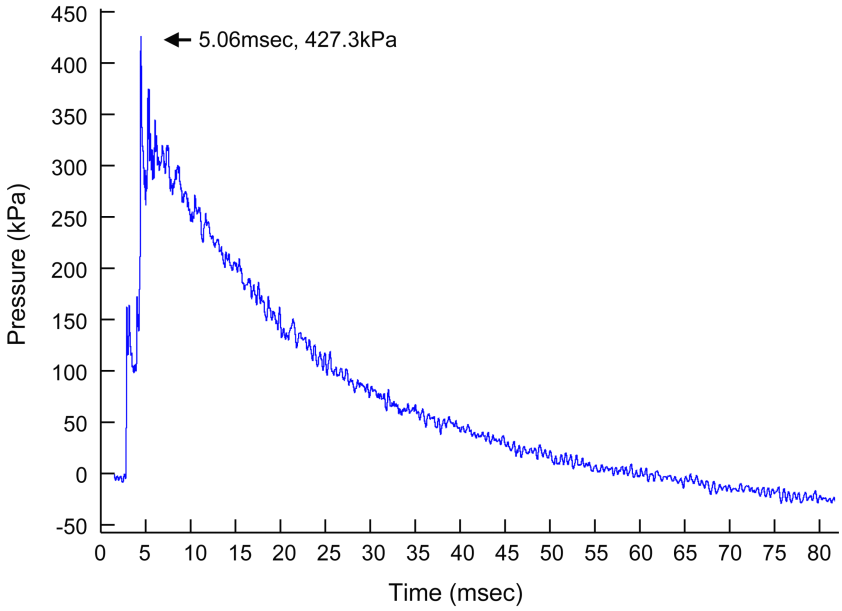
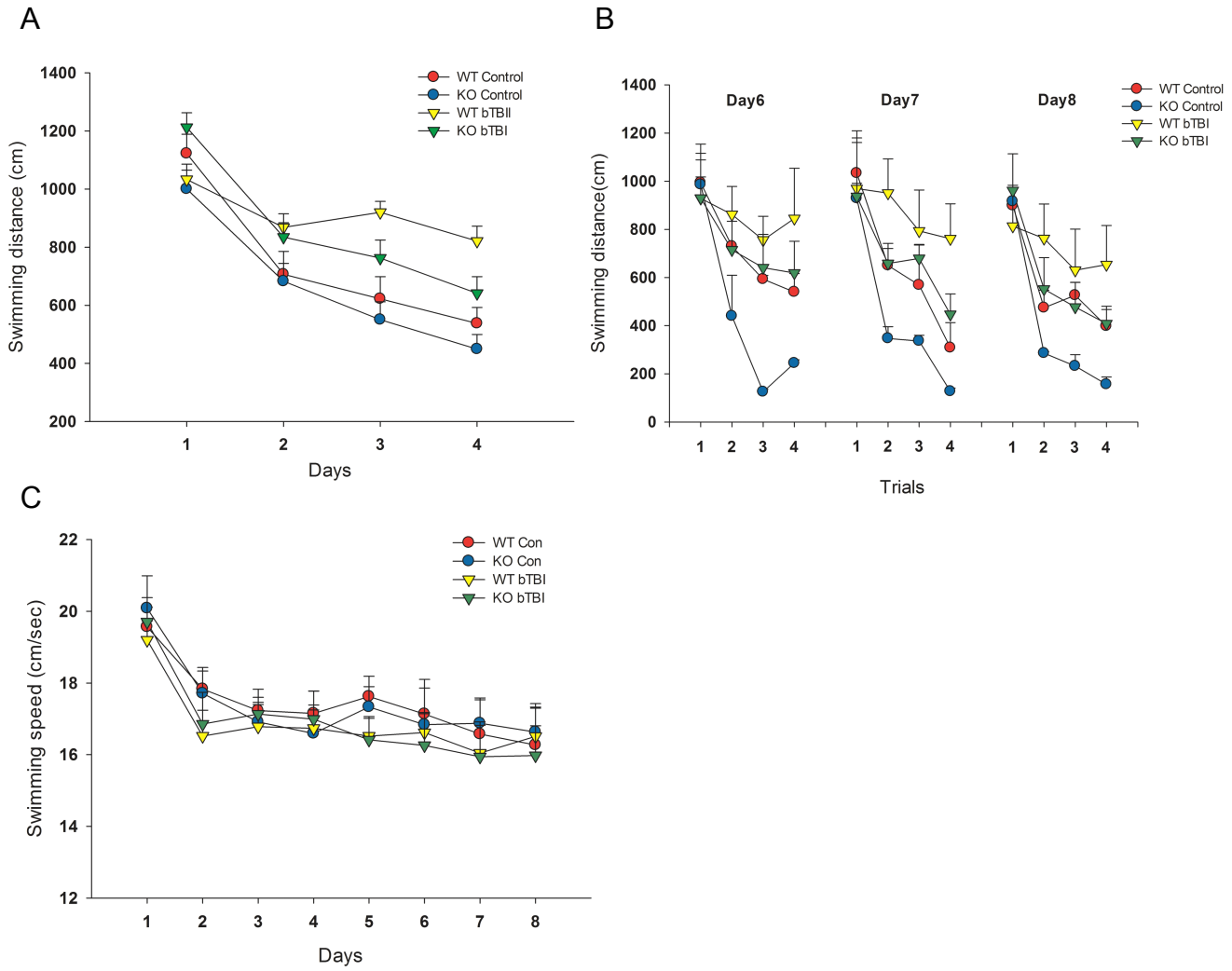
Supplementary Information

