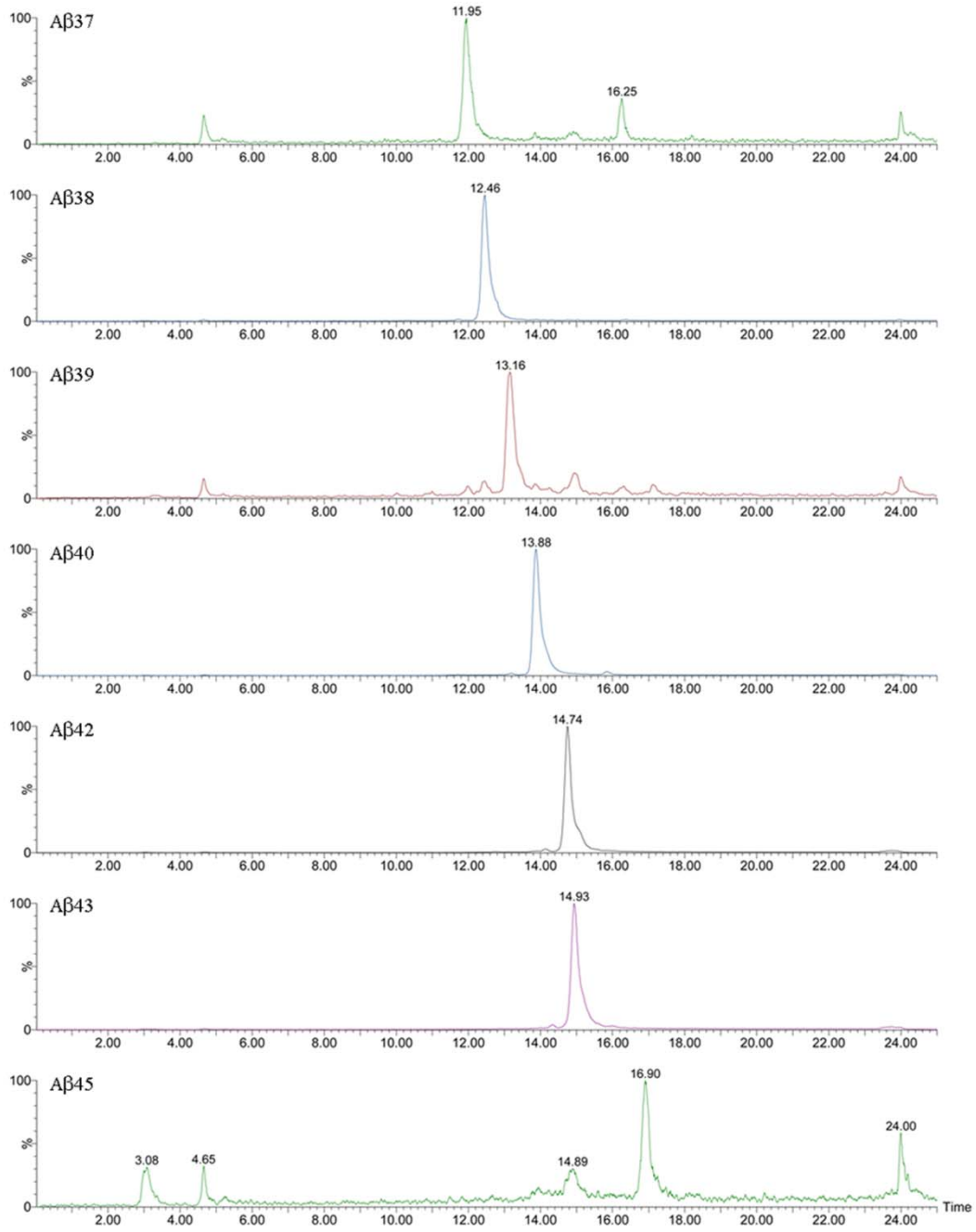
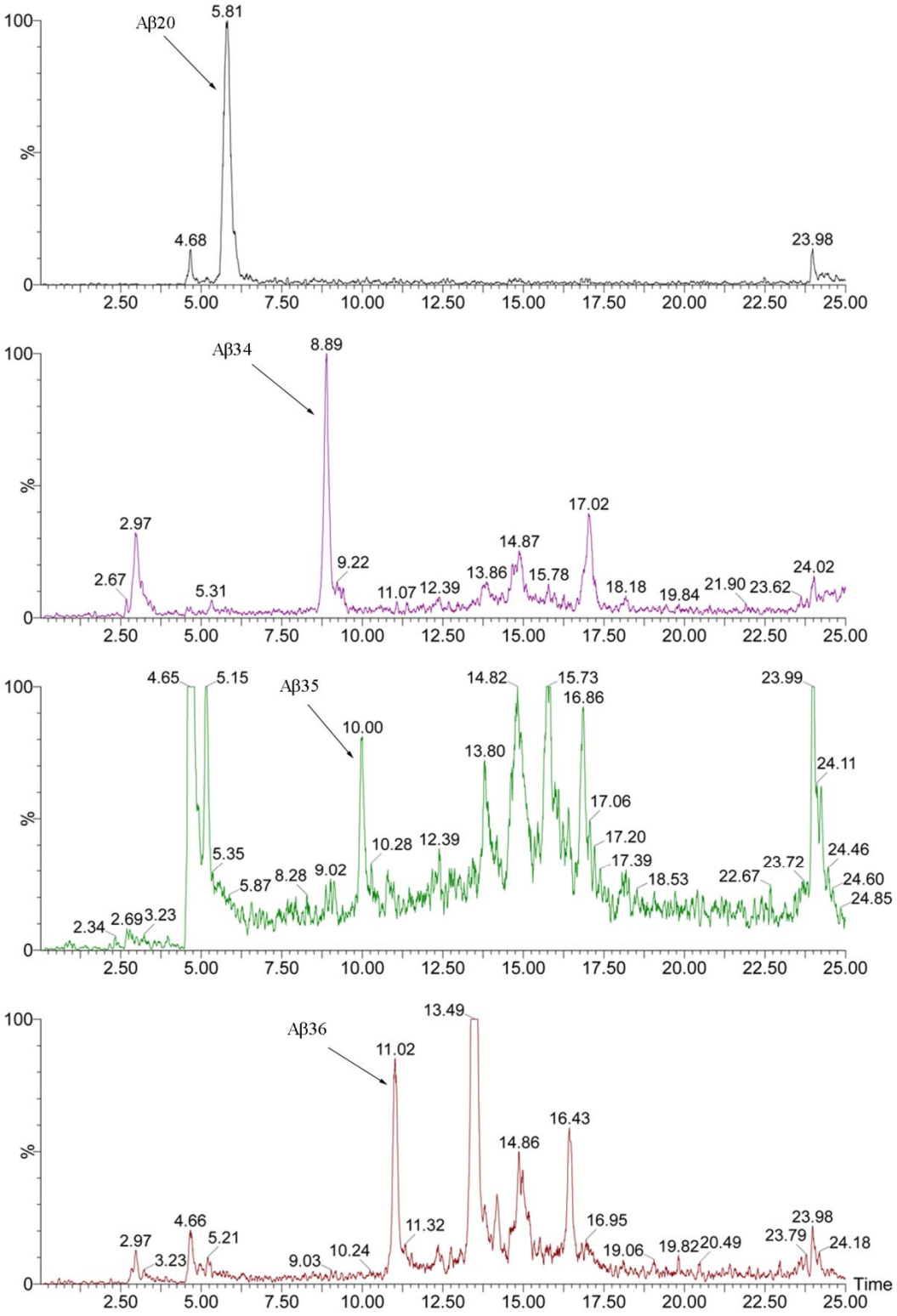
Supplementary Material

