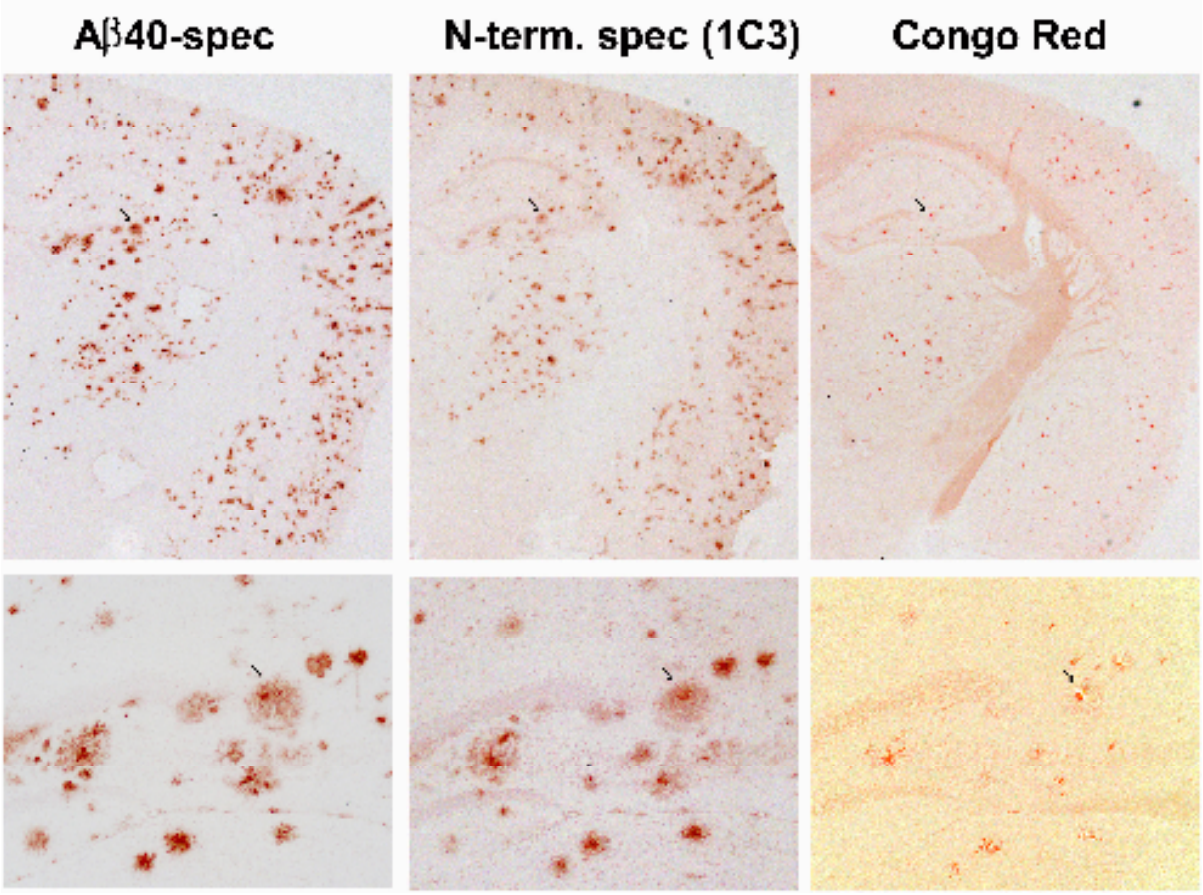
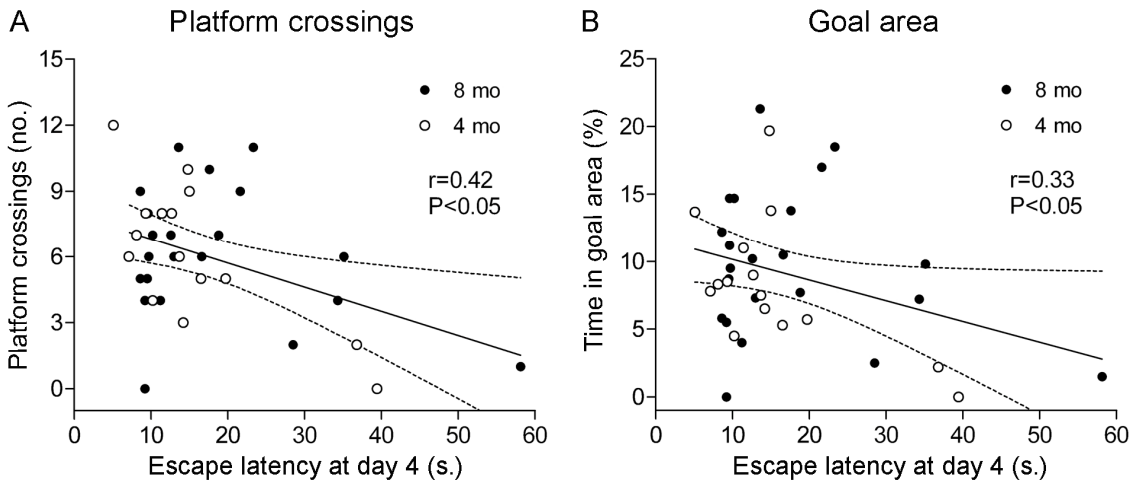
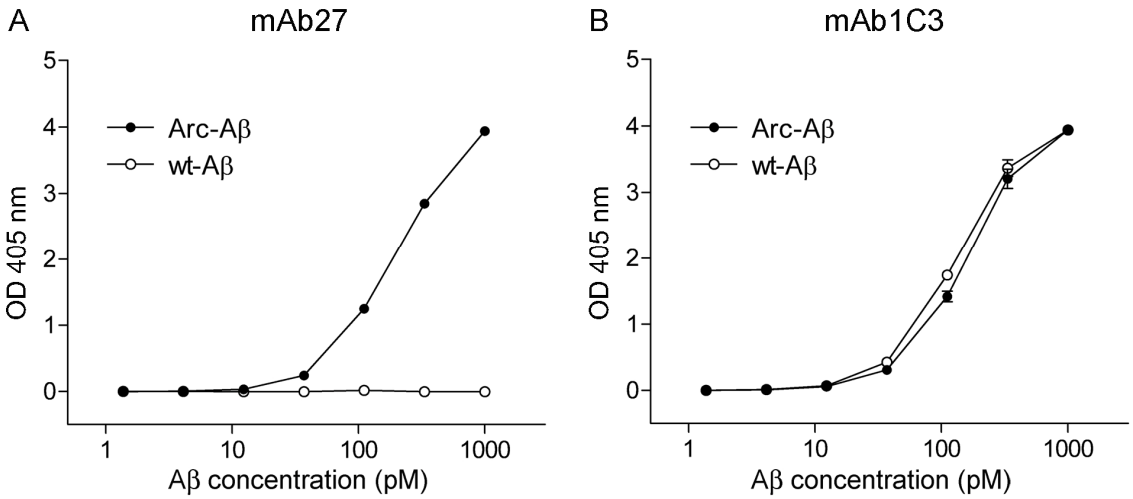
Supplementary material



