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Supplementary Information for

Evidence for aggregation-independent, PrP^C-mediated A β cellular internalization

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† Denotes equal contribution, alphabetically ordered

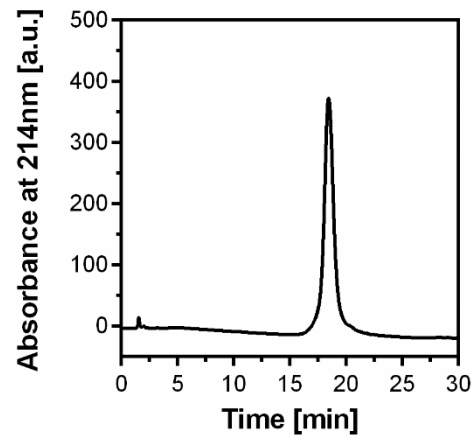
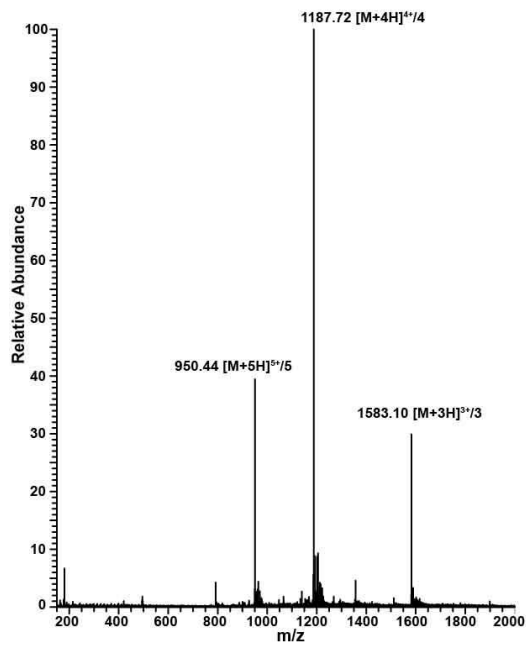
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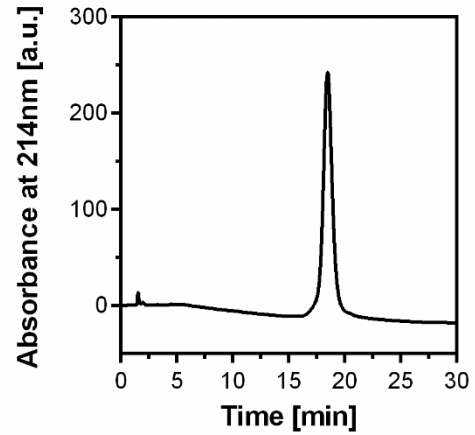
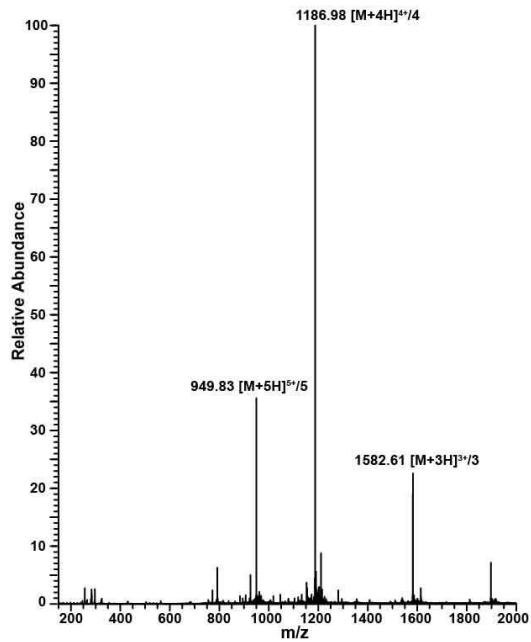
Supplementary text
Figures S1 to S10
Tables S1 to S2

L-A β 40-TAMRA



Peak #	Time [min]	Area	% Area
1	18.45	24260	98.2
2	20.15	444	1.8

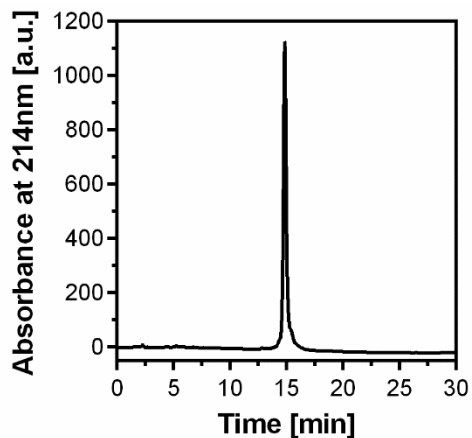
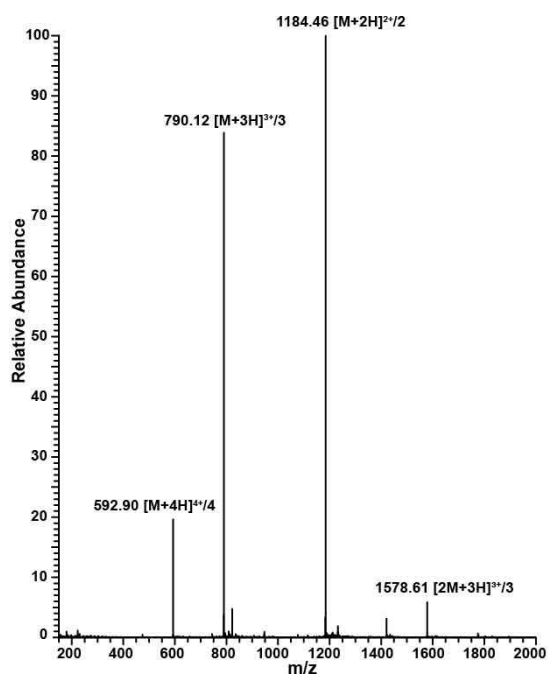
D-A β 40-TAMRA



Peak #	Time [min]	Area	% Area
1	18.47	15012	99.2
2	20.17	125	0.8

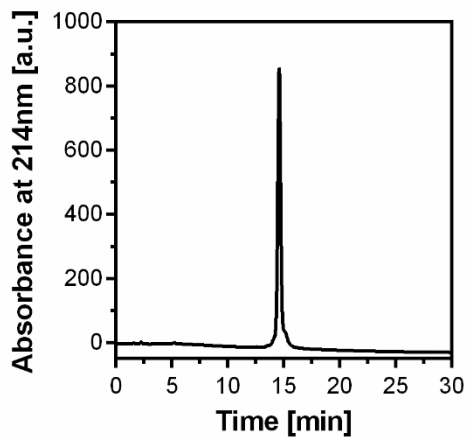
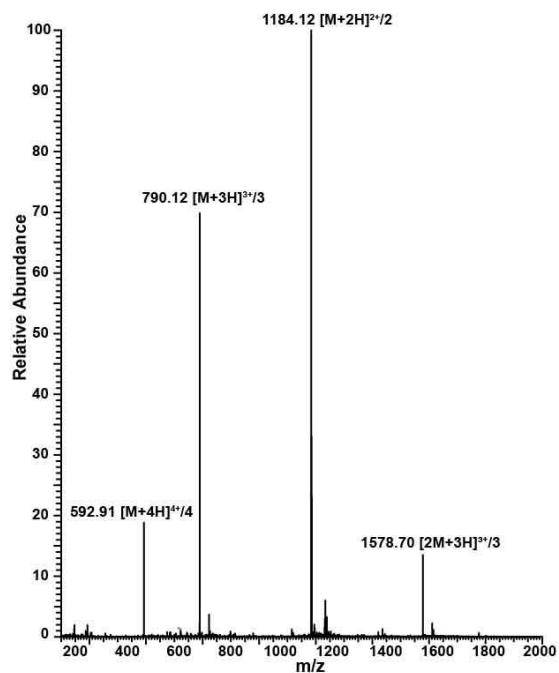
Fig. S1. Mass spectrometry and HPLC characterization for L- and D- A β 40 TAMRA-labeled samples.