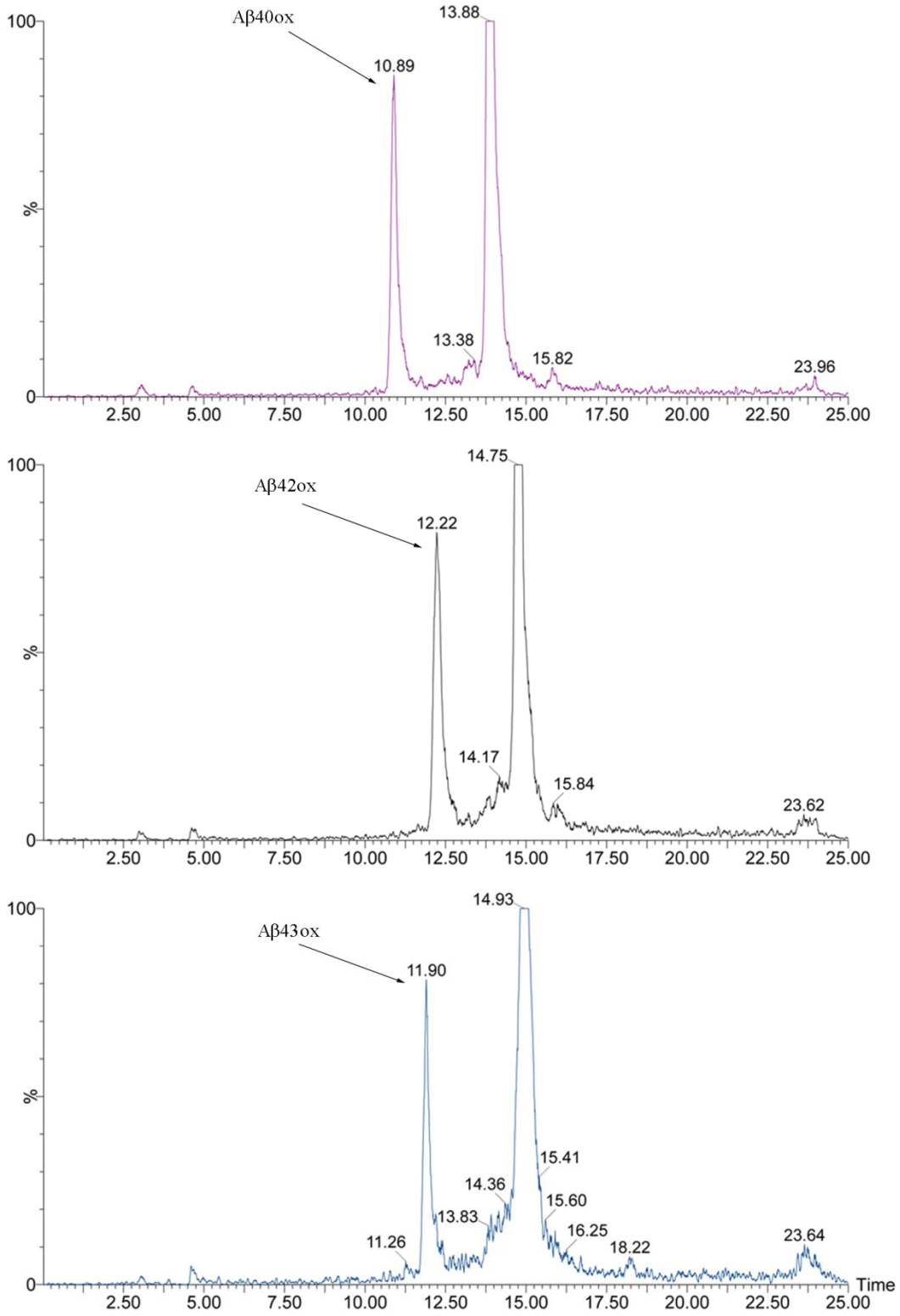
Supplementary Figure 1: a) Full length Aβ species (APP/PS1).



