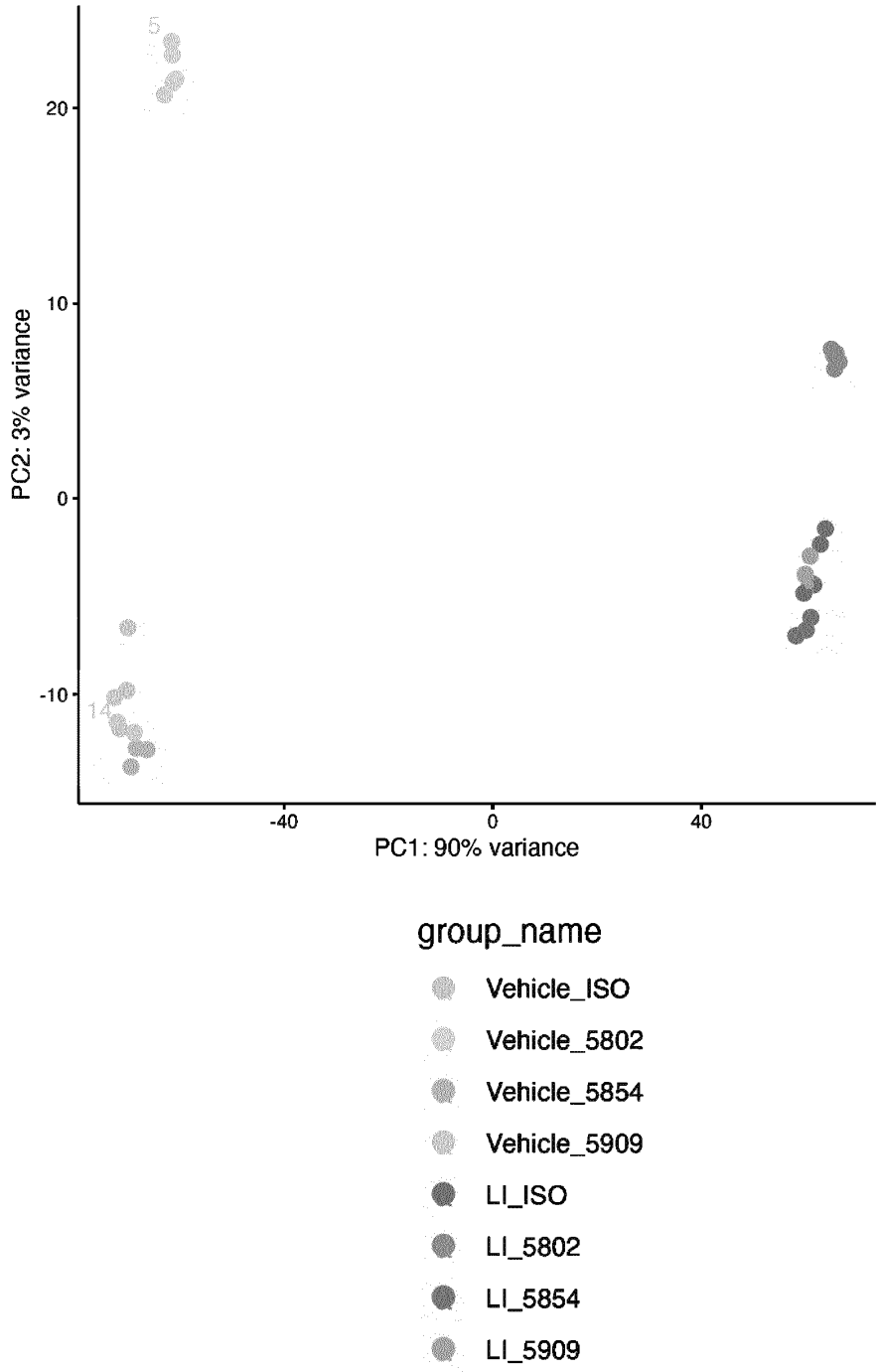

5
14
20
10
0
-10
PC2: 3% variance
-40
0
40
PC1: 90% variance
group_name
Vehicle_ISO
Vehicle_5802
Vehicle_5854
Vehicle_5909
LI_ISO
LI_5802
LI_5854
LI_5909