L- $\text{A}\beta(1-16)$ -TAMRA



Peak #	Time [min]	Area	% Area
1	14.2	266	1.3
2	14.6	18919	95.3
3	15.1	665	3.4

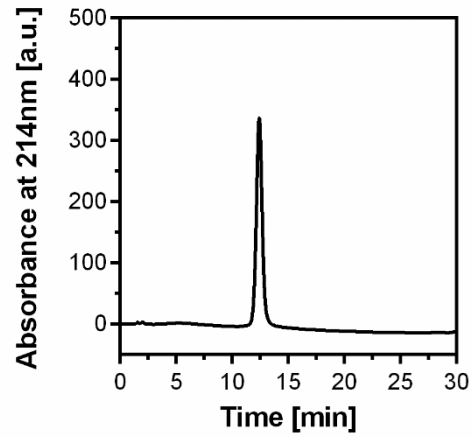
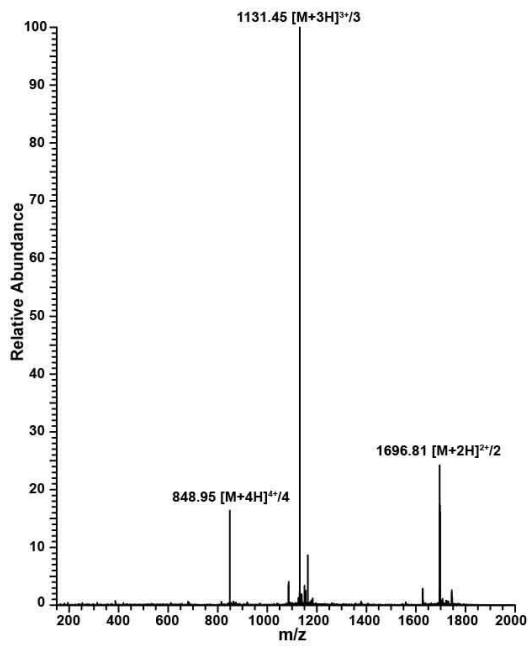
D- $\text{A}\beta(1-16)$ -TAMRA



Peak #	Time [min]	Area	% Area
1	14.2	190	1.1
2	14.6	16439	95.1
3	15	649	3.8

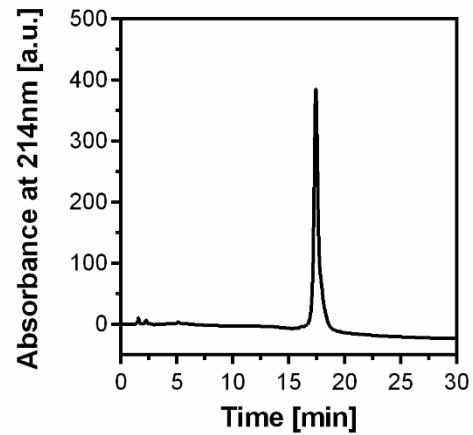
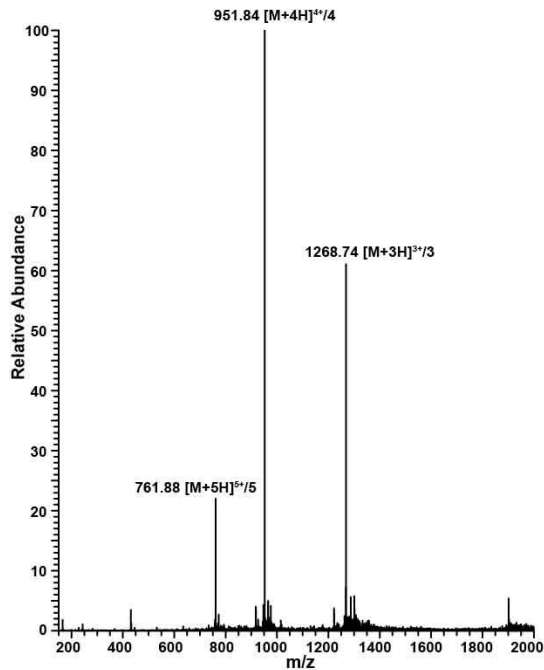
Fig. S2. Mass spectrometry and HPLC characterization for L- and D- $\text{A}\beta(1-16)$ TAMRA-labeled samples.

L-A β (1-30)



Peak #	Time [min]	Area	% Area
1	12.4	12380	99.3
2	13.2	93	0.7

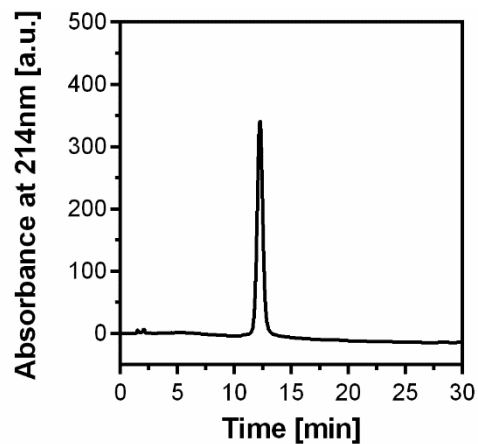
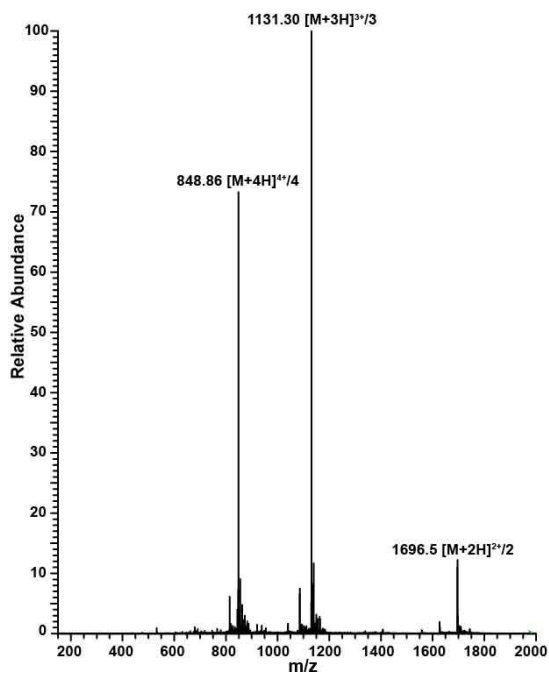
L-A β (1-30)-TAMRA