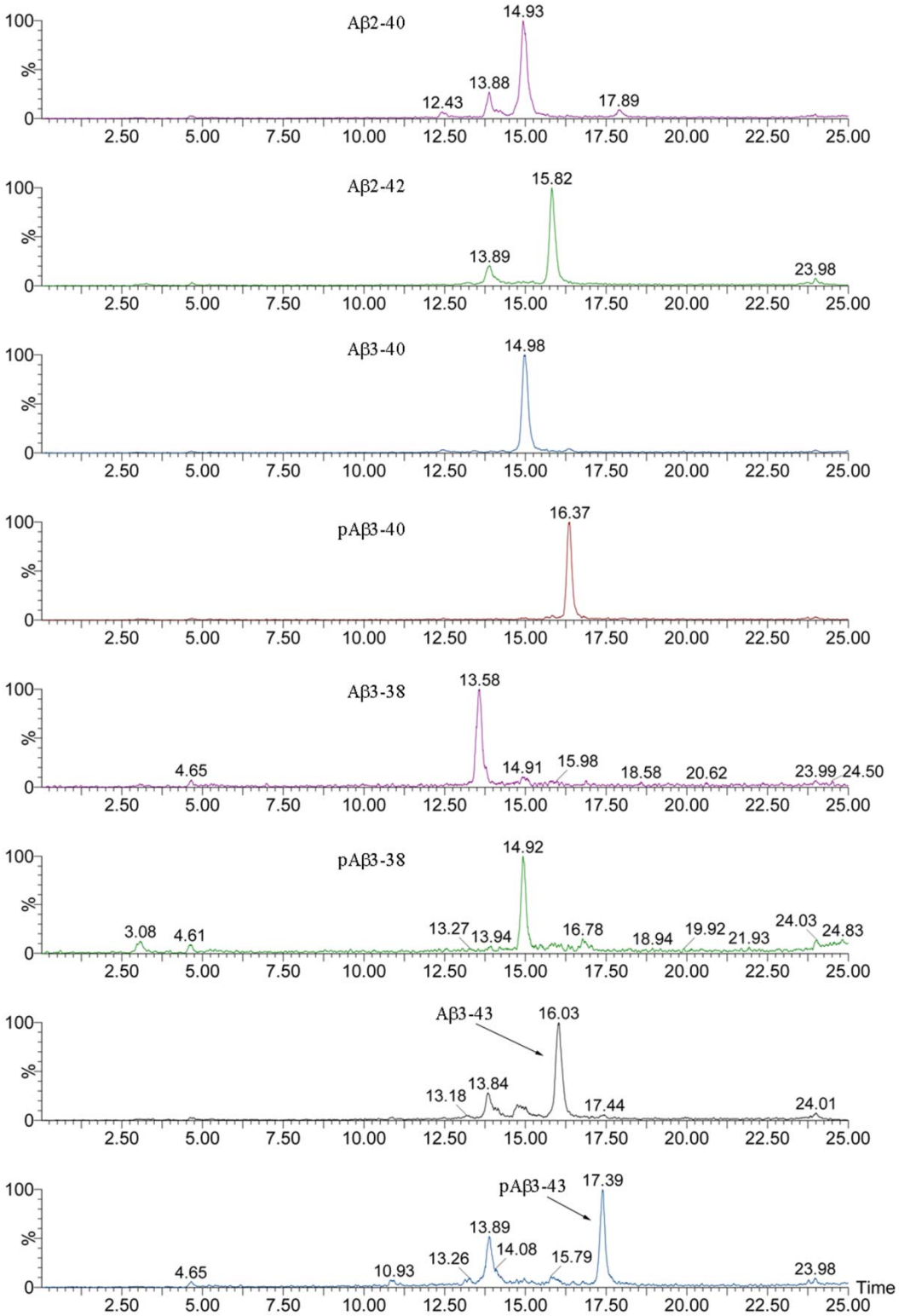
b) Full length minor Aβ species (APP/PS1).

