

Supplemental Information

Figure S1. Activity levels are not significantly changed between control and TBI mice in Y-maze test. **a** Total distance and velocity measured during Y maze experiments. TBI mouse models exhibit a slight increase in physical activity compared to controls without reaching significance (distance, $p = 0.3058$; velocity, $p = 0.3913$). **b** Total frequency and duration in the starting arm measured during Y maze experiments. No significant difference was detected between controls vs. TBI mice (frequency, $p = 0.9595$; duration, $p = 0.4475$) [control, N=5; TBI, N=6].

Table S1. Table of animals and time line for experiments

Experiment	Mouse line (Gender)	Age of animal (at 1 st TBI)	Number of animals	Timeline of experiment
Pathology	WT (male)	3 months	Control; N=5 TBI; N=5	3days after TBI
Y-maze	WT (male)	3 months	Control; N=5 TBI; N=6	3days after TBI
Buried food seeking test	WT (male)	3 months	Control; N=6 TBI; N=6	3days after TBI
Olfactory Oddball test	Thy1 (male)	3 months	Control; N=4 TBI; N=10	3-5days after TBI

Video S1. Searching activity for home bedding is altered between control and TBI mice in Y-maze test.