Peak #	Time [min]	Area	% Area
1	16.6	111	0.9
2	17.4	12011	99.1

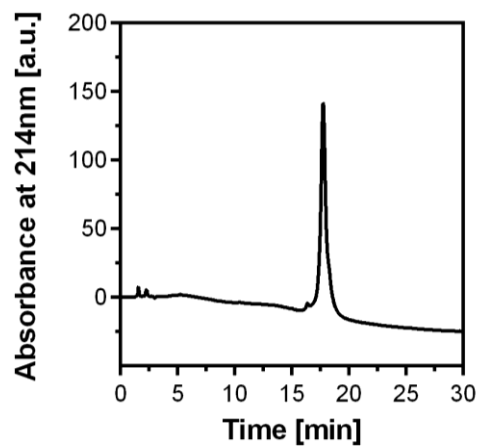
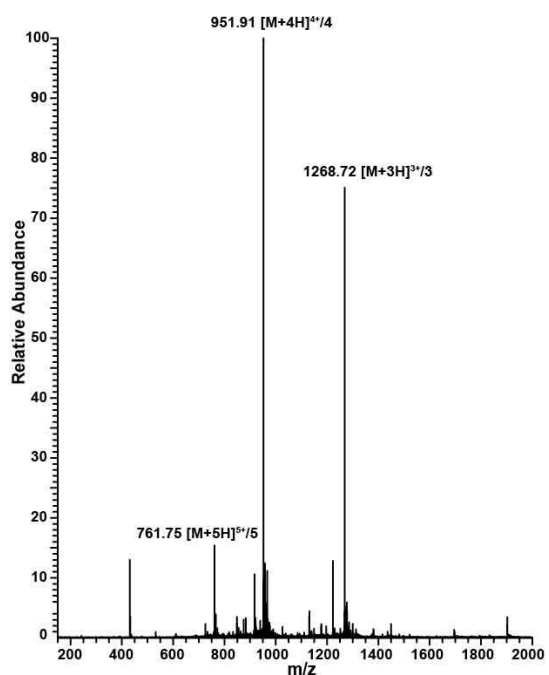
Figure S3. Mass spectrometry and HPLC characterization for L-A β (1-30) and L-A β (1-30)-TAMRA samples.

D-A β (1-30)



Peak #	Time [min]	Area	% Area
1	12.3	11907	99.5
2	13	55	0.5

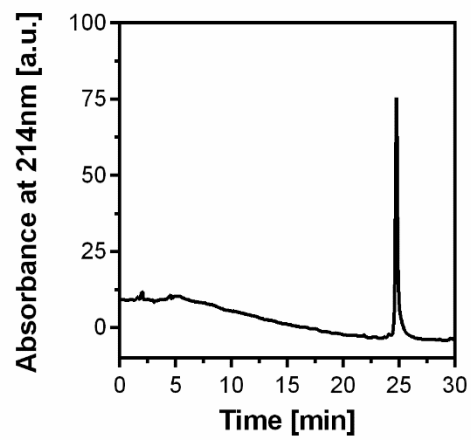
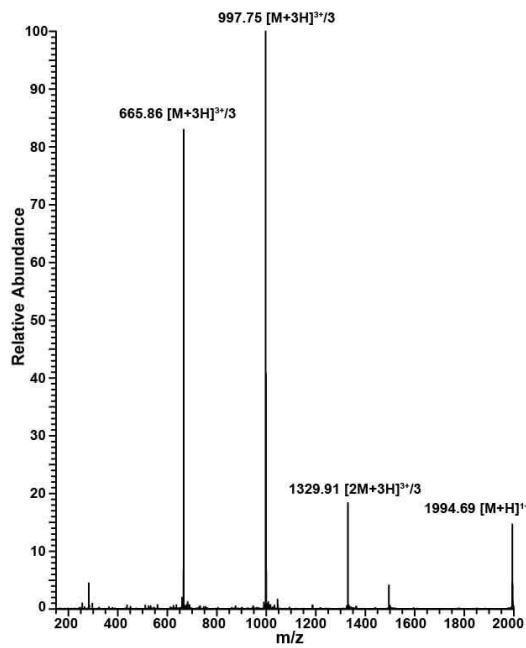
D-A β (1-30)-TAMRA



Peak #	Time [min]	Area	% Area
1	16.8	125	2.2
2	17.7	5531	97.8

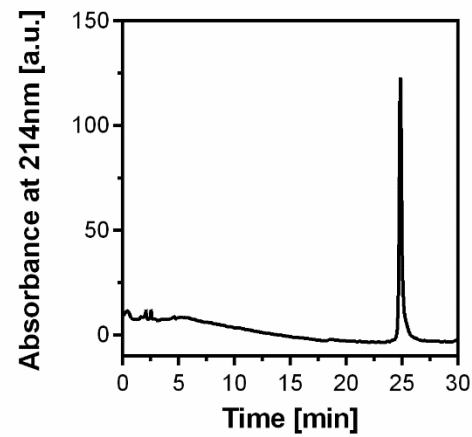
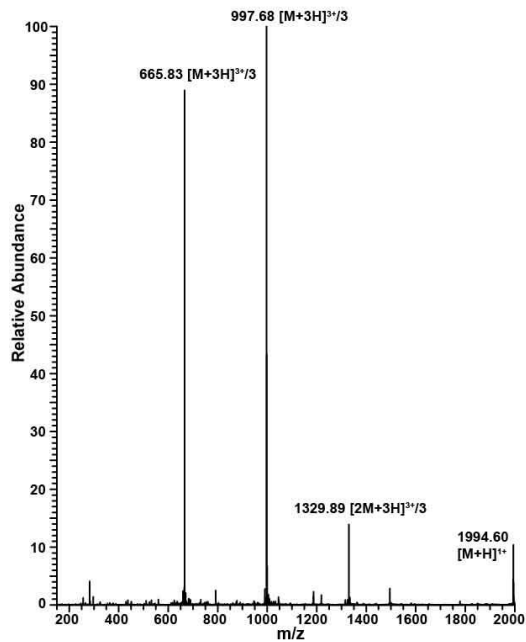
Figure S4. Mass spectrometry and HPLC characterization for D-A β (1-30) and D-A β (1-30)-TAMRA samples.

L-A β (16-30)-TAMRA



Peak #	Time [min]	Area	% Area
1	24.8	1206	97.6
2	25.5	30	2.4

D-A β (16-30)-TAMRA



Peak #	Time [min]	Area	% Area
1	24.9	2216	98
2	25.6	46	2

Figure S5. Mass spectrometry and HPLC characterization for L- and D- A β (16-30) TAMRA-labeled samples.

