Fig. 1A

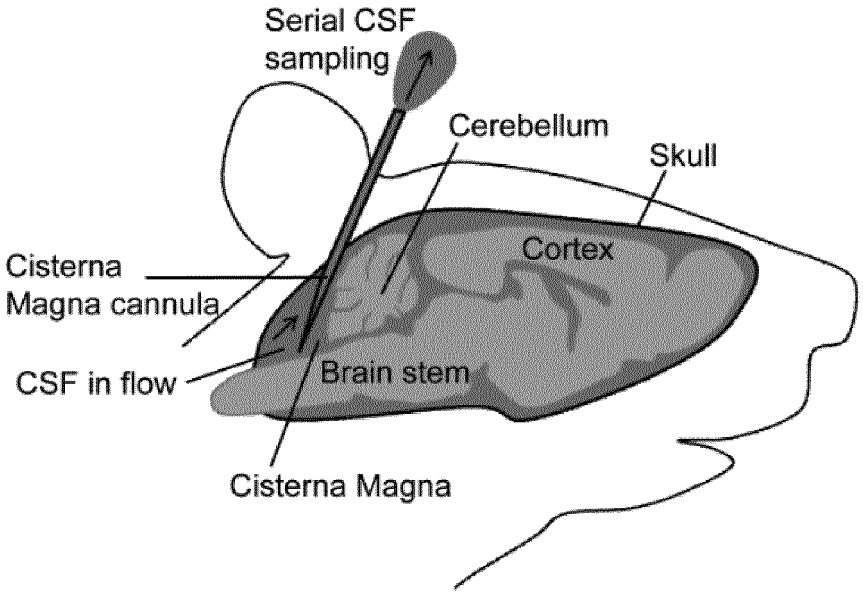

Serial CSF sampling
Cerebellum
Skull
Cortex
Cisterna Magna cannula
CSF in flow
Brain stem
Cisterna Magna

Fig. 1B

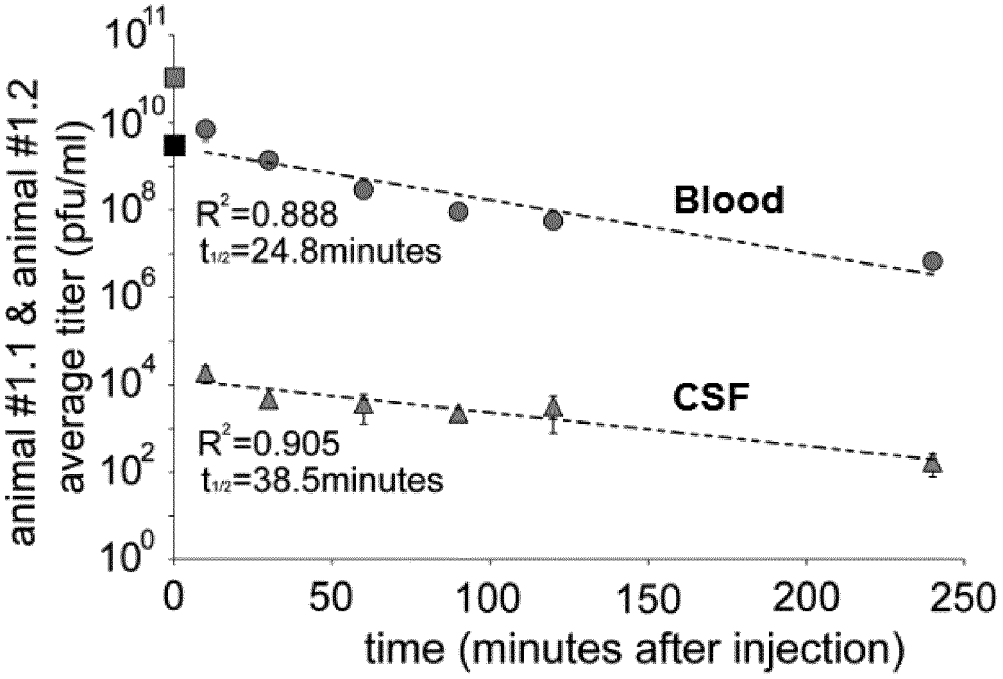

animal #1.1 & animal #1.2 average titer (pfu/ml)
10^{11}
10^{10}
10^{8}
10^{6}
10^{4}
10^{2}
10^{0}
R^2=0.888
$t_{1/2}$=24.8minutes
Blood
R^2=0.905
$t_{1/2}$=38.5minutes
CSF
0
50
100
150
200
250
time (minutes after injection)