Fig. 23A

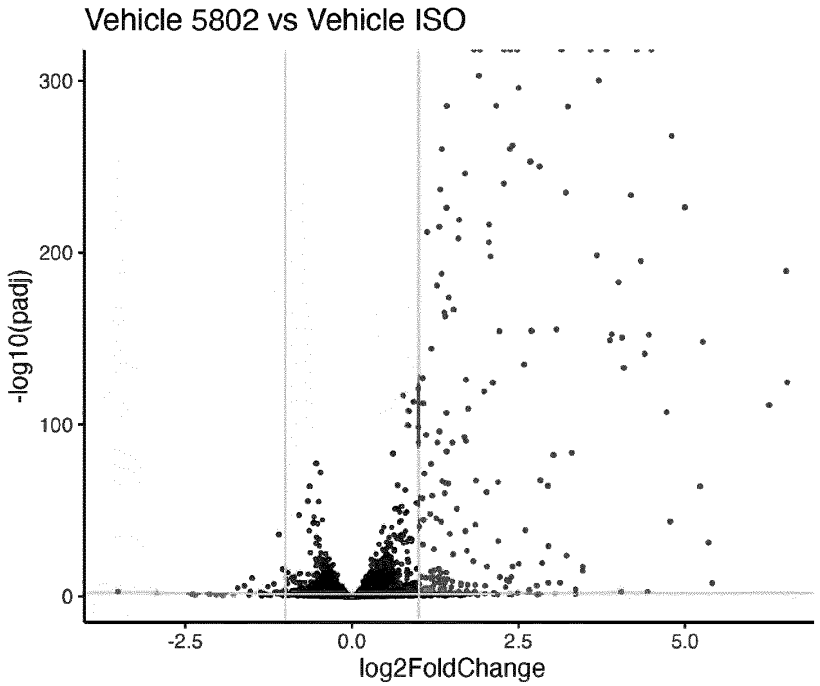


Fig. 23B

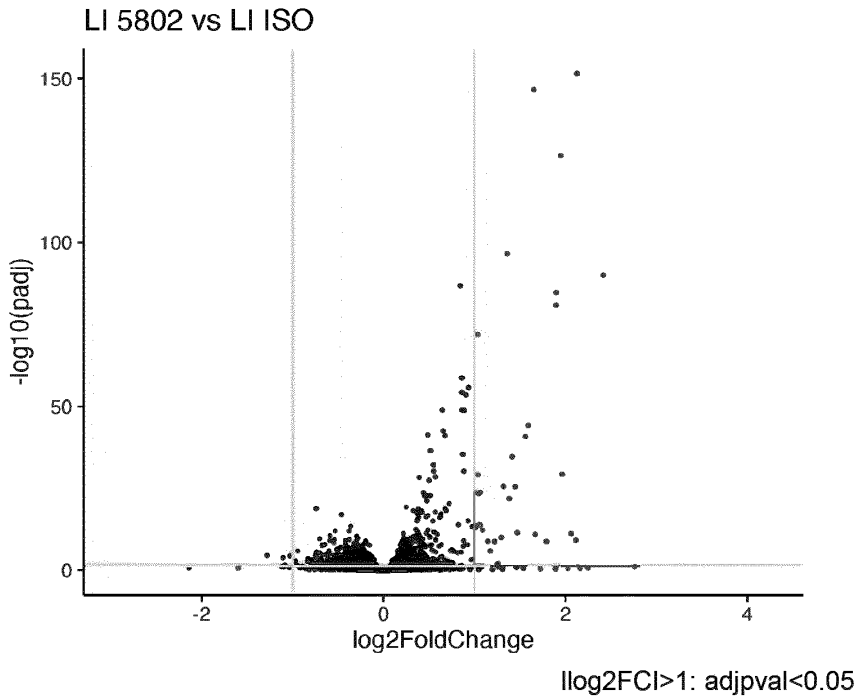