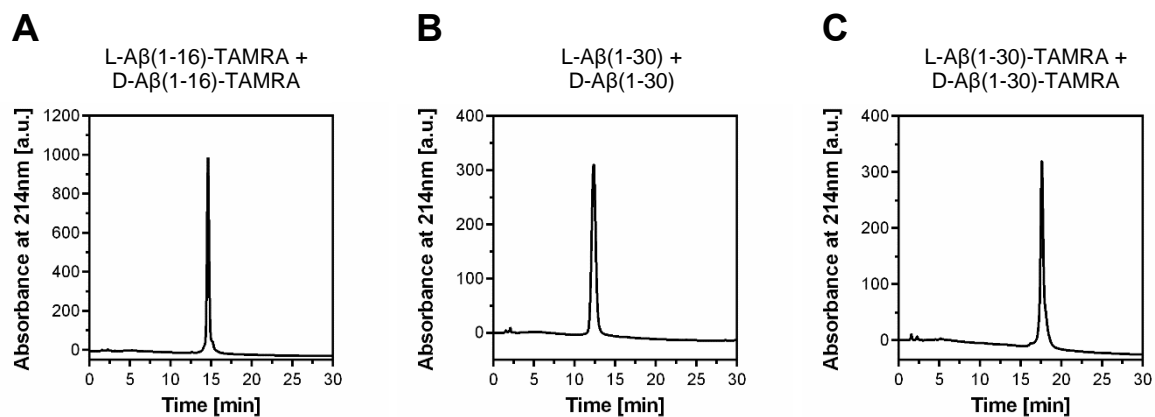


Figure S6. HPLC co-injection of enantiomeric pairs (1:1). Chromatograms of L+D mixtures of the peptides result in a single peak, confirming the expected retention similarity. (A) L-A β (1-16)-TAMRA + D-A β (1-16)-TAMRA. (B) L-A β (1-30) + D-A β (1-30). (C) L-A β (1-30)-TAMRA + D-A β (1-30)-TAMRA.

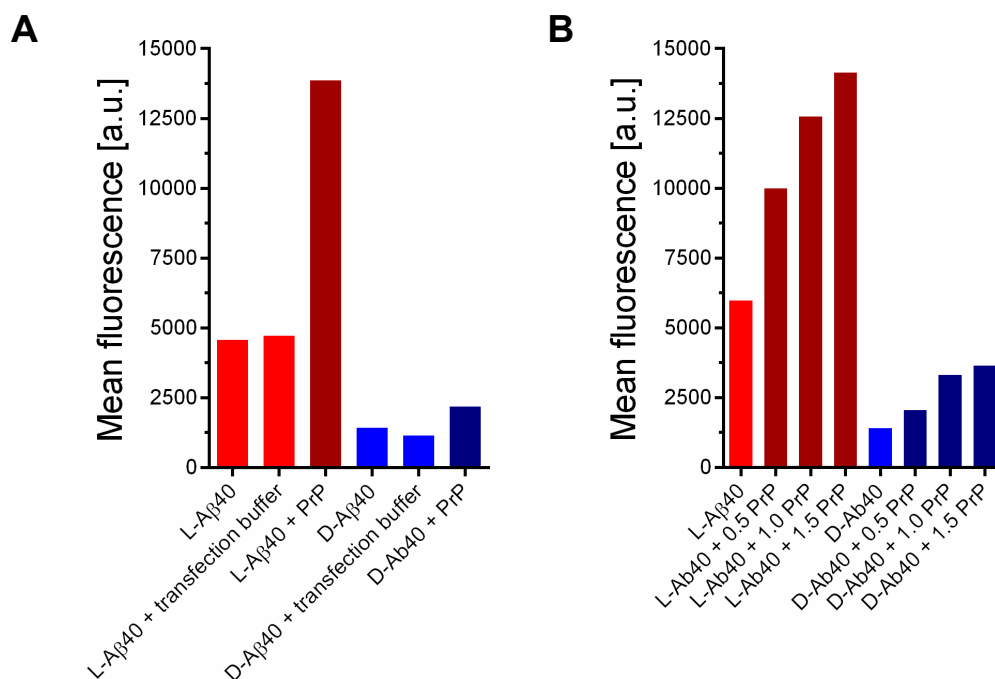


Figure S7. (A) Transfection buffer control for A β 40 uptake in HEK293T cells (2h incubation time). (B) PrP^C transfection titration dependence of A β uptake in HEK293T cells (2h incubation time).

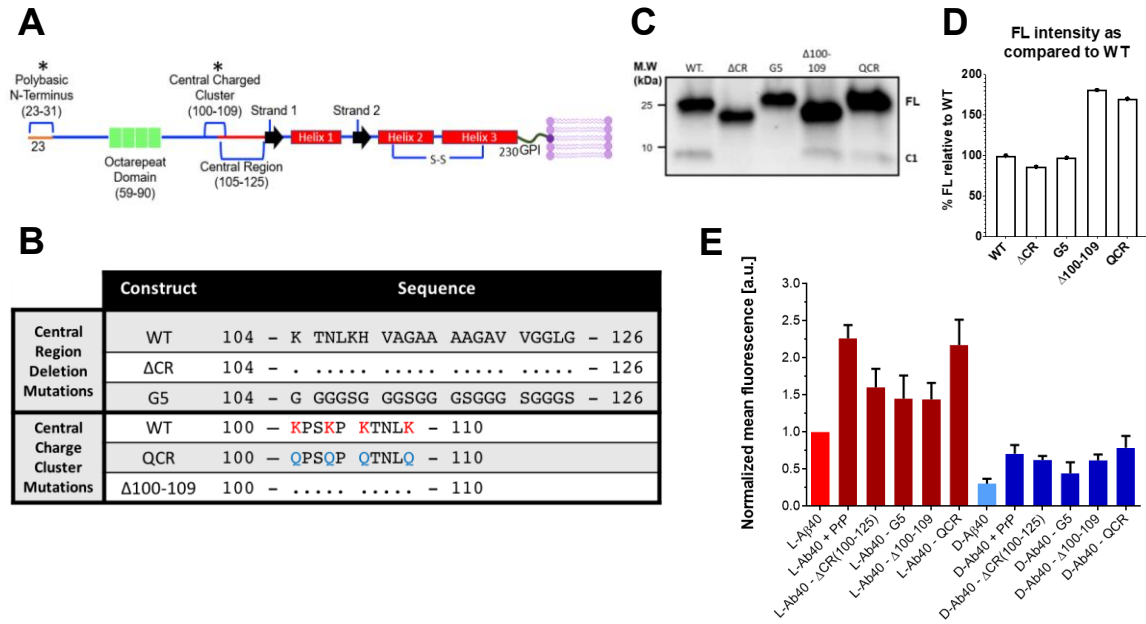


Figure S8. Mutations in PrP^C sequence and NMR binding site. (A) Scheme of PrP^C structure, with * indicating previously reported possible PrP^C-A β binding sites. (B) Mutations performed in transfected PrP^C. (C) Western blot showing expression of transfected PrP^C constructs. (D) Western blot intensity comparison (E) Mean flow cytometry quantitation of A β uptake for PrP^C and PrP^C constructs with error bars showing SD from 3 biological replicates.