Fig 2A

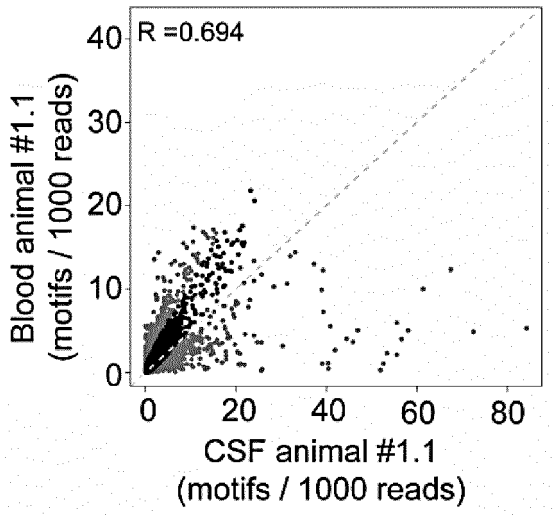


Fig. 2B

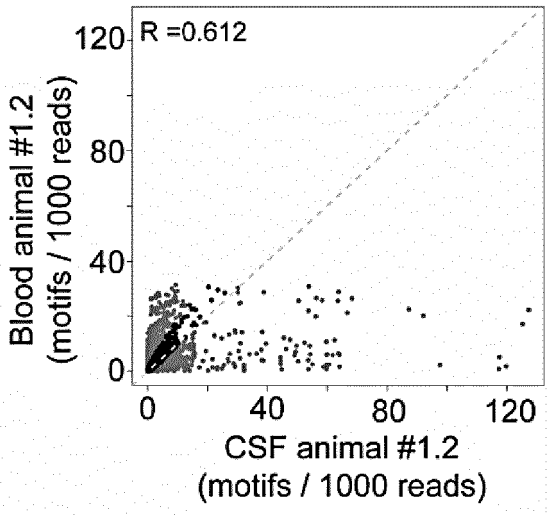


Fig. 2C

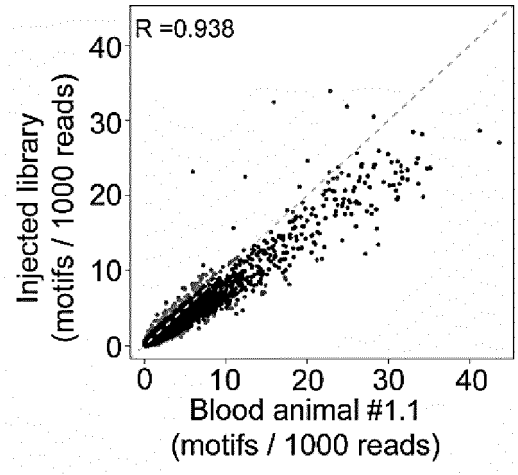


Fig. 2D

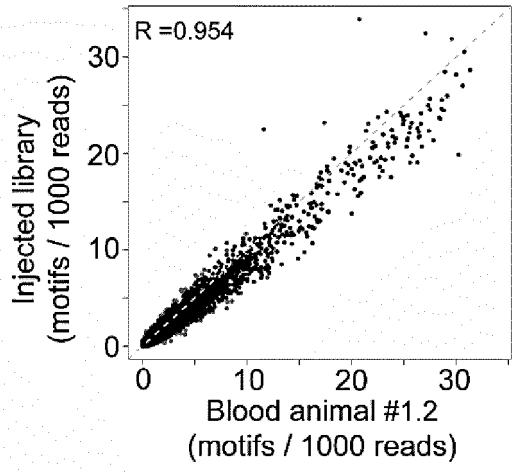


Fig. 3

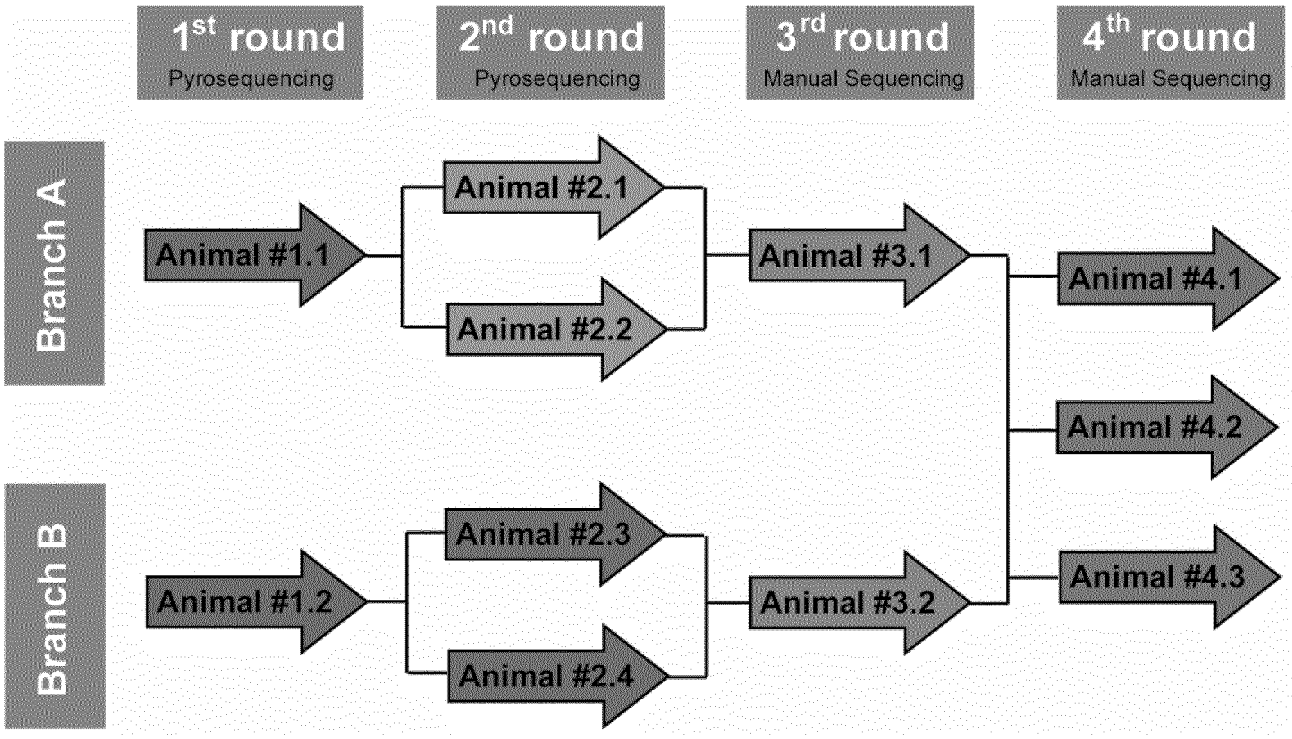

1st round
Pyrosequencing
2nd round
Pyrosequencing
3rd round
Manual Sequencing
4th round
Manual Sequencing
Branch A
Branch B
Animal #1.1
Animal #2.1
Animal #2.2
Animal #3.1
Animal #4.1
Animal #4.2
Animal #1.2
Animal #2.3
Animal #2.4
Animal #3.2
Animal #4.3

Fig. 4:

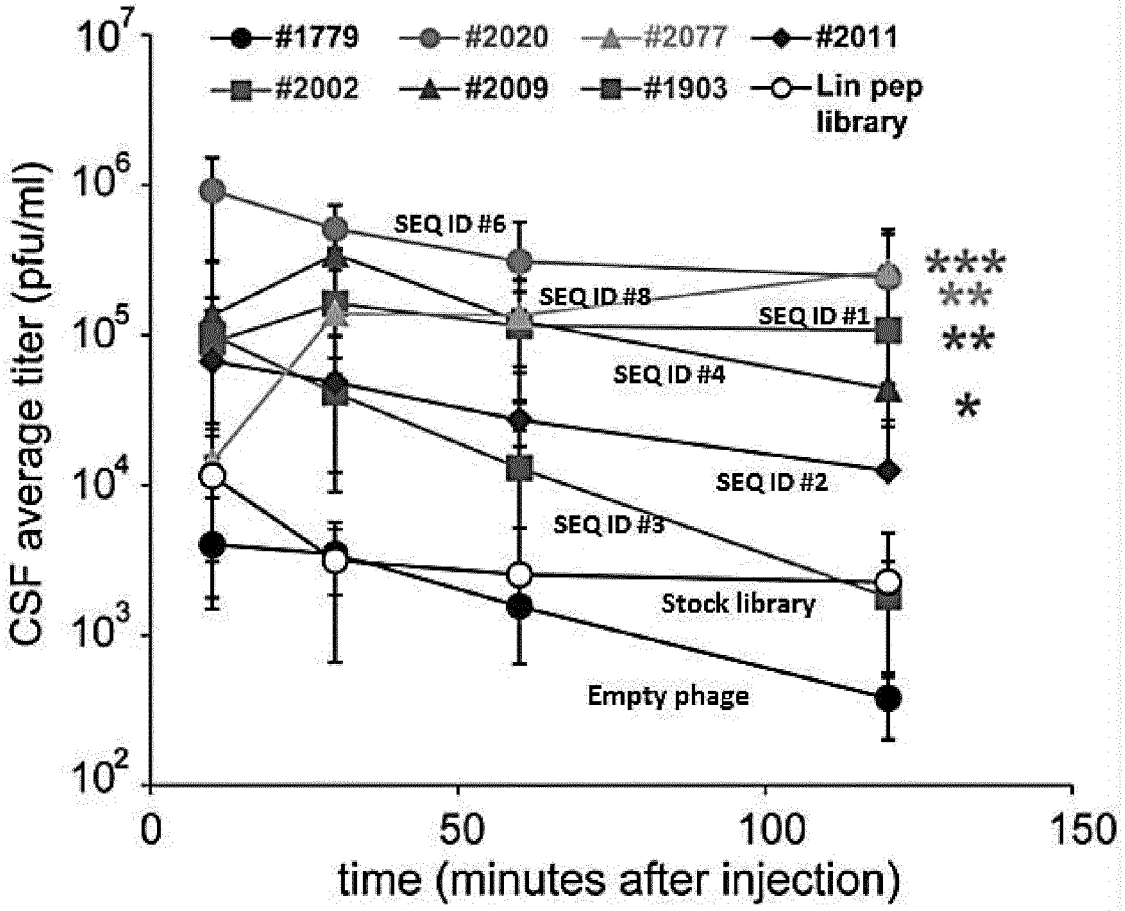

#1779
#2020
#2077
#2011
#2002
#2009
#1903
Lin pep library
CSF average titer (pfu/ml)
10^7
10^6
10^5
10^4
10^3
10^2
SEQ ID #6
SEQ ID #8
SEQ ID #1
SEQ ID #4
SEQ ID #2
SEQ ID #3
Stock library
Empty phage
***
**
**
*
0
50
100
150
time (minutes after injection)