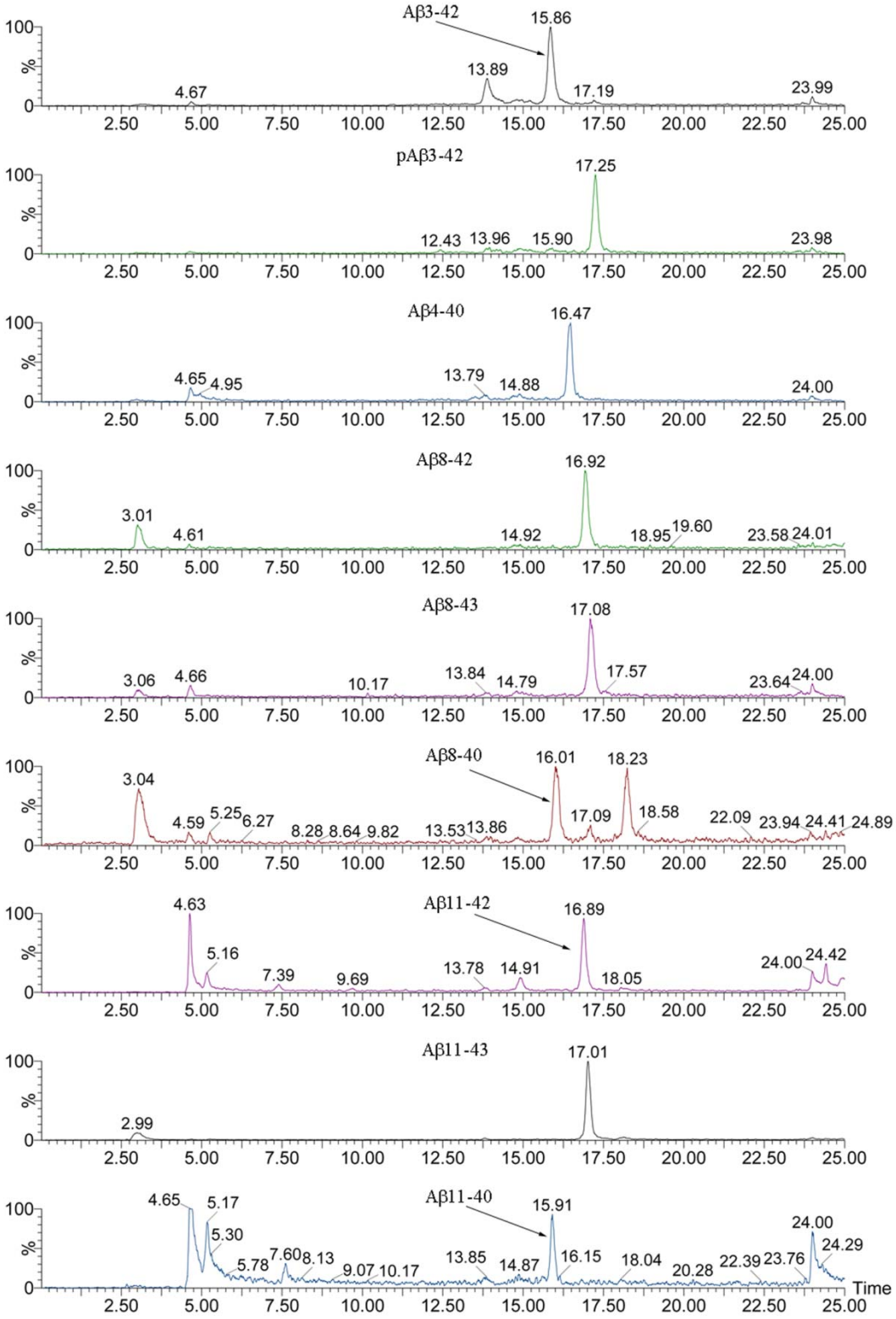


c) Oxidized Aβ species (APP/PS1). Peaks at the right hand side of the oxidized species correspond to in-source oxidation of the unmodified peptide.

