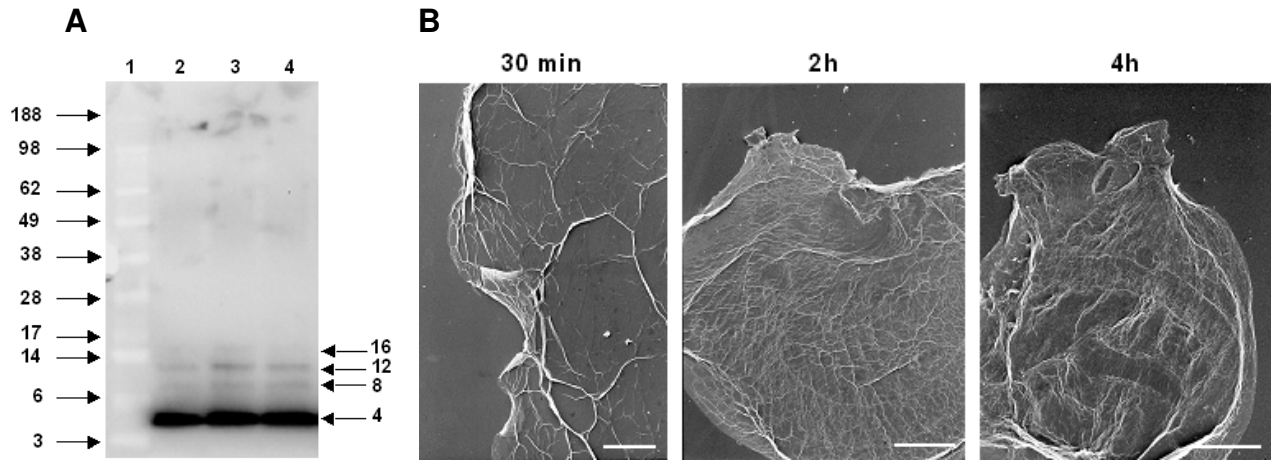

Figure 1: Representative immunoblot showed Aβ42 after its incubation for 48 h and then 30 min (lane 2), 2 h (lane 3) or 4 h (lane 4) in the culture medium at 37°C (***A***). Lane 1 contains a protein standard (Precision Plus Protein All Blue Standards, Bio-Rad Laboratories, Marnes-la-Coquette, France) to determine the molecular weights of Aβ42 oligomers. The anti-amyloid antibody recognizes a specific band at 4 kDa for monomeric form and three oligomers at 8, 12 and 16 kDa under non-denaturing conditions. This anti-amyloid antibody (clone 4G8) specifically recognizes between amino acids 18 and 22. Aβ42 fibrils were visualized by scanning electron microscopy on coverslips incubated with 20µM Aβ42 in the same experimental conditions. The Aβ42 fibril network was denser at 2 h and 4 h than at 30 min incubation. Bars: 100 µm (***B***).

Scanning electron microscopy for Aβ42 fibrils visualization. Aβ42 was incubated for 48 h at 37°C and added in medium containing coverslips for 30 min, 2 h and 4 h. Coverslips with Aβ42 deposits were fixed for 2 h at 4°C with 100µM phosphate buffer (pH 7,4) containing 3% glutaraldehyde. After several rinses, they were post-fixed 1 h in 1% osmium tetroxide. Coverslips were washed again and dehydrated in acetone and dried by critical point drying (BAL-TEC CPD 030) using acetone and liquid carbon dioxide as the transition fluid. The

dried specimens were coated with gold (25-35 nm thickness) using a sputtering device (BAL-TEC LCD 005). The samples were examined in a JEOL JSM-840 electron microscope.

State of exogenous *Aβ*42 assembly in SH-SY5Y cell cultures. In **Figure SF1**, we showed that the major form of exogenous A*β*42 in the medium was the monomeric form (***A***). However, oligomers were also detected at 8, 12 and 16 kDa, particularly after 2 h and 4 h of 20µM A*β*42 treatment (***A***). By scanning electron microscopy, A*β*42 fibrils were observed as early as 30 min and sparingly distributed whereas the network of A*β*42 fibrils was highly dense after 2 h and 4 h of 20µM A*β*42 treatment (***B***).