Fig. 23C

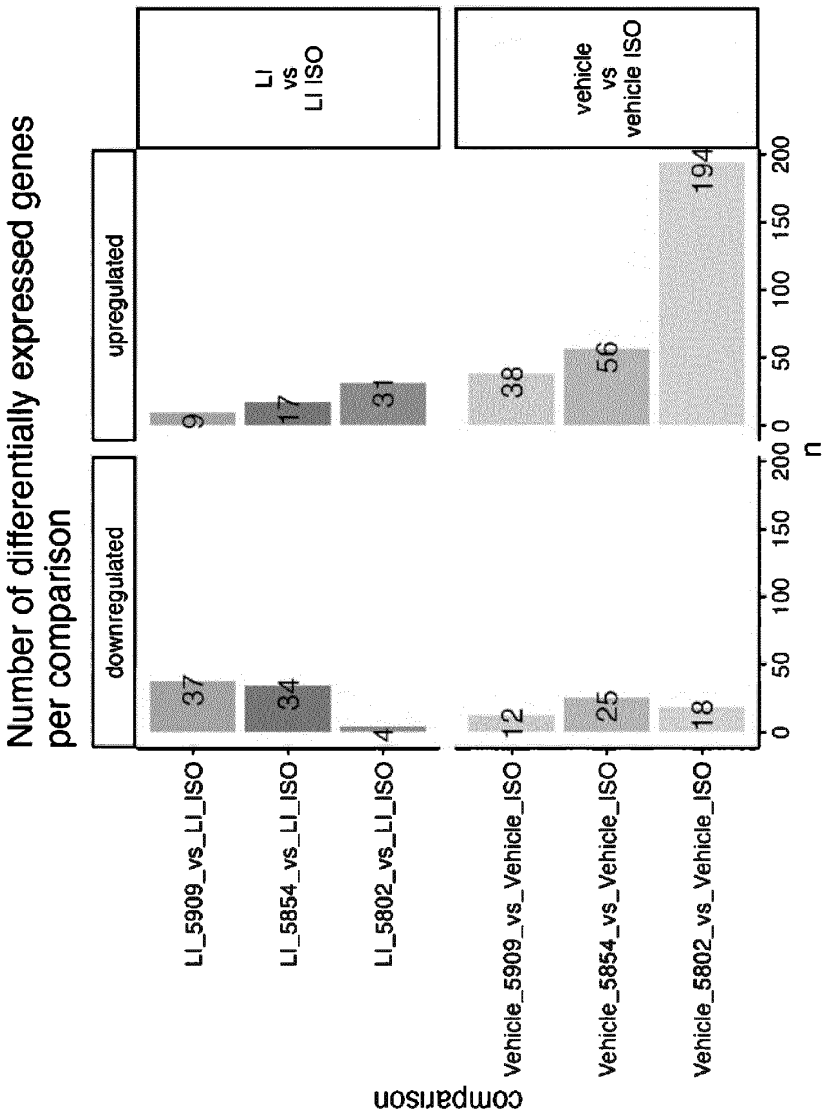
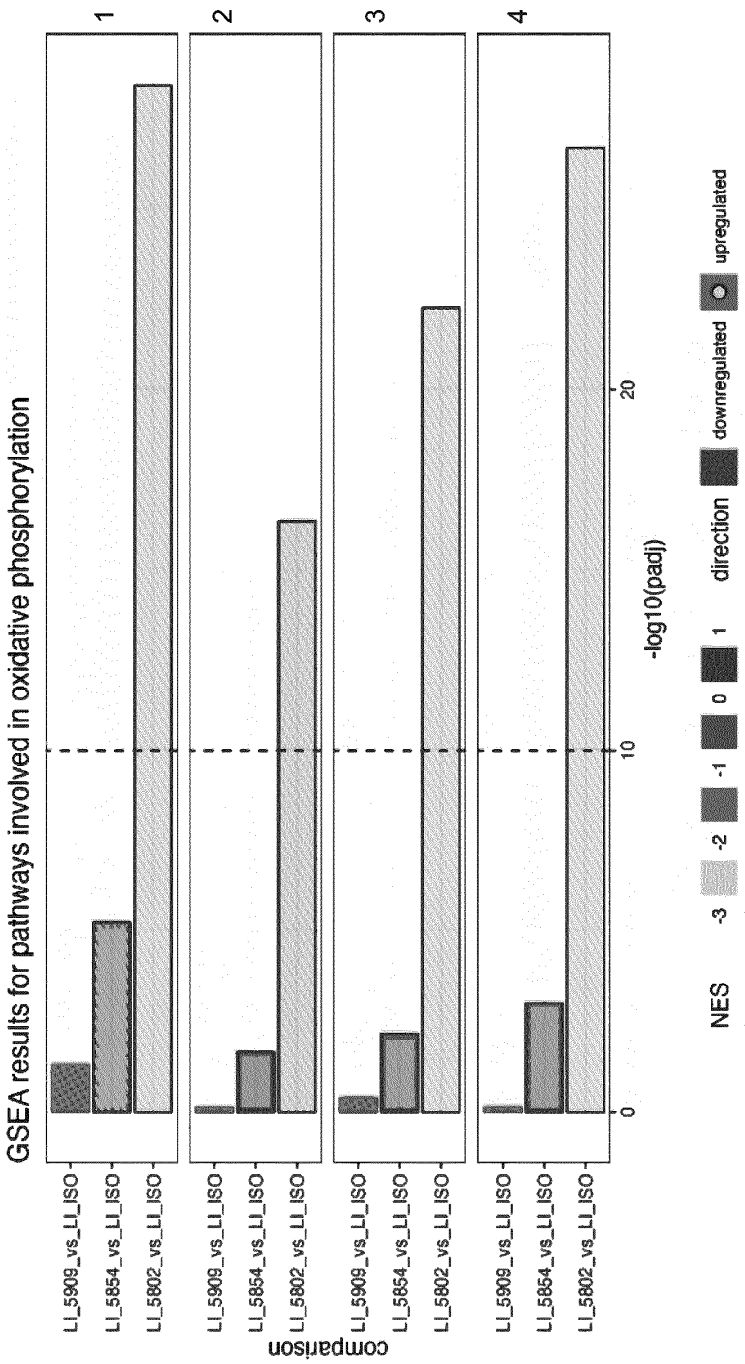