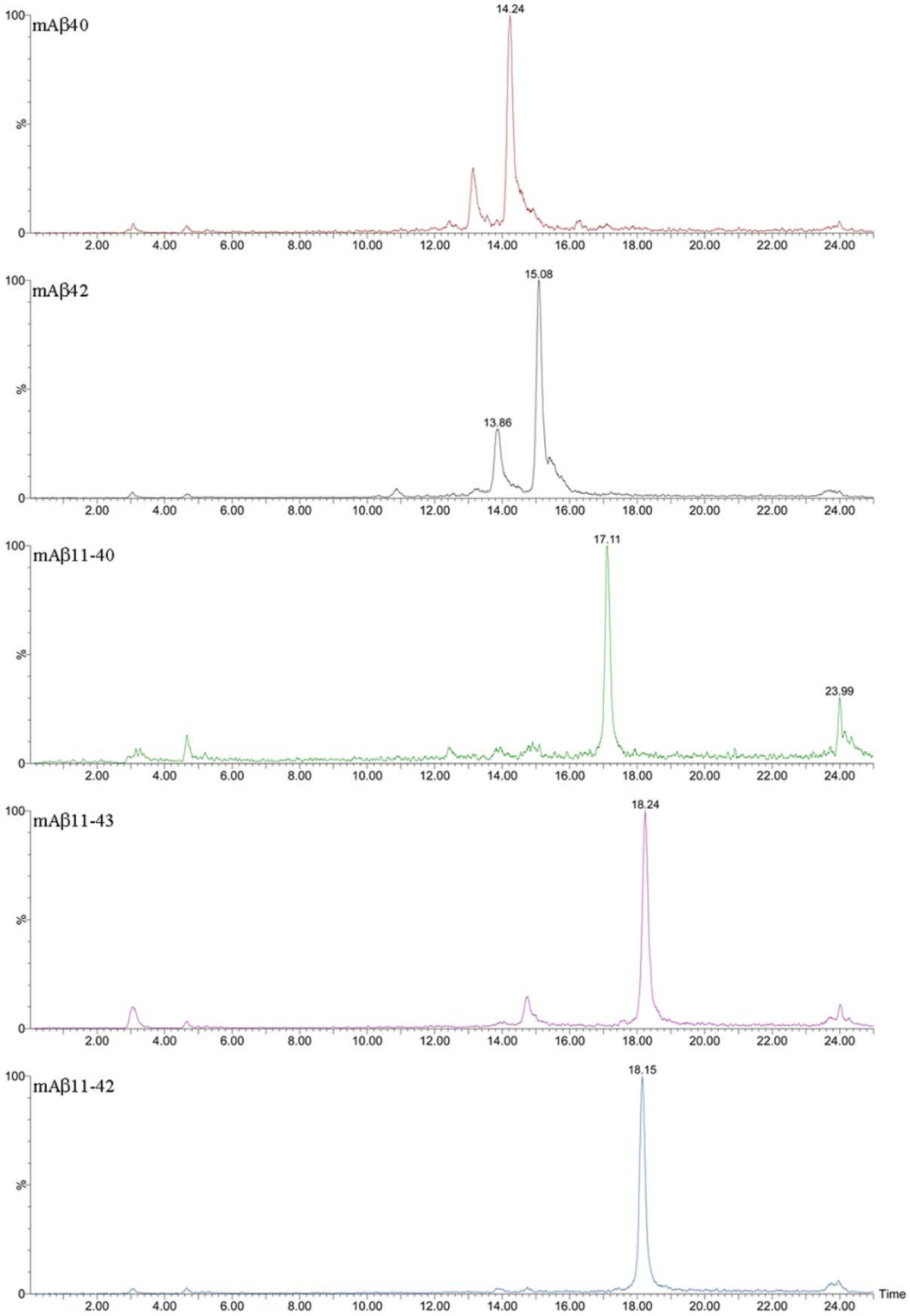


d1 and d2) Truncated Aβ species (APP/PS1).

