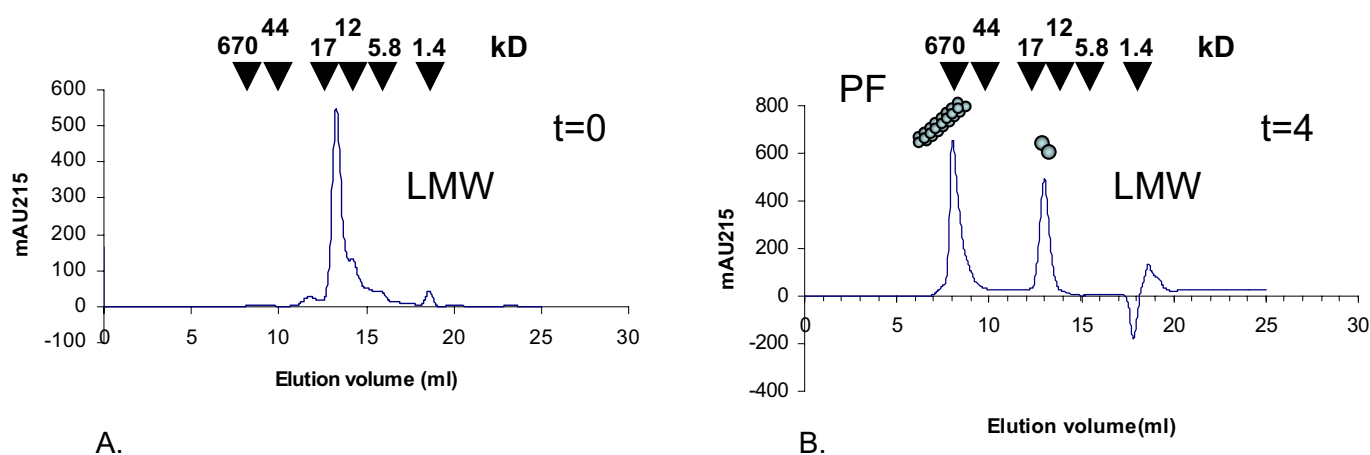


# Supporting Information

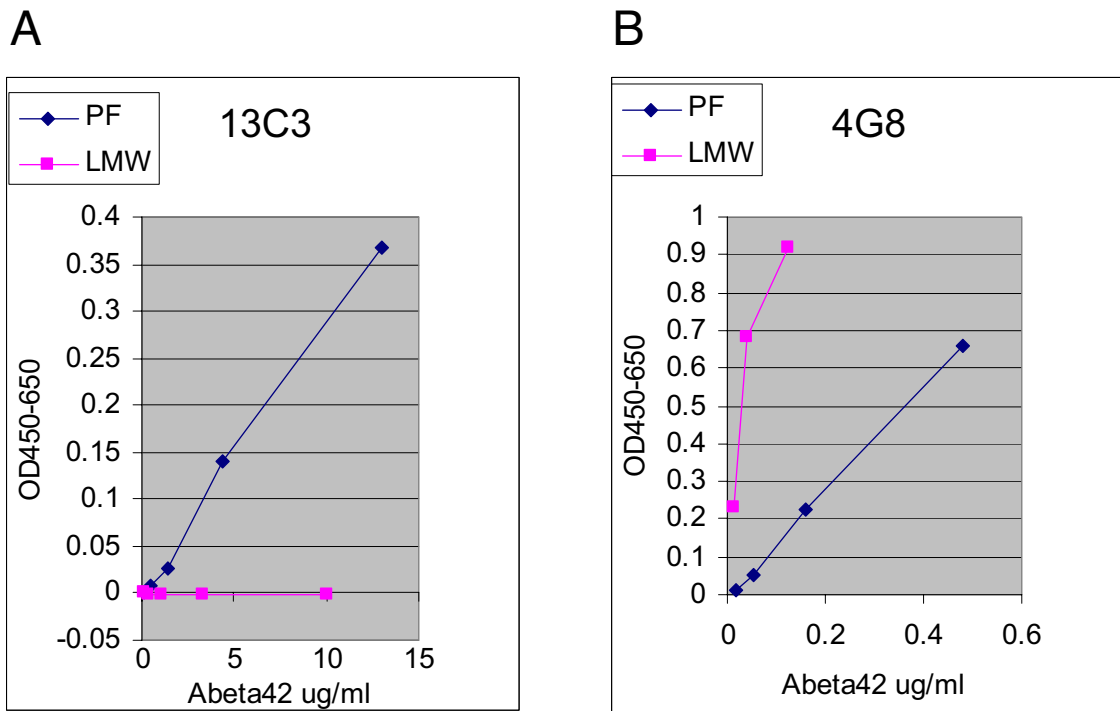
Schupf *et al.* 10.1073/pnas.0805902105



**Fig. S1.** Separating protofibrillar A $\beta$ 42 and low molecular weight (LMW) A $\beta$ 42. To purify the protofibrillar form of A $\beta$  from the LMW proteins, samples were fractionated with an AKTA chromatography system by using a Superdex 75 size-exclusion column. (A) Without incubation, the A $\beta$ 42 synthetic peptides migrate as a LMW form at room temperature. (B) After a 4-h incubation at room temperature, the A $\beta$ 42 synthetic peptides migrate as a high-molecular weight protofibrillar fraction.

Name	source	epitope	isotype	BIACORE Binding Assay		
				LMW	PF	Ratio(PF/LMW)
<b>13C3</b>	<b>Ravetch</b>	<b>structure</b>	IgG <sub>1</sub>	9.8	51.6	<b>5.3</b>
<b>19A6</b>	<b>Ravetch</b>	<i>NT</i>	IgG <sub>3</sub>	2.3	13.3	<b>5.8</b>
<b>1D1</b>	<b>Ravetch</b>	<b>structure</b>	IgG <sub>1</sub>	<i>NT</i>	<i>NT</i>	<i>NT</i>
4G8	Senetec Inc.	A $\beta$ 17-22	IgG2 <sub>b</sub>	75.1	33.4	0.4
6E10	Senetec Inc.	A $\beta$ 3-8	IgG2 <sub>b</sub>	28.2	28.5	1.0
3D6	Lilly	A $\beta$ 1-5	IgG2 <sub>b</sub>	312.0	234.6	0.8