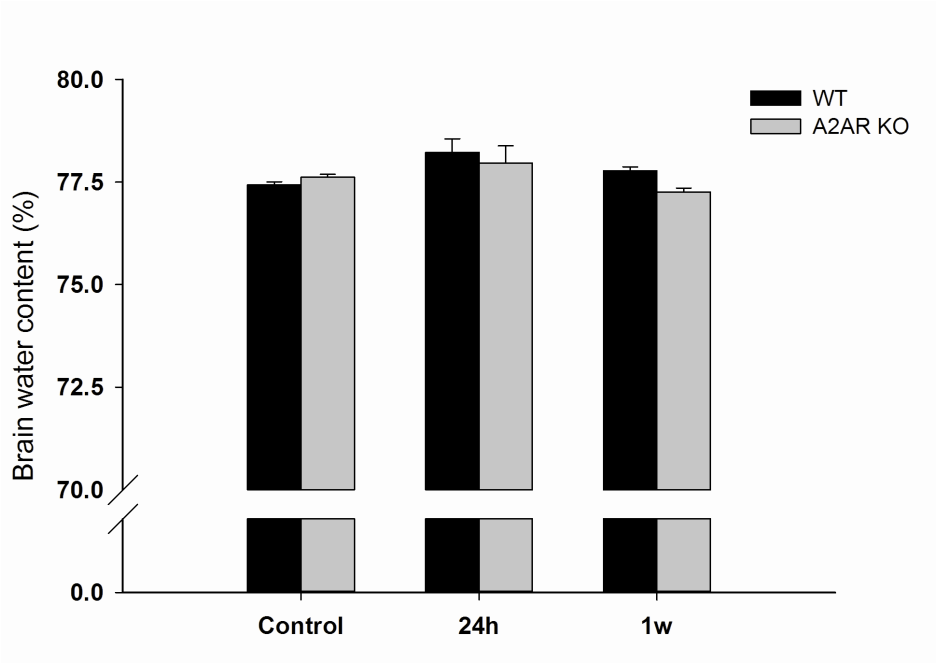


Supplementary Fig 1 A friedlander pressure-time history for a compression-driven blast recorded by the pressure sensor. The peak positive impulse was 427.3kPa and the positive phase duration was 57.44ms.

Supplementary Fig 2 Photo illustrating the BST-I apparatus and the position of the cage-array in the same vertical plane to ensure equal exposure to WBBI for all mice.



Supplementary Fig 3 Swimming distance and speed during MWM test at1w post-bTBI. **A.** There was no significant difference day×genotype interaction' effects on the distance traveled to reach the platform between WT-control and KO-control groups ($F(2, 345)=0.534$, $p=0.659$, two-way ANOVA), while there were significant difference between four groups ($F(8, 694)=5.524$, $p<0.001$, two-way ANOVA) and between WT-bTBI and KO-bTBI mice ($F(2, 348)=4.823$, $p<0.001$, two-way ANOVA), indicating that reference memory was impaired after bTBI and that KO-bTBI mice exhibited alleviated reference memory impairment compared to WT-bTBI mice. **B.** Swimming distance reached the platform in each of the four consecutive trials per day during MWM working memory test. **C.** Swimming speed did not differ between groups, indicating no difference in gross spontaneous activity (Data are expressed as mean±SEM. n= 12 for each WT group and n=10 for each KO group per test period).



Supplementary Fig 4 Brain water content was measured by a wet-dry method. There were no significant differences between Control and bTBI groups and between WT-bTBI and KO-bTBI groups.