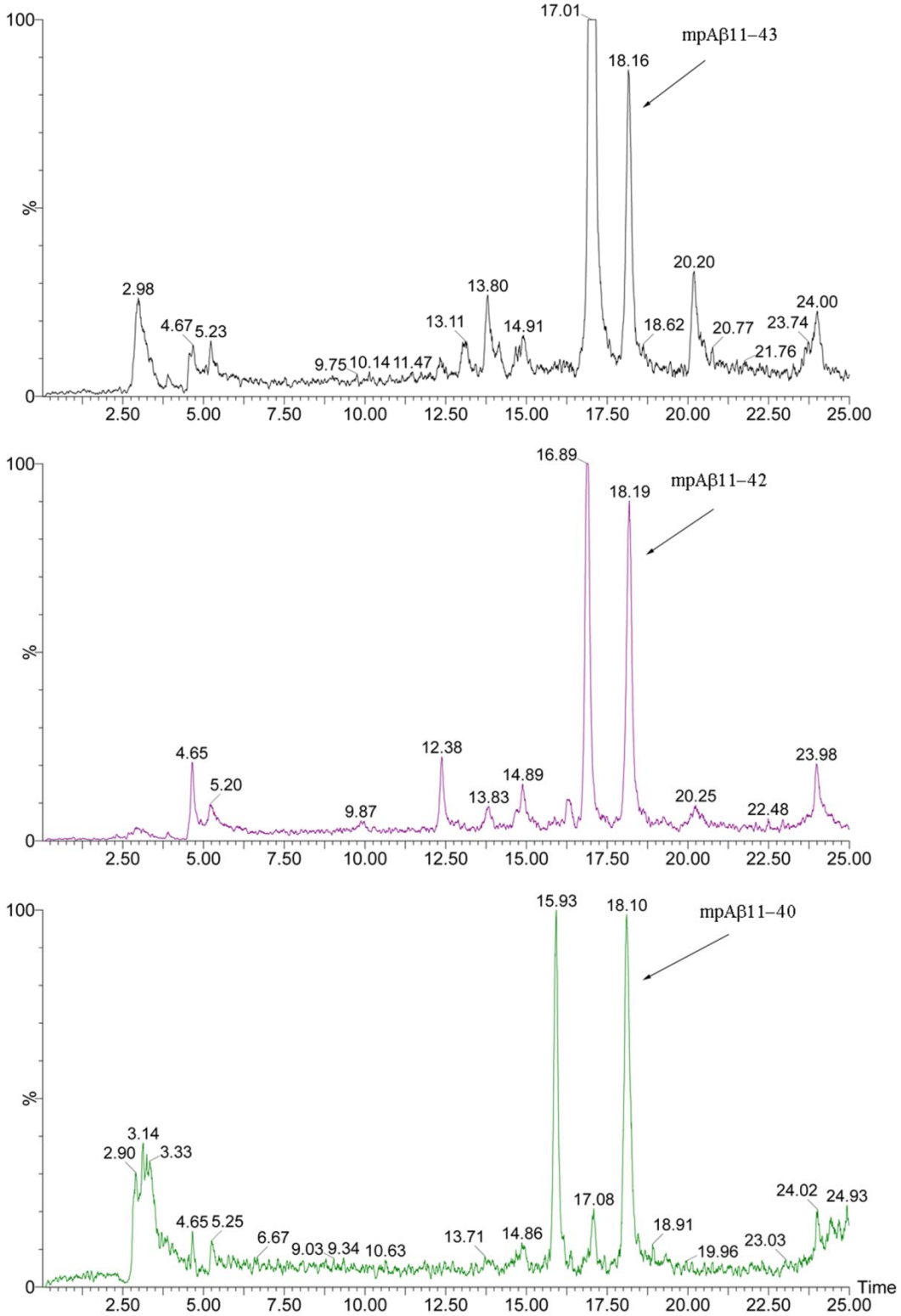



Aβ3-42
15.86
13.89
4.67
17.19
23.99
pAβ3-42
17.25
12.43
13.96
15.90
23.98
Aβ4-40
16.47
4.65
4.95
13.79
14.88
24.00
Aβ8-42
16.92
3.01
4.61
14.92
18.95
19.60
23.58
24.01
Aβ8-43
17.08
3.06
4.66
10.17
13.84
14.79
17.57
23.64
24.00
Aβ8-40
16.01
18.23
3.04
4.59
5.25
6.27
8.28
8.64
9.82
13.53
13.86
17.09
18.58
22.09
23.94
24.41
24.89
Aβ11-42
4.63
16.89
5.16
7.39
9.69
13.78
14.91
18.05
24.00
24.42
Aβ11-43
17.01
2.99
Aβ11-40
15.91
4.65
5.17
5.30
5.78
7.60
8.13
9.07
10.17
13.85
14.87
16.15
18.04
20.28
22.39
23.76
24.00
24.29
100
%
0
2.50
5.00
7.50
10.00
12.50
15.00
17.50
20.00
22.50
25.00
Time

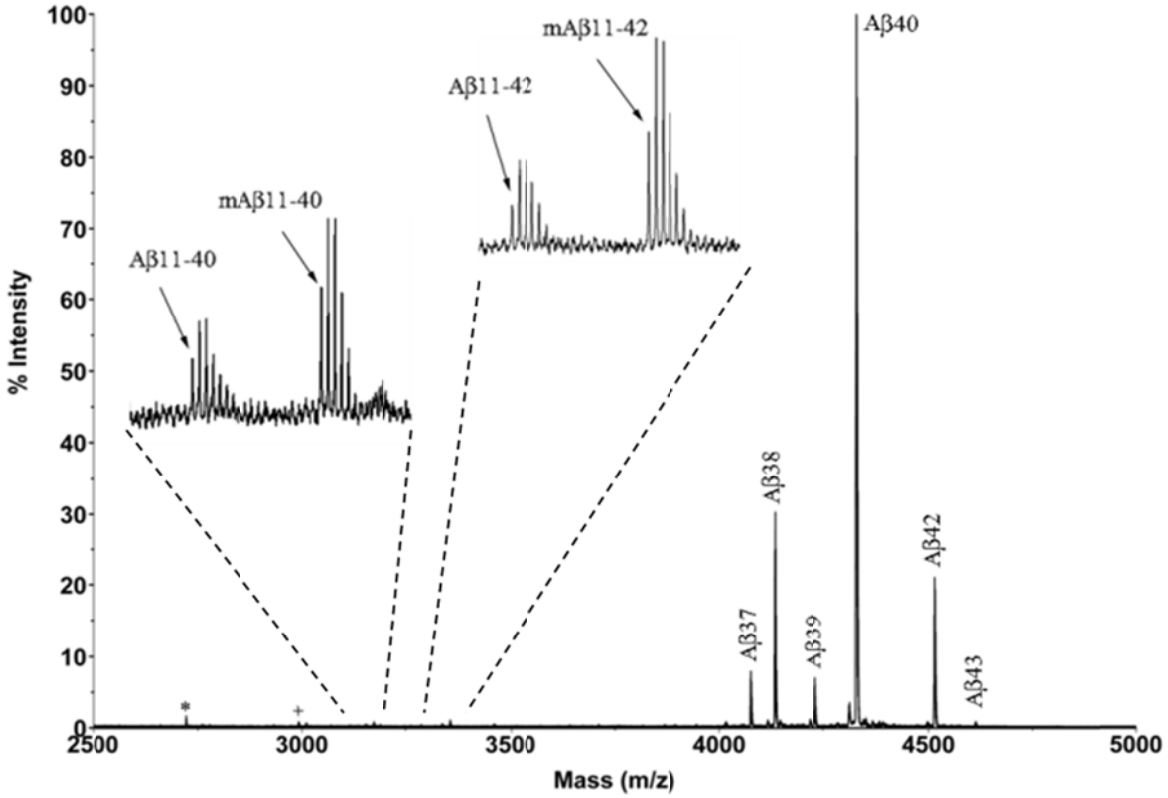
e) Murine Aβ species (APP/PS1).