Number of differentially expressed genes per comparison
downregulated
upregulated
LI vs LI ISO
vehicle vs vehicle ISO
LI_5909_vs_LI_ISO
LI_5854_vs_LI_ISO
LI_5802_vs_LI_ISO
Vehicle_5909_vs_Vehicle_ISO
Vehicle_5854_vs_Vehicle_ISO
Vehicle_5802_vs_Vehicle_ISO
comparison
n
0
50
100
150
200
37
34
4
9
17
31
12
25
18
38
56
194

Fig. 23D



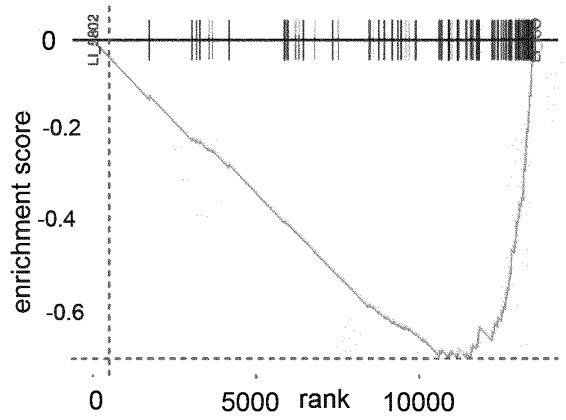
1. Hallmark Oxidative Phosphorylation 2. Reactome Respiratory Electron Transport