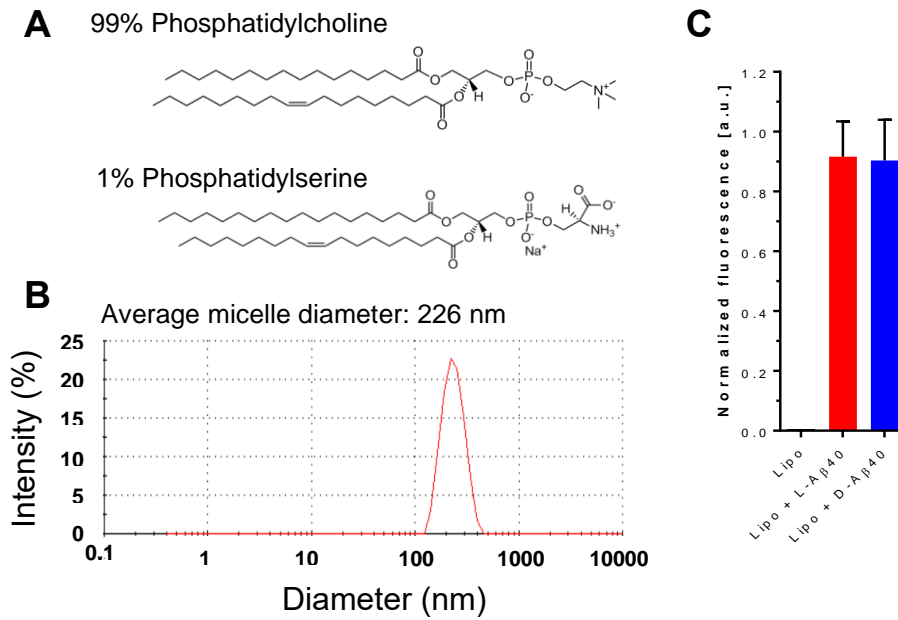


Figure S9. Liposome association of L-A β 40 and D-A β 40 in 99:1 PC:PS phospholipid micelles. (A) Phospholipid structures. (B) Dynamic Light Scattering (DLS) showing diameter distribution of the lipid micelles synthesized. (C) Lipid encapsulation quantitation by flow cytometry, showing average normalized value with error bars for SD of 2 technical replicates. Lipo: Liposomes control with no A β 40 dosing.

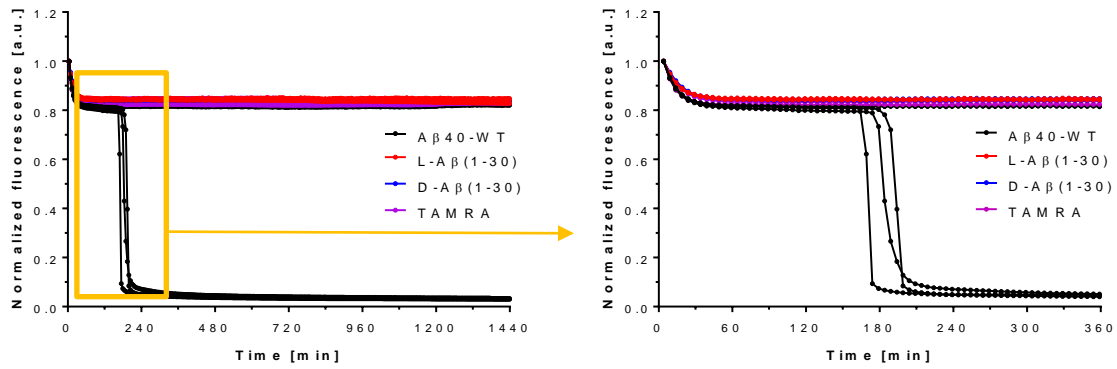


Figure S10. Aggregation kinetics monitored by TAMRA fluorescence for TAMRA alone and TAMRA-conjugated peptides at 5 μM concentration for all samples. Aggregation and fibril formation results in decay of fluorescence signal. Samples were run for at 37 $^{\circ}\text{C}$ in in 20mM phosphate buffer pH 7.4 with continuous shaking. Data show individual curves for 3 technical replicates. Note that L-A β (1-30), D-A β (1-30), and TAMRA curves overlap.

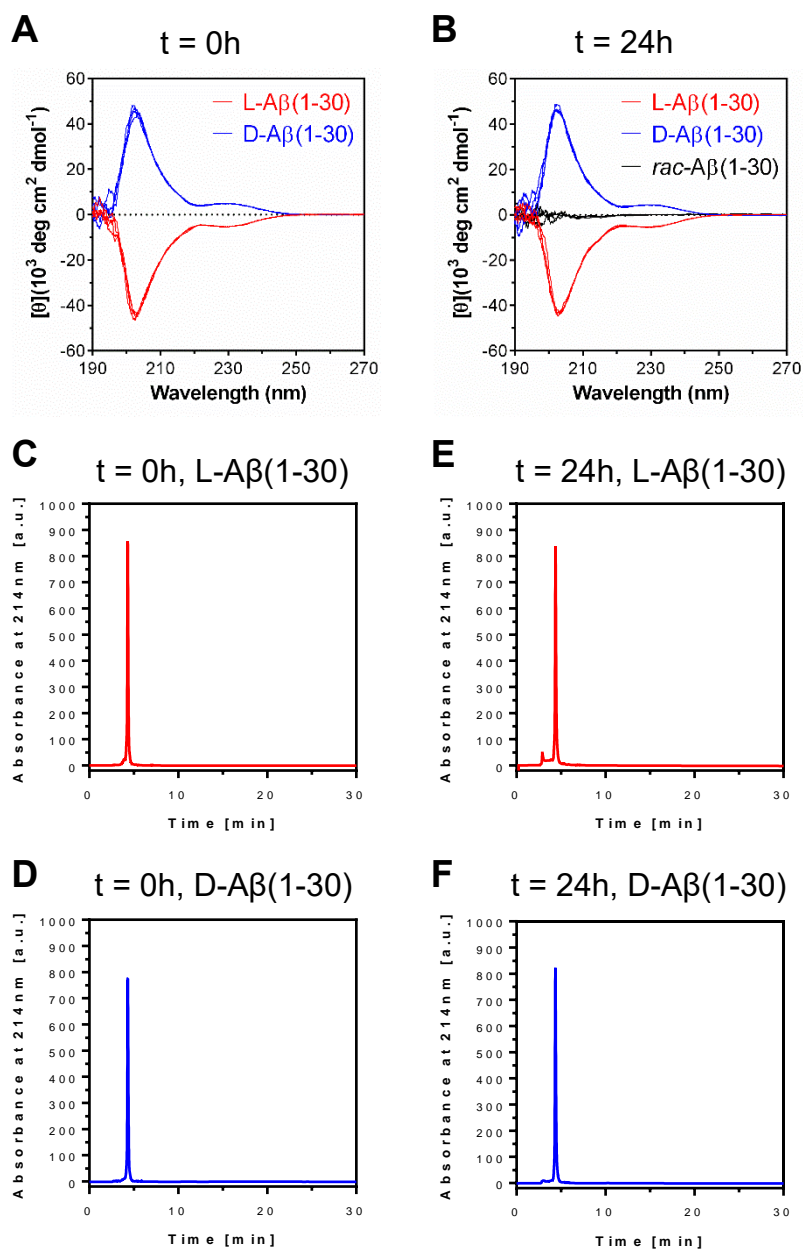


Figure S11. Aggregation state of L- and D- Aβ(1-30) peptides at 200 μM concentration (same concentration as NMR experiments). (A-B) CD spectroscopy curves for L-Aβ(1-30) and D-Aβ(1-30) at t=0 and after 24h incubation at 37 °C in 20mM phosphate buffer pH 7.4. Curves show random coil conformation in both cases. At the end of the 24h experiment, equal volumes of L- and D- Aβ(1-30) were mixed (rac-Aβ(1-30)) to obtain a flat line which confirms that similar species are present for the enantiomers. Four replicates are shown in each case. (C,E) Size exclusion chromatography for L-Aβ(1-30) at t=0 and after 24h incubation at 37 °C in 20mM phosphate buffer pH 7.4. (D,F) Size exclusion chromatography for L-Aβ(1-30) at t=0 and after 24h incubation at 37 °C in 20mM phosphate buffer pH 7.4.

