



**Supplementary Figure 1.** At the time of sacrifice, liver tissues were resected for pathological analysis and no evident toxicity was detected by hematoxylin and eosin (H&E) staining in any of the mice used in the different drug treatments: A) wt, B) Mecp2 KO vehicle-treated, C) Mecp2 KO Ddci-treated, D) Mecp2 KO L-Dopa-treated and E) Mecp2 KO L-Dopa+Ddci treated. Three mice were studied for each group. (F) Ratio of reduced (GSH) vs oxidized (GSSG) glutathione shows that the Mecp2 KO mice undergoes a significant oxidative stress in comparison to the wild-type littermate mice and that the L-Dopa + Ddci treatment significantly reduces oxidative stress in the brain of these animals. The graph represents the mean of two independent experiments  $\pm$  SEM (n=3 mice for each group, \*p<0.05, \*\*p<0.01). One way ANOVA test with Tukey's Multiple Comparison post hoc test was used for intergroup comparisons.