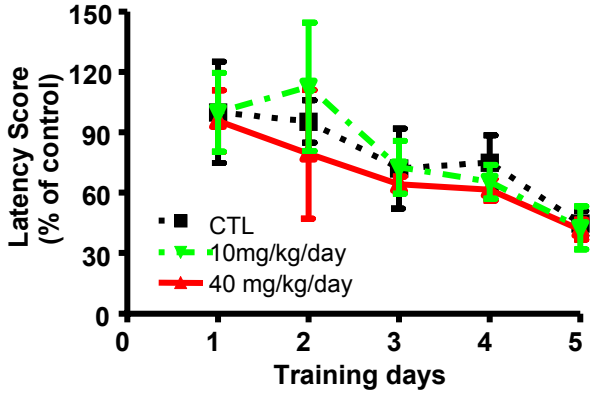
Supplementary figure 1. Chronic valsartan treatment does not affect spatial memory function in strain-, age- and gender-matched wild type animals. Spatial memory in response to 5 months valsartan treatment at 10 and 40 mg/kg/day *vs.* the untreated control wild type mice was assessed using Morris water maze test in ~11-month old female mice. Latency score represents time taken to escape to the platform from the water.

Supplementary figure 2. **Chronic valsartan treatment improves spatial memory function in Tg2576 mice**. (A) Hidden-platform acquisition curves. Tg2576 mice chronically treated with either10 or 40 mg/kg/day valsartan performed significantly better than the water control group (10 mg/kg/day valsartan vs. water control: $p<0.05$ for drug treatment; $p<0.05$ for training days; 40 mg/kg/day *vs*. water control: $p<0.01$ for drug treatment and $p<0.05$ for training days. 2-way ANOVA). There is no significant difference between the 10 mg/kg/day and the 40 mg/kg/day ($p=0.89$) (B) Probe trial 24 hours after completion of hidden-platform training. Tg2576 mice treated with either10 or 40 mg/kg/day valsartan exhibited a significantly higher preference for the target platform compared to the water treated control animals ($p<0.05$ for both10 and 40 mg/kg/day valsartan vs. water control animals, 2-tailed student t-test). (C) Visible-platform learning curves. There is no significant difference in visible-platform performance in animals chronically treated with either 10mg/kg/day or 40 mg/kg/day valsartan compared to the water treated control Tg2576 mice. (D) Average swimming speed. There is no significant difference in swimming ability

of the animals treated with valsartan vs. the control animals. Values represents group mean values (±SEM); n=7-9 mice per group.

Supplementary Figure 1



Supplementary Figure 2