Fig. 5

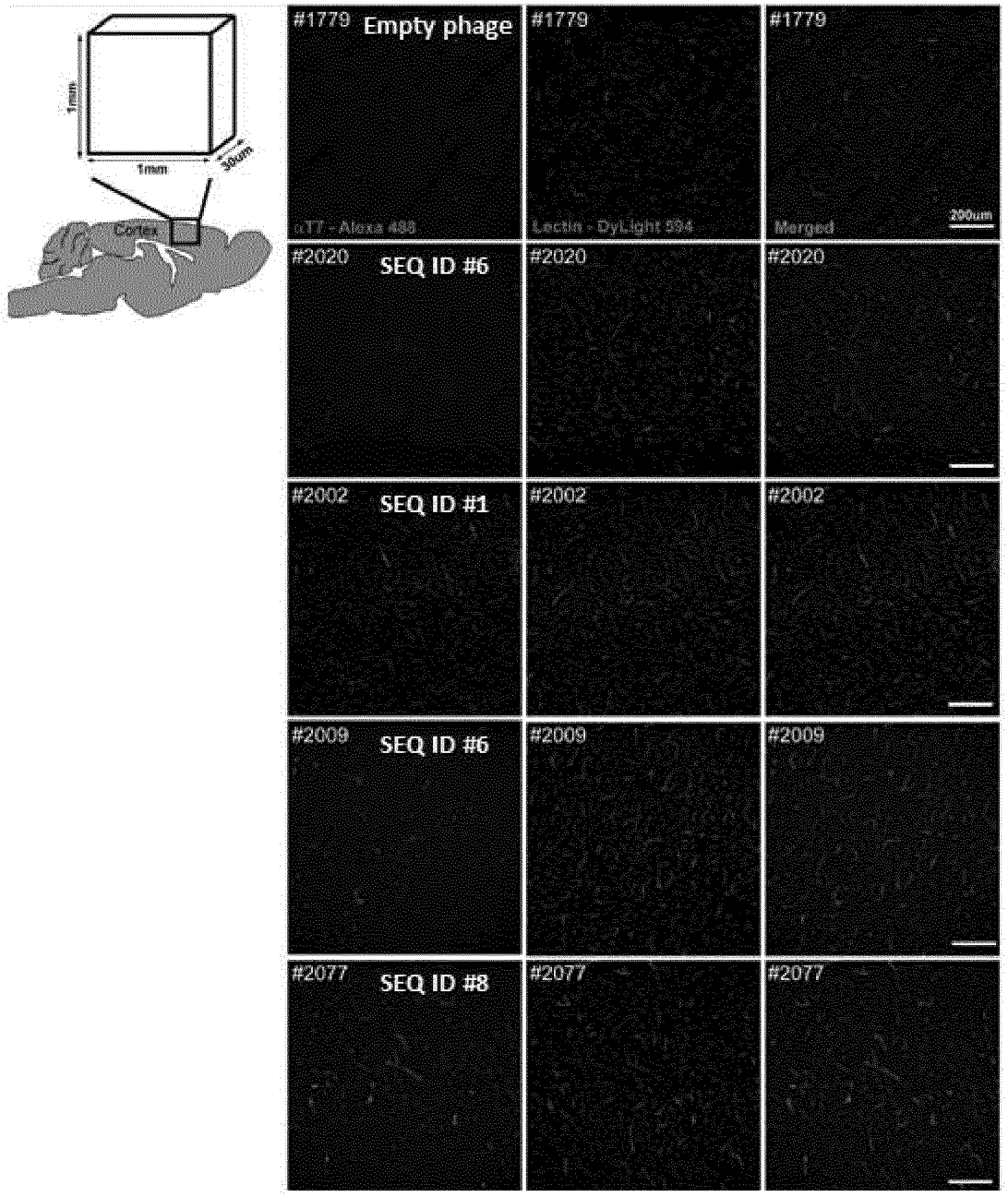

1mm
1mm
30um
Cortex
#1779 Empty phage
αT7 - Alexa 488
#1779
Lectin - DyLight 594
#1779
Merged
200um
#2020 SEQ ID #6
#2020
#2020
#2002 SEQ ID #1
#2002
#2002
#2009 SEQ ID #6
#2009
#2009
#2077 SEQ ID #8
#2077
#2077