3. Reactome respiratory electron transport ATP synthesis by chemosmotic coupling and heat production by uncoupling proteins

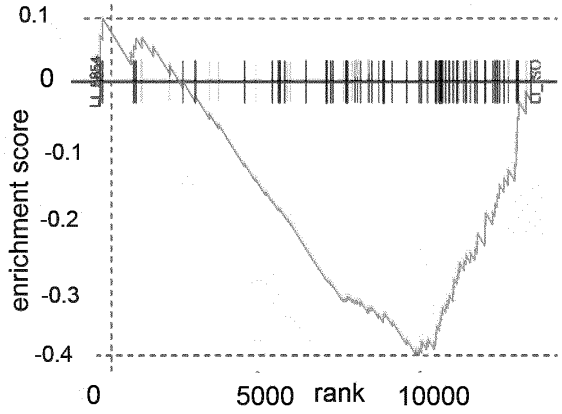
4.Reactome the citric acid TCA cycle and respiratory electron transport

Fig. 23E

LI_5802_vs_LI_ISO
REACTOME RESPIRATORY ELECTRON TRANSPORT
ES=-0.685
NES=-2.85
Padj=4.39e-17



LI_5854_vs_LI_ISO
REACTOME RESPIRATORY ELECTRON TRANSPORT
ES=-0.384
NES=-1.558
Padj=2.15e-02



LI_5909_vs_LI_ISO
REACTOME RESPIRATORY ELECTRON TRANSPORT
ES=0.224
NES=0.979
Padj=7.54e-01

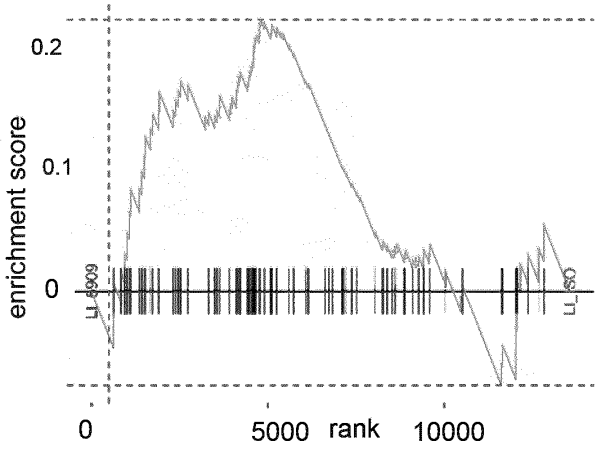


Fig. 23F

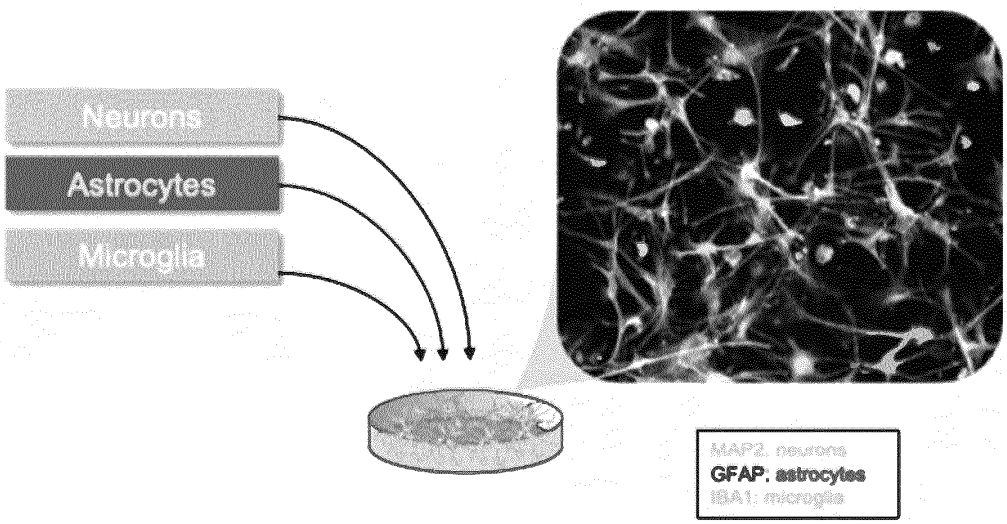


Fig. 24A