**Fig. S2.** Specificity of monoclonal antibodies to the protofibrillar form of A $\beta$ 42 using surface plasmon resonance (Biacore). The purified monoclonal antibodies listed were immobilized to a Biacore sensor chip. The high sensitivity of the Biacore optical response quantified a change in reflectivity, and a baseline response for the ligand alone was generated. The interaction analysis was performed as the analytes, the LMW form or the PF form of A $\beta$ 42, were injected in solution over the sensor chip and the change in surface plasmon resonance generated a response identifying the specificity of each antibody's ability to bind LMW and PF A $\beta$ 42. Both the 13C3 and the 19A6 antibodies bound the PF form of A $\beta$ 42 with higher specificity than the LMW form. The other commercial antibodies showed higher specificity for the LMW A $\beta$ 42 over the PF form of A $\beta$ 42.



**Fig. S3.** The protofibrillar (PF) and the LMW forms of the  $A\beta_{42}$  peptide were used to test the specificity of the 13C3 antibody in antibody-capture immunoassays. 3D6 was used as the capture antibody in these experiments. (A) The plot generated from the ELISA data showed that the 13C3 antibody is specific for the protofibrillar form of  $A\beta_{42}$  and does not recognize the LMW forms of the protein. (B) The ELISA data, with the commercially available 4G8 antibody, showed that it recognized both the LMW and the protofibrillar forms of the  $A\beta_{42}$  protein.