Fig. 6A

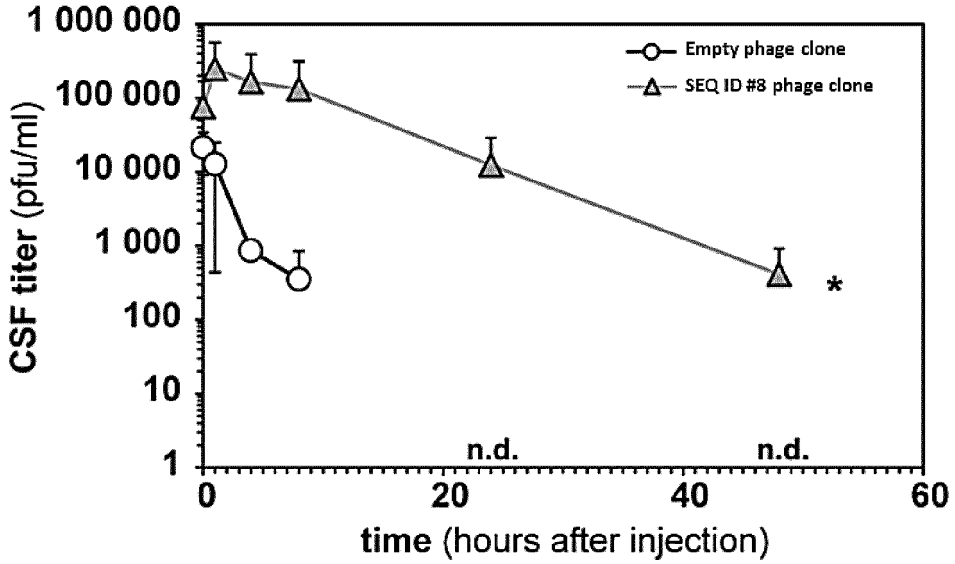

1 000 000
100 000
10 000
1 000
100
10
1
CSF titer (pfu/ml)
Empty phage clone
SEQ ID #8 phage clone
*
n.d.
n.d.
0
20
40
60
time (hours after injection)

Fig. 6B

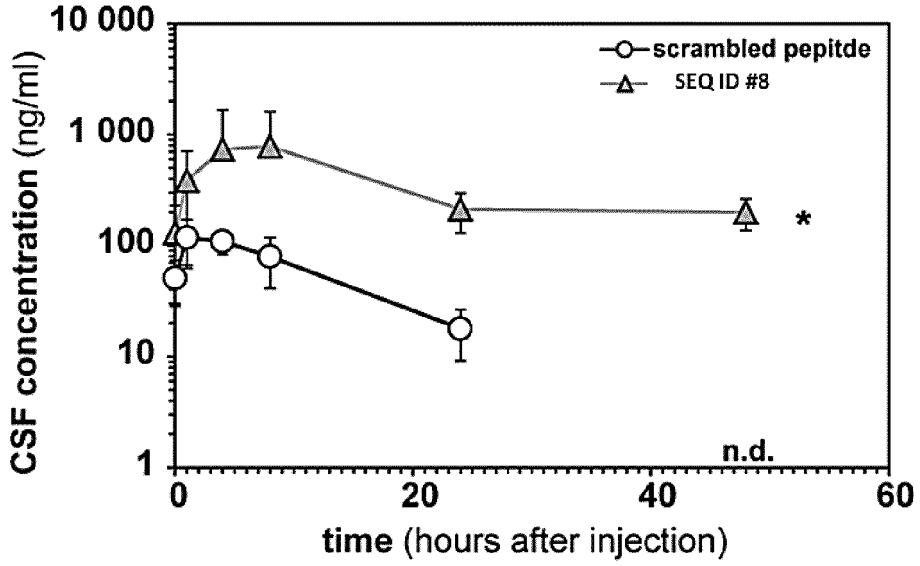

10 000
1 000
100
10
1
CSF concentration (ng/ml)
scrambled pepitde
SEQ ID #8
*
n.d.
0
20
40
60
time (hours after injection)