Supplementary figure 1: Anti-Aβ immunostaining in tg-ArcSwe mouse brain. Immunostaining with an anti-Aβ40 specific antibody (Aβ40-spec, left panel) and an N-terminal antibody (1C3, central panel) both labelled the same Aβ deposits in adjacent tg-ArcSwe brain sections. A consecutive section was stained with Congo red (right panel) to show cored plaques with amyloid. Lower panels are magnifications of upper panels. The arrow marks a single plaque that is seen in the hippocampus on all sections. Congo red staining was captured either in bright field (upper) or in plane polarized light (lower).



Supplementary figure 2: Probe trial measurements. (**A**) At the last day of training average escape latencies inversely correlated with the numbers of platform crossings. (**B**) Escape latencies also inversely correlated with time spent in goal area. Goal area represents 2.5% of the total pool area and is defined as a circle area with 2× the diameter of the platform. The goal area is located where the platform was positioned during acquisition phase. The results suggest that spatial search strategies were used by most animals examined.



Supplementary figure 3: mAb27 characterization. ELISA plates were coated over night with an Aβ40-specific antibody (2 µg/ml) and wells were blocked with 1% BSA in PBS. Aβ1-40 with the Arctic E22G mutation (Arc-Aβ) and wild type Aβ1-40 (wt-Aβ) peptides were added in series ranging from 1.4 pM to 1000 pM. (**A**) The antibody mAb27 (0.5 µg/ml), a monoclonal IgG1 antibody that is highly selective for Arctic Aβ peptides, was used for detection. (**B**) If instead mAb1C3 (epitope; Aβ3-8, described in [19]) was used, Arc-Aβ and wt-Aβ were equally well detected. The results verify that mAb27 is highly selective for Arc-Aβ.