Supplemental Movies: BV-2 cells were plated on culture plates at a density of $6x10^5$ cells/well. On the day of imaging the media was replaced with fresh serum free DMEM. Live cell imaging was performed on the Zeiss LSM 510 confocal microscope using a heated stage. Both Cy3- Aβ (2μg/mL) and Lysotracker (Molecular Probes, Green DND-26) were added to the culture media simultaneously at the time of imaging. Frames were taken every 45 sec for 20 min. Uptake of Cy3-sAβ can be seen in supplemental movie 1. Colocalization of sAβ into Lysotracker vesicles can be seen in supplemental movie 2.