Table S1. NMR data extracted from WT PrP^C sample and WT PrP^C and L-A β (1-30). Data includes the ω_N (ppm), ω_{HN} (ppm), and peak height for each assigned residue from each spectrum collected. Intensity ratio's (I/I₀) and weighted average chemical shifts (Δ) were calculated as described in the material and methods.

Assignment	100 μ M WT PrP ^C			100 μ M WT PrP ^C and 200 μ M L-A β (1-30)			Results	
	ω_N (ppm)	ω_{HN} (ppm)	Peak Height (I ₀)	ω_N (ppm)	ω_{HN} (ppm)	Peak Height (I ₀)	Intensity Ratio (I/I ₀)	Chemical Shift (Δ)
T94N-H	113.351	7.985	6424100	113.36	7.983	3019894	0.470088261	0.004215448
K100N-H	122.402	7.953	17950030	122.371	7.947	12638700	0.704104673	0.014119844
S102N-H	116.719	8.385	3242517	116.675	8.381	1120979	0.345712605	0.018577406
K103N-H	124.05	8.281	5787884	124.023	8.277	2398607	0.414418637	0.011829201
K105N-H	122.001	8.508	8902112	121.998	8.507	4289224	0.481820943	0.001590597
L108N-H	123.108	8.26	24243946	123.091	8.258	14864928	0.613139792	0.007289033
K109N-H	121.679	8.252	13555170	121.668	8.252	8684310	0.640664042	0.004535416
A112N-H	127.989	8.395	21615208	127.958	8.391	16654246	0.770487427	0.013392909
A114N-H	123.844	8.113	17861734	123.828	8.111	9870933	0.552630165	0.006893475
A115N-H	123.201	8.199	30383374	123.183	8.194	24863478	0.818325114	0.008948743
A116N-H	123.343	8.112	7835814	123.375	8.114	7278524	0.928879118	0.013344662
A117N-H	123.237	8.169	46948304	123.218	8.168	31380182	0.668398628	0.007897468
G118N-H	107.882	8.252	16956138	107.879	8.252	10436704	0.615511858	0.001236932
A119N-H	123.542	8.047	23887984	123.532	8.045	17431636	0.729724032	0.004582576
V120N-H	119.52	8.102	35979440	119.495	8.098	32017722	0.889889392	0.011056672
V121N-H	124.536	8.243	29050736	124.519	8.242	23827096	0.820189065	0.007080254
G122N-H	113.262	8.531	11129416	113.243	8.528	6709092	0.602825162	0.008388683
L124N-H	121.71	8.173	12121994	121.708	8.174	8971438	0.740095895	0.001296148
Y127N-H	117.99	7.817	9912163	117.996	7.821	9488505	0.957258774	0.00470319
M128N-H	121.441	9.092	3213702	121.448	9.092	3014108	0.93789281	0.002886174
G130N-H	114.948	9.37	1208061	114.957	9.368	991080	0.820389037	0.004215448
S131N-H	113.79	8.274	10024192	113.795	8.275	9122639	0.910062277	0.002291288
A132N-H	125.553	8.686	8212766	125.557	8.686	7566877	0.921355485	0.001649242
M133N-H	121.298	8.746	5057316	121.289	8.746	4475074	0.884871343	0.003710795
S134N-H	116.193	8.395	5751096	116.194	8.395	4465210	0.77641027	0.000412311
R135N-H	126.605	8.62	6128346	126.601	8.62	5427170	0.885584789	0.001649242
M137N-H	122.008	8.666	5063768	121.966	8.66	3997578	0.789447305	0.018327029
I138N-H	124.305	6.569	8414730	124.298	6.57	8066947	0.958669737	0.003054505
F140N-H	125.147	10.318	4311424	125.172	10.325	3745983	0.868850524	0.012459936
G141N-H	108.992	8.9	4153183	109.037	8.883	3191345	0.768409434	0.025164459
N142N-H	114.356	7.236	13369215	114.375	7.232	12114600	0.90615642	0.008796022
D143N-H	123.239	8.977	2663396	123.287	8.974	1463707	0.549564165	0.020016993
W144N-H	120.319	8.493	9552731	120.261	8.493	9427032	0.986841564	0.023914013
Y148N-H	120.858	8.243	8402322	120.832	8.239	7660228	0.91167989	0.011442028
Y149N-H	120.489	8.986	5913274	120.498	8.989	5371904	0.908448349	0.004771792
R150N-H	117.337	7.867	7133547	117.308	7.865	6750680	0.946328664	0.012123118
E151N-H	115.802	7.886	7709018	115.817	7.886	7245764	0.939907521	0.006184658
N152N-H	115.175	7.529	5747722	115.164	7.528	5821518	1.012839174	0.004644351
M153N-H	118.393	7.845	6417437	118.388	7.846	5927880	0.923714561	0.002291288
Y154N-H	116.584	7.552	6384978	116.571	7.55	6338655	0.992745002	0.005721014
R155N-H	118.875	7.489	5519562	118.872	7.489	5409473	0.980054758	0.001236932
Y156N-H	121.361	7.413	6100610	121.355	7.412	5861234	0.960761957	0.002668333
N158N-H	116.291	8.604	4979134	116.301	8.605	4030174	0.809412641	0.004242641
Q159N-H	114.431	7.272	8484909	114.427	7.273	8176128	0.963608213	0.00192873
V160N-H	112.65	8.415	5226684	112.644	8.413	4792602	0.916948872	0.003181195
Y162N-H	111.092	8.486	6066904	111.105	8.483	4460763	0.73526184	0.006142475
R163N-H	120.572	7.922	3298904	120.568	7.923	2808503	0.851344265	0.00192873
Q171N-H	119.961	8.627	1484388	119.965	8.621	963317	0.648965769	0.00622254
N172N-H	117.294	8.371	6562358	117.243	8.368	5328290	0.811947474	0.021240763
N173N-H	118.206	8.535	7794424	118.151	8.527	6385762	0.819273111	0.024046829
V175N-H	120.312	8.836	1897252	120.323	8.825	1824789	0.961806339	0.011898319
H176N-H	117.324	8.284	2150563	117.307	8.285	1858048	0.863982129	0.007080254
D177N-H	118.219	7.428	2827622	118.148	7.417	2360777	0.83489837	0.031272512
C178N-H	119.002	8.13	4817084	118.954	8.129	4618611	0.958798103	0.019816155
V179N-H	124.822	9.233	5488668	124.831	9.246	4932554	0.898679607	0.013519246
N180N-H	116.361	7.577	7626864	116.357	7.581	7075153	0.927662143	0.004326662