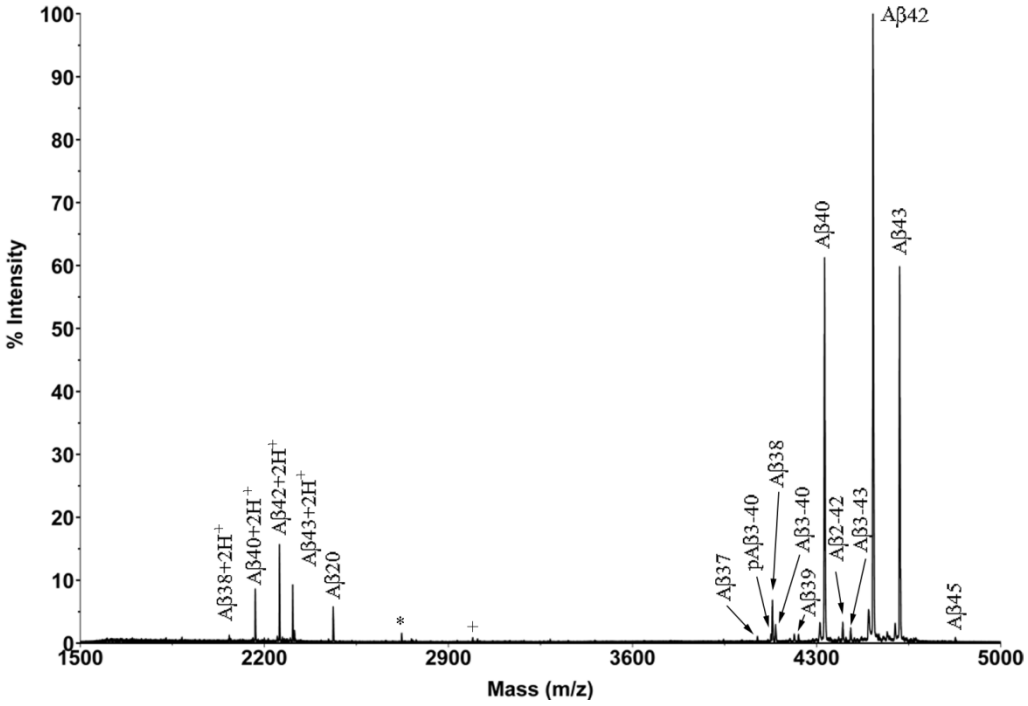
f) Murine pyr-Glu Aβ species (APP/PS1). Peaks at the left hand side of the pyr-modified mouse species correspond to the unmodified human counterparts.



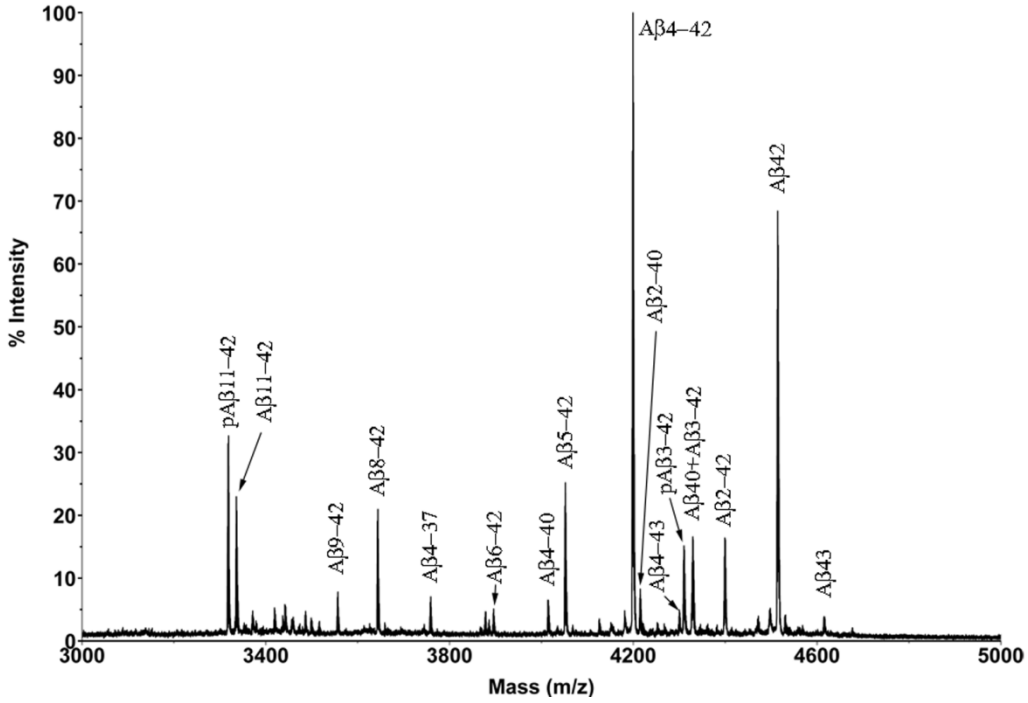
Supplementary Figure 2: Mass spectrum of a brain extract from Tg 2576 mice (aged 18 months) after IP with mAb 4G8. The peak labeled with an asterisk at m/z = 2991 was also present in the blank samples (data not shown). Peak labeled with + corresponds to a known co-eluting peptide.



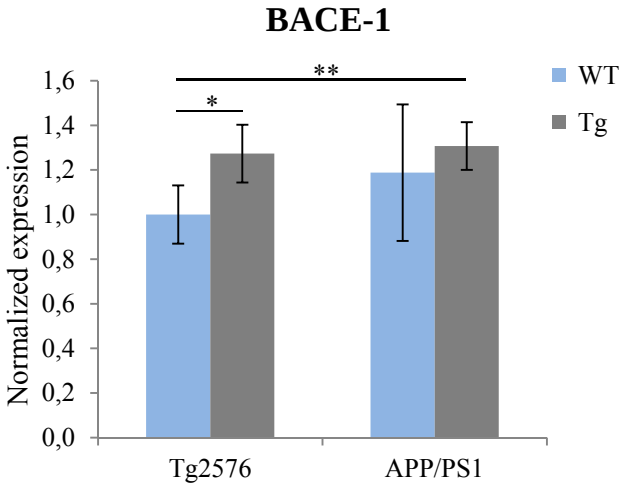
Supplementary Figure 3: Mass spectrum of a brain extract from APP/PS1 mice (aged 18 months) after IP with mAb 1F3. The peak labeled with an asterisk at m/z = 2991 was also present in the blank samples. Peak labeled with + corresponds to known co-eluting peptide.