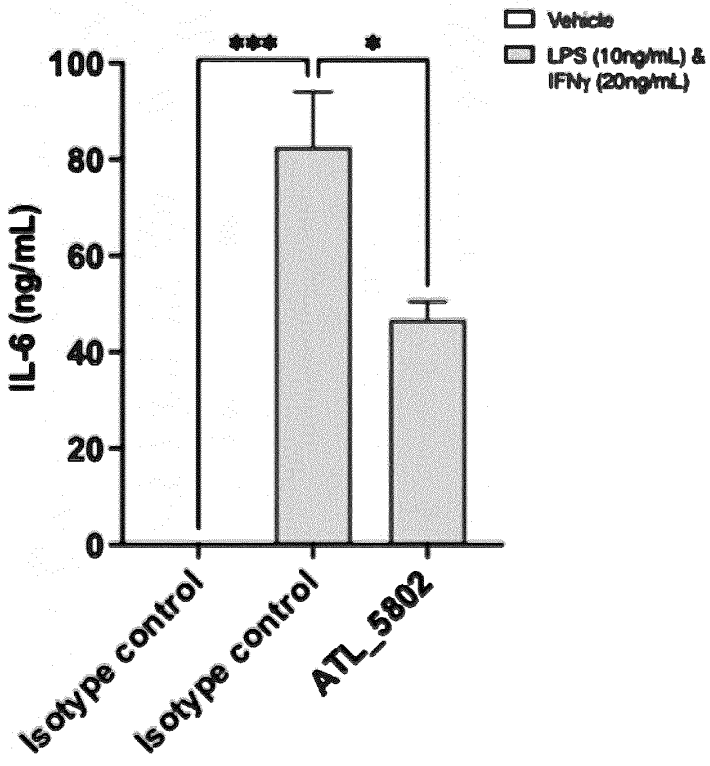


Fig. 24B

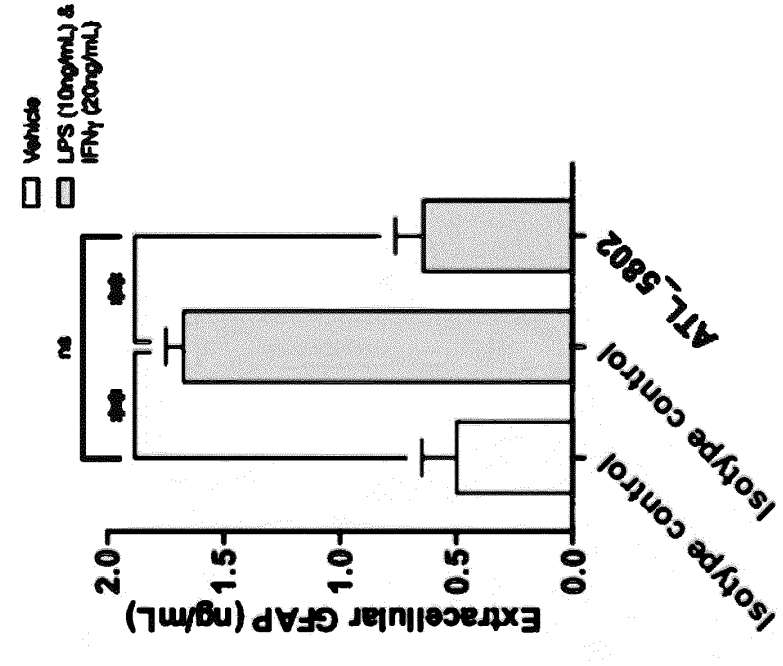


Fig. 24C

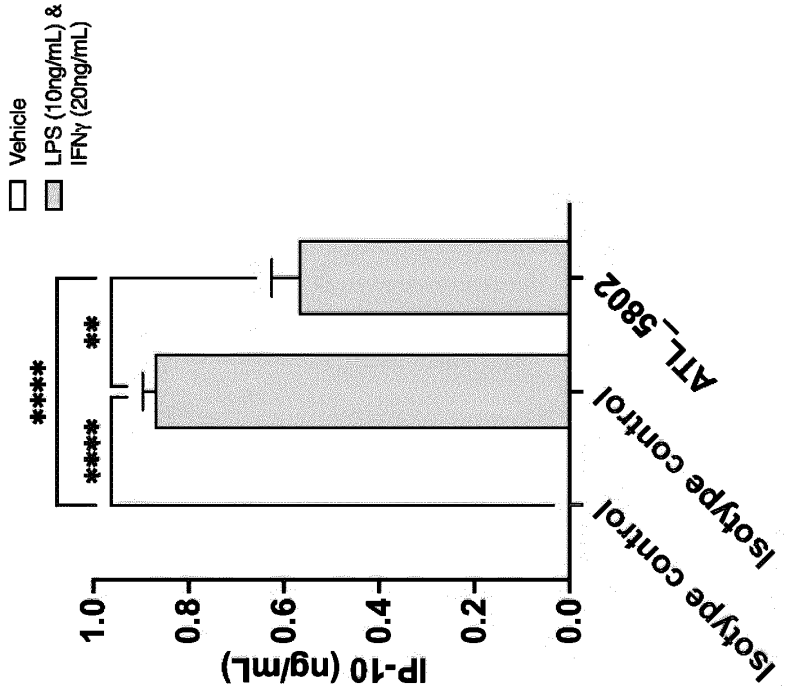


Fig. 24D

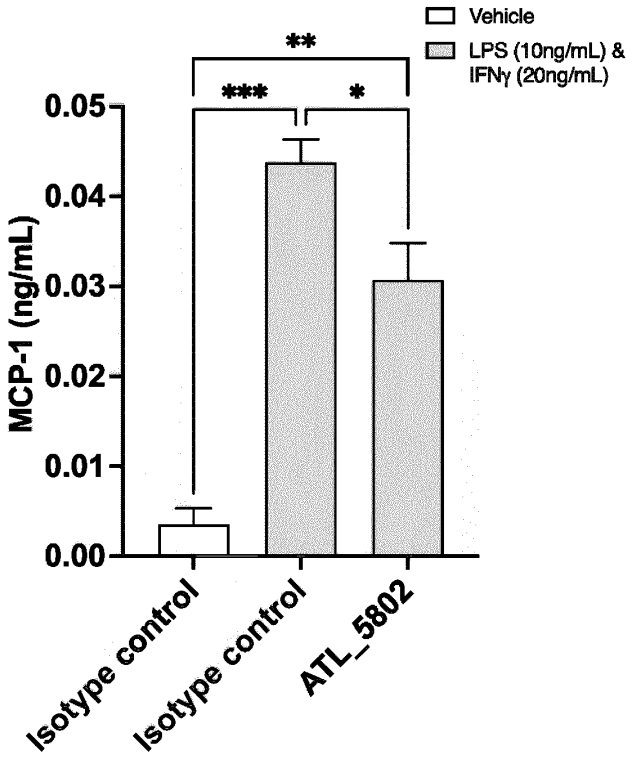

Vehicle
LPS (10ng/mL) & IFNγ (20ng/mL)
**
***
*
MCP-1 (ng/mL)
0.05
0.04
0.03
0.02
0.01
0.00
Isotype control
Isotype control
ATL_5802

Fig. 24E