Fig. 6C

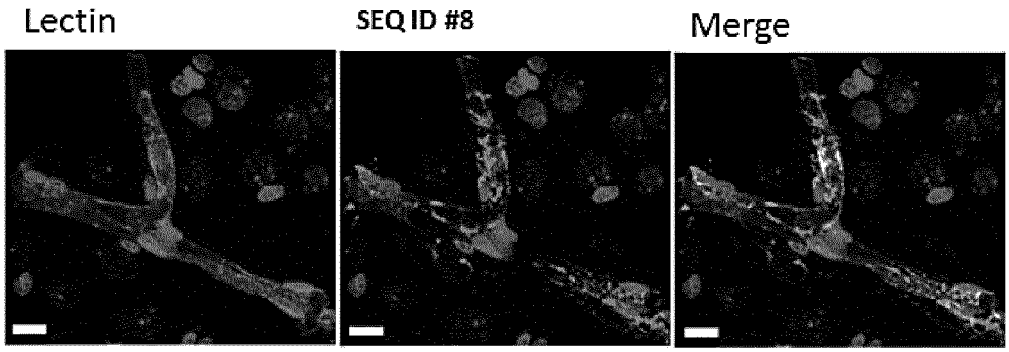


Fig. 7A

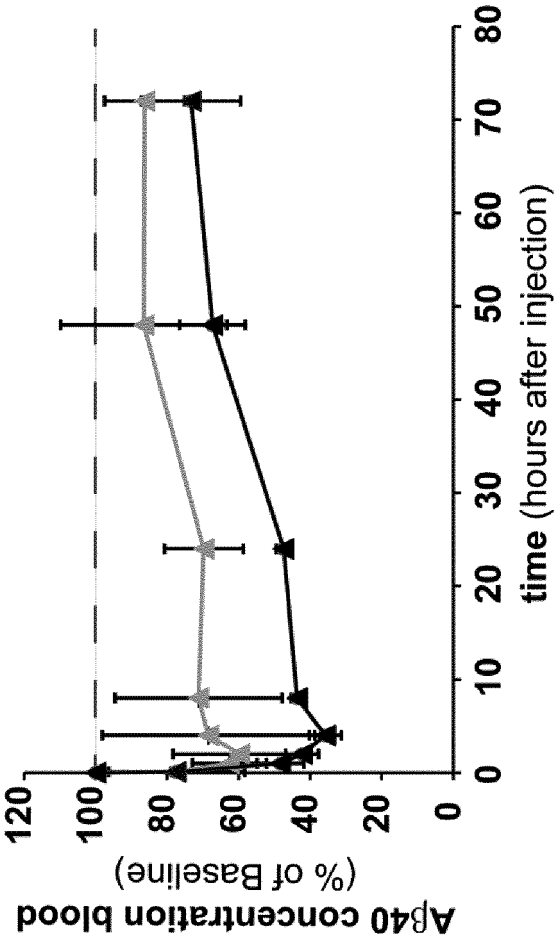
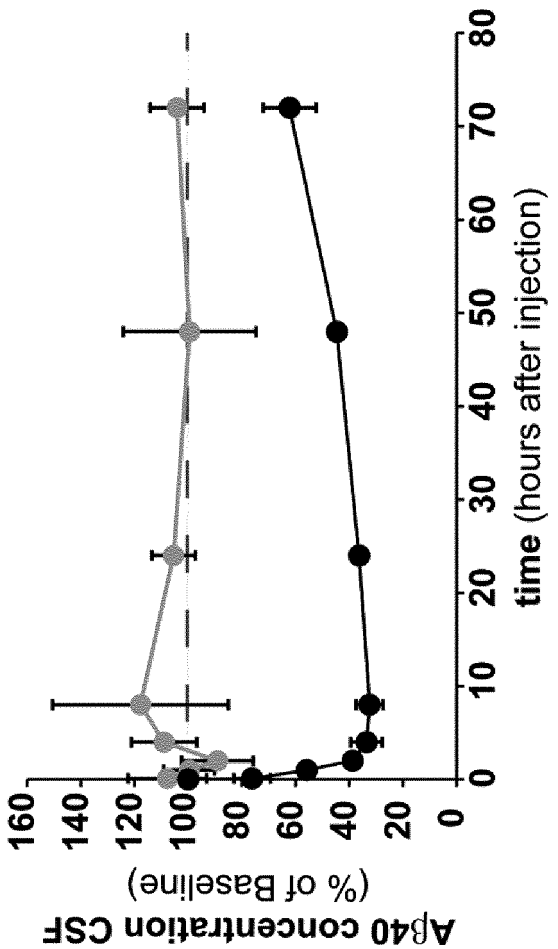

Aβ40 concentration blood
(% of Baseline)
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
time (hours after injection)

Fig. 7B


Aβ40 concentration CSF
(% of Baseline)
160
140
120
100
80
60
40
20
0
0
10
20
30
40
50
60
70
80
time (hours after injection)