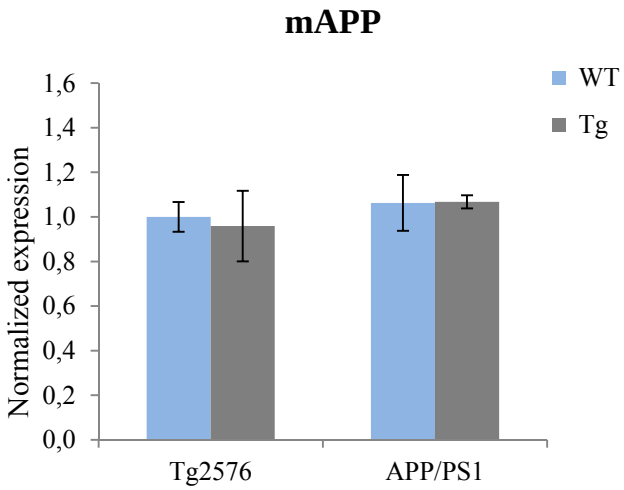


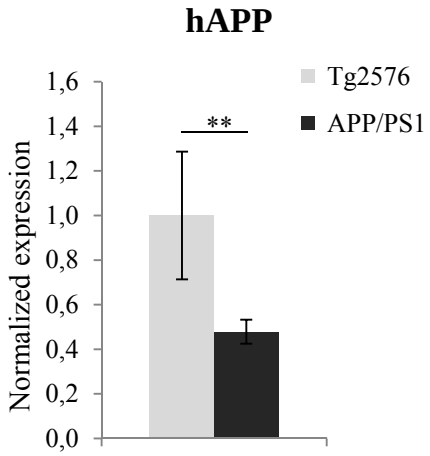
Supplementary Figure 4: Mass spectrum of human brain extract (entorhinal cortex) from an Alzheimer´s disease patient after immunoprecipitation of the insoluble fraction with mAb 4G8.



Supplementary Figure 5: mRNA expression levels for BACE-1, murine AβPP (mAβPP) and human AβPP (hAβPP) in the brain of Tg2576 and APP/PS1 transgenic (Tg) and wild type (WT) mice. Data are expressed as mean ± standard deviation.







Supplementary Table 1: Human $A\beta_{40}$ and $A\beta_{42}$ concentrations (mean and % coefficient of variation [CV]) obtained by ELISA sandwich in plasma and insoluble brain fractions of transgenic mice.

APPswe/PS1dE9					
		Plasma Aß40 (pg/mL)	**Plasma Aß42 (pg/mL)**	**Insoluble Aß40 (ng/mL extract)**	**Insoluble Aß42 (ng/mL extract)**
Tg 3m ♂	Mean	754,5	301,0	18,3	5,4
	% CV	37,5	20,7	45,2	26,7
Tg 3m ♀	Mean	902,6	309,6	15,1	11,5
	% CV	27,8	16,1	23,2	27,3
Tg 6m ♂	Mean	921,9	267,9	105,1	217,5
	% CV	32,7	37,8	61,3	26,9
Tg 6m ♀	Mean	880,0	294,9	206,4	263,1
	% CV	49,6	35,8	25,4	4,0
Tg 12m ♂	Mean	1234,9	314,1	741,2	708,1
	% CV	25,1	36,2	13,4	3,3
Tg 12m ♀	Mean	426,8	199,3	1026,4	794,2
	% CV	120,5	66,2	10,1	4,3
Tg 18m ♂	Mean	1020,8	299,7	1209,0	814,3
	% CV	16,9	18,5	3,4	6,5
Tg 18m ♀	Mean	1044,8	310,7	1229,8	841,8
	% CV	53,5	42,8	6,0	4,6

Tg2576					
		Plasma Aß40 (pg/mL)	**Plasma Aß42 (pg/mL)**	**Insoluble Aß40 (ng/mL extract)**	**Insoluble Aß42 (ng/mL extract)**
Tg 3m ♂	Mean	2343,9	537,5	14,9	4,6
	% CV	55,6	63	6,4	20,0
Tg 3m ♀	Mean	2533,3	598,2	8,9	4,4
	%CV	10,4	16,6	15,2	29,2
Tg 6m ♂	Mean	2643,5	558,8	n.d.	5,2
	% CV	20,1	38,7	-	51,2
Tg 6m ♀	Mean	1498,8	206,1	n.d.	n.d.
	% CV	33,1	71	-	-
Tg 12m ♂	Mean	2378,9	406,1	76,0	29,9
	% CV	35,4	51,2	38,4	15,9
Tg 12m ♀	Mean	1328,5	180,0	177,1	47,6
	% CV	32,2	28,9	92,5	68,3
Tg 18m ♂	Mean	953,2	108,6	1006,0	364,7
	% CV	43,4	78,5	17,8	14,4
Tg 18m ♀	Mean	829,3	88,0	951,4	327,5
	% CV	79,4	58,4	12,2	18,5