I181N-H	118.922	8.79	2502807	118.931	8.797	2632126	1.051669585	0.007922752
T182N-H	118.015	8.127	6209699	118.005	8.126	5780734	0.930920162	0.004242641
I183N-H	120.979	8.445	5048573	120.979	8.444	4326807	0.857035642	0.001
K184N-H	123.109	8.075	10107850	123.091	8.074	9565092	0.946303319	0.007488658
Q185N-H	117.084	8.508	6192122	117.092	8.51	5915419	0.955313703	0.00385746
T187N-H	114.775	8.482	4113032	114.788	8.487	3560518	0.865667469	0.007330075
T189N-H	115.193	8.149	8866311	115.187	8.151	8243462	0.929751054	0.003181195
T190N-H	114.527	8.016	7524849	114.52	8.016	6900086	0.916973351	0.002886174
T191N-H	118.116	8.232	8109748	118.12	8.232	6728460	0.829675595	0.001649242
T192N-H	116.268	7.787	5056456	116.264	7.785	3471103	0.686469535	0.002592296
K193N-H	120.027	7.843	19283854	120.023	7.843	16694135	0.86570532	0.001649242
G194N-H	107.838	7.892	8666257	107.816	7.889	7394852	0.853292488	0.009554057
E195N-H	119.861	7.507	7223036	119.86	7.506	6816574	0.943726987	0.001081665
N196N-H	119.463	8.503	11862763	119.448	8.503	10642914	0.897169909	0.006184658
F197N-H	121.7	8.712	9429347	121.697	8.714	9071685	0.962069272	0.002351595
T198N-H	115.876	9.563	4708860	115.861	9.564	4525244	0.961006273	0.006264982
E199N-H	119.993	9.155	5238926	119.989	9.157	4684064	0.894088598	0.002592296
T200N-H	116.519	7.92	6248851	116.519	7.918	5228702	0.836746147	0.002
D201N-H	120.189	7.433	9432615	120.186	7.431	8360230	0.886310954	0.002351595
K203N-H	119.101	7.678	7468032	119.089	7.677	7074695	0.947330568	0.005047772
M204N-H	118.401	8.147	7227908	118.382	8.147	6405634	0.886236239	0.007833901
M205N-H	118.175	8.677	6756188	118.169	8.676	6713302	0.993652338	0.002668333
E206N-H	118.881	8.549	7782566	118.889	8.551	7390547	0.949628567	0.00385746
R207N-H	116.724	7.253	7759989	116.702	7.252	7506032	0.967273536	0.009125788
V208N-H	119.035	8.22	6876130	119.015	8.219	6881002	1.000708538	0.008306624
V209N-H	121.199	9.124	4814300	121.203	9.126	4559622	0.947099682	0.002592296
Q211N-H	115.302	7.063	7254233	115.29	7.062	6477978	0.892992822	0.005047772
C213N-H	119.486	9.201	6035326	119.492	9.202	5288156	0.876200557	0.002668333
V214N-H	123.585	8.481	6191588	123.582	8.482	5234774	0.845465493	0.001590597
T215N-H	118.049	8.086	7364434	118.042	8.086	7191682	0.976542393	0.002886174
Q216N-H	122.552	8.674	4507784	122.556	8.673	4391530	0.974210388	0.00192873
Y217N-H	120.145	8.559	4821923	120.138	8.559	4509910	0.935292828	0.002886174
Q218N-H	119.663	8.214	11185052	119.661	8.213	11414723	1.020533745	0.001296148
E220N-H	118.239	8.376	5242058	118.244	8.378	5147454	0.981952889	0.002872281
S221N-H	115.038	8.343	3064523	115.044	8.342	2806842	0.91591481	0.002668333
Q222N-H	119.911	7.58	4464875	119.918	7.583	3623634	0.811586887	0.004162932
A223N-H	120.717	7.578	19668042	120.711	7.579	18515702	0.941410538	0.002668333
Y224N-H	118.863	7.89	24954530	118.855	7.892	22608668	0.905994543	0.00385746
D226N-H	121.005	8.181	19005454	120.994	8.181	15290480	0.804531162	0.004535416
G227N-H	108.015	7.826	17143192	108.012	7.827	15098134	0.88070728	0.001590597
R229N-H	122.468	8.218	15411889	122.467	8.217	10924686	0.708847955	0.001081665
S230N-H	122.686	7.953	56243100	122.676	7.953	56165860	0.998626676	0.004123106

Table S2. NMR data extracted from WT PrP^C sample and WT PrP^C and D-A β (1-30). Data includes the ω_N (ppm), ω_{HN} (ppm), and peak height for each assigned residue from each spectrum collected. Intensity ratio's (I/I₀) and weighted average chemical shifts (Δ) were calculated as described in the material and methods.

Assignment	100 μ M WT PrP ^C			100 μ M WT PrP ^C and 200 μ M L-A β (1-30)			Results	
	ω_N (ppm)	ω_{HN} (ppm)	Peak Height (I ₀)	ω_N (ppm)	ω_{HN} (ppm)	Peak Height (I ₀)	Intensity Ratio (I/I ₀)	Chemical Shift (Δ)
T94N-H	113.352	7.986	7599211	113.353	7.987	9010806	1.185755469	0.001081665
K100N-H	122.407	7.957	18201508	122.443	7.962	19434664	1.067750211	0.015662695
S102N-H	116.749	8.391	4961444	116.77	8.393	6767177	1.363953115	0.008886507
K103N-H	124.062	8.288	7353367	124.073	8.29	9226588	1.254743303	0.004956813
K105N-H	122.001	8.507	12545061	122.005	8.507	14251673	1.136038557	0.001649242
L108N-H	123.122	8.265	28239366	123.135	8.267	28681440	1.01565453	0.005721014
K109N-H	121.681	8.255	15919620	121.681	8.255	16863918	1.059316617	0
A112N-H	128.014	8.402	27872390	128.032	8.406	27081234	0.971615064	0.008430896
A114N-H	123.844	8.114	21248888	123.851	8.116	23128564	1.08845997	0.00351141
A115N-H	123.213	8.204	33714788	123.226	8.205	33952244	1.007043082	0.005452522
A116N-H	123.356	8.11	7722185	123.35	8.109	7288922	0.94389373	0.002668333
A117N-H	123.248	8.172	55127228	123.259	8.173	54284956	0.984721307	0.004644351
G118N-H	107.872	8.256	18917360	107.88	8.257	20443480	1.08067299	0.003446738
A119N-H	123.541	8.049	27529366	123.545	8.05	27166442	0.986816841	0.00192873
V120N-H	119.53	8.103	42597488	119.539	8.104	44074188	1.034666363	0.003843176
V121N-H	124.543	8.247	29381036	124.551	8.248	26526814	0.902854957	0.003446738
G122N-H	113.267	8.531	14296060	113.272	8.533	15532709	1.086502785	0.002872281
L124N-H	121.712	8.172	13385230	121.715	8.172	14450449	1.079581673	0.001236932
Y127N-H	117.984	7.82	9945982	117.984	7.818	9790498	0.984367154	0.002
M128N-H	121.441	9.09	2881365	121.441	9.091	3007414	1.04374628	0.001
G130N-H	114.972	9.365	1117235	114.987	9.371	973903	0.87170828	0.008616844
S131N-H	113.771	8.276	10893098	113.766	8.276	11363523	1.043185602	0.002061553
A132N-H	125.548	8.688	8619931	125.539	8.689	8563679	0.993474194	0.003843176
M133N-H	121.301	8.752	5308498	121.309	8.754	5647340	1.063830108	0.00385746
S134N-H	116.183	8.398	7135180	116.183	8.398	7652020	1.072435454	0
R135N-H	126.602	8.621	7081700	126.606	8.622	7040720	0.994213254	0.00192873
M137N-H	122.022	8.67	5193312	122.048	8.674	5452964	1.049997381	0.011442028
I138N-H	124.302	6.57	9883306	124.307	6.57	10123269	1.024279629	0.002061553
F140N-H	125.12	10.315	4479014	125.109	10.31	4775168	1.066120356	0.006750556
G141N-H	108.965	8.915	4440792	108.946	8.925	4743104	1.068076145	0.012703149
N142N-H	114.331	7.239	13397423	114.316	7.241	14091570	1.051811979	0.0065
D143N-H	123.182	8.975	3279674	123.165	8.977	4083602	1.245124363	0.007289033
W144N-H	120.353	8.493	9968630	120.378	8.493	9546909	0.95769519	0.010307764
Y148N-H	120.875	8.248	7633424	120.901	8.252	8254200	1.081323401	0.011442028
Y149N-H	120.468	8.984	5219158	120.459	8.982	5610992	1.075076095	0.004215448
R150N-H	117.344	7.87	7145774	117.352	7.872	6975852	0.976220631	0.00385746
E151N-H	115.792	7.889	7511505	115.788	7.89	7602953	1.012174391	0.00192873
N152N-H	115.174	7.53	6912278	115.181	7.531	7393772	1.069657789	0.003054505
M153N-H	118.381	7.848	6395594	118.378	7.847	6378846	0.997381322	0.001590597
Y154N-H	116.561	7.552	7140714	116.568	7.553	7532937	1.054927701	0.003054505
R155N-H	118.87	7.49	5943372	118.863	7.491	6064672	1.02040929	0.003054505
Y156N-H	121.343	7.415	7744109	121.337	7.415	8045284	1.038890852	0.002473863
N158N-H	116.27	8.601	5806276	116.266	8.6	5917625	1.019177352	0.00192873
Q159N-H	114.417	7.273	10073591	114.416	7.273	9969974	0.989713996	0.000412311
V160N-H	112.648	8.418	5705808	112.649	8.419	5389332	0.944534411	0.001081665
Y162N-H	111.084	8.486	7230830	111.08	8.488	7079639	0.979090782	0.002592296
R163N-H	120.584	7.925	2765741	120.611	7.922	2630220	0.951000112	0.011529527
Q171N-H	120.011	8.625	1412379	120.021	8.628	1573185	1.113854709	0.00509902
N172N-H	117.284	8.372	7607164	117.252	8.375	7878228	1.035632727	0.013530706
N173N-H	118.251	8.54	8278934	118.281	8.545	7451961	0.900111174	0.013341664
V175N-H	120.3	8.851	1640570	120.294	8.86	1430491	0.871947555	0.00933381
H176N-H	117.303	8.289	1705571	117.315	8.291	1692911	0.992577266	0.005336666
D177N-H	118.253	7.435	2497870	118.291	7.444	2410560	0.965046219	0.018068758
C178N-H	119.006	8.128	4915970	119.03	8.129	4706814	0.957453768	0.009945853
V179N-H	124.811	9.228	5979134	124.801	9.22	5884665	0.98420022	0.009
N180N-H	116.357	7.575	8160881	116.359	7.572	8376263	1.026392004	0.00311127

