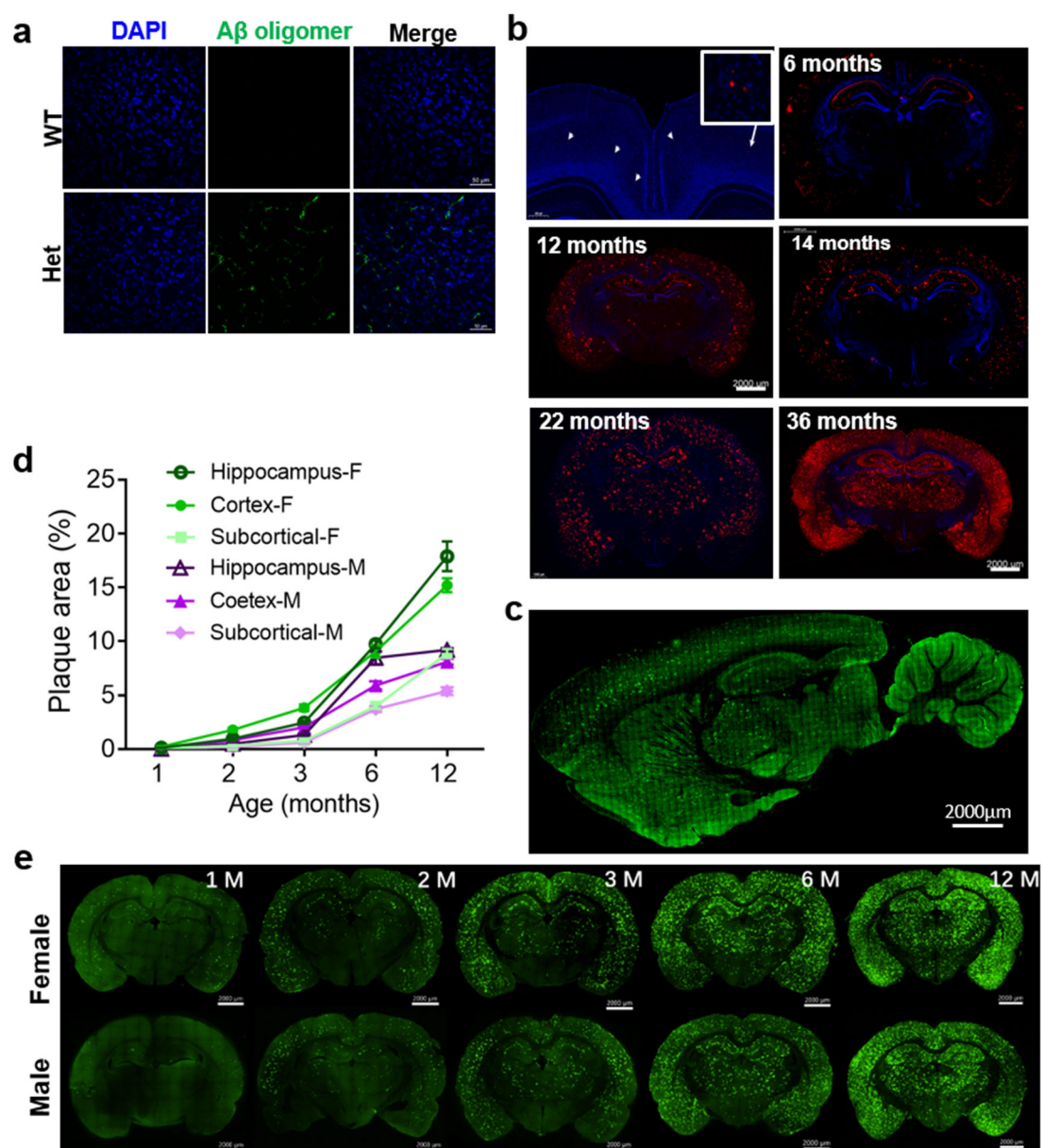


**Fig. S2**



**Fig. S2. A $\beta$  pathology in *App*<sup>NL-G-F</sup> rat brains.**

**a**, Expression of A $\beta$  oligomers in Heterozygous (Hetero) *App*<sup>NL-G-F</sup> rats. The experiments were performed exactly the same as in (**Fig. 1d**) except 3-month-old WT and Hetero rat brain sections were used. A $\beta$  oligomers were detected by an A $\beta$  oligomer-specific monoclonal antibody (OMAB). n=4 pairs of rats. **b**, A gradual increase in A $\beta$  deposition with age in heterozygous *App*<sup>NL-G-F</sup> brains. Brain sections from different ages (as indicated) of heterozygous *App*<sup>NL-G-F</sup> rats were stained with the anti-A $\beta$  antibody (red) and DAPI-staining for nuclei (blue). Images were captured with the Light-sheet fluorescent microscope. Arrows indicate representative plaques. Scale bars represent 2000  $\mu$ m. **c**, Representative microphotographs showing the lack of A $\beta$  deposition in the cerebellum of *App*<sup>NL-G-F</sup> rat. Cerebellum sections from 10-month-old homozygous *App*<sup>NL-G-F</sup> rats were stained with an antibody specific for A $\beta$  plaques and images were captured with the high-speed confocal microscope (Andor Dragonfly). Scale bars represent 2000  $\mu$ m. **d, e**, A $\beta$  deposition in female *App*<sup>NL-G-F</sup> rat brains. Brain sections from different ages of female and male homozygous *App*<sup>NL-G-F</sup> rats were stained with an antibody specific for A $\beta$  plaques and images were captured with a light-sheet fluorescence microscope (**e**). Quantification of the plaque areas for different brain regions is shown in (**d**). F: female; M: male. n=5-6 rats for each time point, Scale bars: 2000  $\mu$ m.