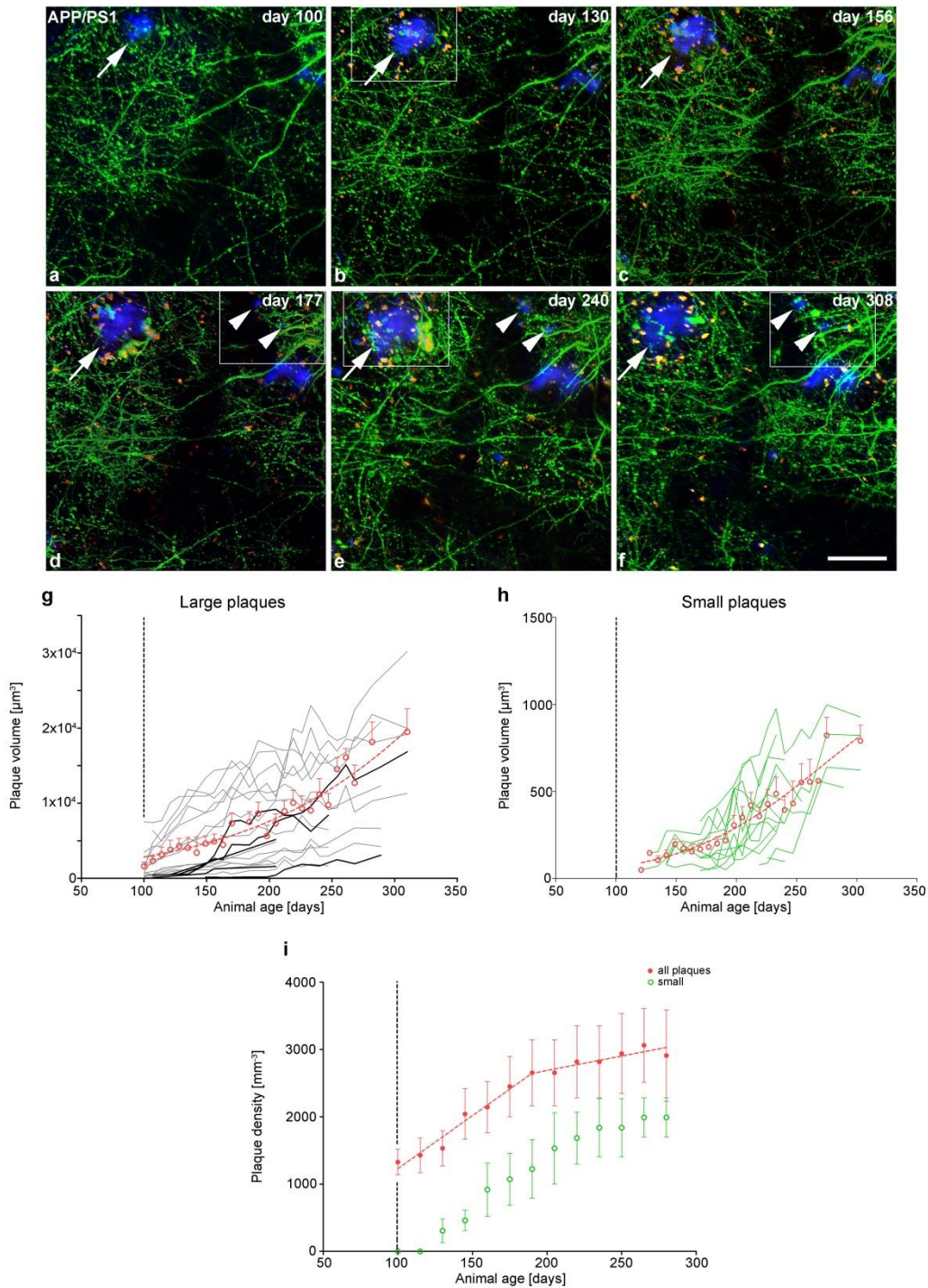


SUPPLEMENTARY FIGURE 5

High plasticity of axonal pathology in Alzheimer's disease mouse models

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Supplementary Fig. 5 Relationship between A β plaques and AxDs formation and development. Quantitative analysis of different types of A β plaques. (a-f), Maximum projection of images (136 images, $z = 0.3 \mu\text{m}$) showing GFP-expressing neurites and the formation and growth of different types of A β plaques over time in the supragranular layers of the somatosensory cortex of the APP-PS1 mouse (two-photon microscopy). An A β plaque that reaches a large volume is pointed out by an arrow. Arrowheads point out small plaques. Rectangles in **b**, **e** surround the region shown in Fig. 8 a, b, respectively. Rectangles in **d**, **f** surround the region shown in Fig. 8 c, d, respectively. Note that most AxDs were formed and developed during the imaging period, and numerous AxDs had already disappeared by the end of this time (see A β plaque pointed out by an arrow). (**g**, **h**), Graphs showing the volume of large A β plaques (both pre-existing plaques, gray lines; and plaques that appeared during the imaging period, black lines) (**g**) and small A β plaques (**h**) in the animal lifetime. Open red circles show the mean \pm SEM volume over time for large (**g**) and small (**h**) A β plaques. Dashed red line shows the fitted sigmoid curve for large (R^2 0.36) and small A β plaques (R^2 0.45); the inflection point of the function is expected at day 408 in **g** and at day 271 in **h**. (**i**), Graph showing the density of A β plaques in the animal age (mean \pm SEM) (red circles). Dashed red lines correspond to the two fitted regression lines (R^2 0.28); both lines intercept at day 190. The slope is $15.75 \pm 6.34 \mu\text{m}^3/\text{day}$ for the first line and $4.28 \pm 5.45 \mu\text{m}^3/\text{day}$ for the second line. The density of small A β plaques against animal age (mean \pm SEM) (green open circles) has been also represented. Scale bar (in **f**): $42.7 \mu\text{m}$ in **a-f**