I181N-H	118.923	8.79	2078953	118.928	8.787	2055541	0.988738562	0.003640055
T182N-H	117.999	8.127	6527006	118	8.128	6365856	0.975310272	0.001081665
I183N-H	120.955	8.447	5263040	120.97	8.447	5661556	1.075719736	0.006184658
K184N-H	123.11	8.072	7889451	123.105	8.072	7735666	0.980507516	0.002061553
Q185N-H	117.075	8.505	6828934	117.064	8.503	6747572	0.988085695	0.004956813
T187N-H	114.77	8.479	4713188	114.77	8.477	4410362	0.935749221	0.002
T189N-H	115.185	8.149	10348718	115.189	8.148	10071270	0.973190109	0.00192873
T190N-H	114.523	8.015	7628314	114.534	8.015	7811226	1.023978038	0.004535416
T191N-H	118.099	8.235	8964452	118.076	8.235	9083653	1.013297076	0.009483143
T192N-H	116.263	7.79	5647434	116.265	7.791	6644770	1.17659985	0.001296148
K193N-H	120.019	7.846	19206682	120.02	7.845	18371274	0.956504304	0.001081665
G194N-H	107.845	7.896	7783320	107.86	7.899	8419995	1.081799926	0.006873864
E195N-H	119.867	7.507	8017998	119.867	7.508	8144990	1.015838368	0.001
N196N-H	119.458	8.502	14097840	119.464	8.502	14106116	1.00058704	0.002473863
F197N-H	121.696	8.713	9995051	121.698	8.712	9846834	0.985170961	0.001296148
T198N-H	115.884	9.564	4842063	115.902	9.564	4576374	0.945128967	0.00742159
E199N-H	119.999	9.157	5809536	119.98	9.156	5965154	1.026786649	0.007897468
T200N-H	116.512	7.923	6385032	116.519	7.923	6858965	1.074225626	0.002886174
D201N-H	120.198	7.438	10432314	120.236	7.443	10702344	1.025883999	0.016446276
K203N-H	119.105	7.679	7832155	119.11	7.68	7991847	1.02038928	0.002291288
M204N-H	118.395	8.148	7529192	118.406	8.149	7764990	1.031317836	0.004644351
M205N-H	118.174	8.68	6901240	118.179	8.681	7195948	1.04270363	0.002291288
E206N-H	118.871	8.546	7588830	118.862	8.544	8030802	1.058239808	0.004215448
R207N-H	116.733	7.254	8124218	116.743	7.255	8199380	1.009251598	0.004242641
V208N-H	119.013	8.224	7428010	119.006	8.224	7740686	1.042094181	0.002886174
V209N-H	121.195	9.123	5245350	121.193	9.123	5534516	1.055128066	0.000824621
Q211N-H	115.304	7.066	7135840	115.31	7.067	7321592	1.026030853	0.002668333
C213N-H	119.478	9.204	6810310	119.469	9.204	6720913	0.986873285	0.003710795
V214N-H	123.589	8.478	6784410	123.598	8.477	6675074	0.983884229	0.003843176
T215N-H	118.058	8.083	7947930	118.051	8.083	7953478	1.000698043	0.002886174
Q216N-H	122.541	8.676	4918546	122.539	8.677	4898336	0.995891062	0.001296148
Y217N-H	120.126	8.557	5298240	120.127	8.558	4969368	0.937928067	0.001081665
Q218N-H	119.665	8.218	10376212	119.662	8.219	10254456	0.988265853	0.001590597
E220N-H	118.222	8.38	5284200	118.219	8.378	5326260	1.007959578	0.002351595
S221N-H	115.028	8.345	2681182	115.025	8.346	2405050	0.897011094	0.001590597
Q222N-H	119.887	7.58	5162835	119.88	7.577	4922432	0.953435855	0.004162932
A223N-H	120.71	7.578	20943726	120.712	7.578	20585298	0.98288614	0.000824621
Y224N-H	118.862	7.892	22790502	118.864	7.892	20519744	0.900363845	0.000824621
D226N-H	121.007	8.181	19559656	121.023	8.181	19300792	0.986765411	0.006596969
G227N-H	108.012	7.829	17316842	108.01	7.829	17630138	1.018091982	0.000824621
R229N-H	122.466	8.22	19734834	122.463	8.22	21075528	1.067935408	0.001236932
S230N-H	122.679	7.953	56587056	122.681	7.953	52432520	0.926581514	0.000824621