

Supplementary Table 2 EM analysis statistics per mouse brain tissue

Genotypes	Synaptic parameters analyzed	Brain area analyzed	Synapse type	Mouse tissue #	Synapses analyzed per tissue N	Statistical tests and significance	Posthoc test	P Value	F value	Data used for Figure	Statistical tests and significance (Grouped)	P Value	rs value	Statistical tests and significance (Grouped)	P Value	R squared	Correlation coefficient	t value	df value
WT Hoxb8 KO	WT vs KO Presynaptic diameter	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	542.01525	Sup 3j	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	-0.3675	Paired t test (Two-tailed)	< 0.0001	0.02032	-0.3165	3.949	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	18.117616	Sup 3j									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.00141	10.313503	Sup 3j									
WT Hoxb8 KO	WT vs KO Presynaptic diameter	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.00221	9.4552685	Sup 3j	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.2073	Paired t test (Two-tailed)	< 0.0001	0.01092	0.1896	2.882	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	18.117616	Sup 3j									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.00141	10.313503	Sup 3j									
WT Hoxb8 KO	WT vs KO Presynaptic diameter	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.00489	7.9863869	Sup 3k	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	-0.1418	Paired t test (Two-tailed)	< 0.0001	0.1949	-0.1236	13.48	751
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	370.66291	Sup 3k									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	204.76231	Sup 3k									
WT Hoxb8 KO	WT vs KO Presynaptic diameter	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.45012	0.57117646	Sup 3k	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.133	Paired t test (Two-tailed)	< 0.0001	0.09407	0.09065	8.819	749
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	89.347136	Sup 3k									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	66.520999	Sup 3k									
WT Hoxb8 KO	WT vs KO Postsynaptic diameter	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	163.64641	Sup 3j	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	-0.07886	Paired t test (Two-tailed)	< 0.0001	0.03771	-0.02445	5.429	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.04169	4.170079	Sup 3j									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.01388	6.0983753	Sup 3j									
WT Hoxb8 KO	WT vs KO Postsynaptic diameter	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	17.389349	Sup 3j	Wilcoxon-matched pairs signed rank two-tailed t test	0.0917	-0.03222	Paired t test (Two-tailed)	0.1573	0.002657	0.009122	1.415	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.00026	13.568063	Sup 3j									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.0088	6.9196991	Sup 3j									
WT Hoxb8 KO	WT vs KO Postsynaptic diameter	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.75335	0.09883485	Sup 3m	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.2287	Paired t test (Two-tailed)	< 0.0001	0.1112	0.2446	9.372	702
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	190.01098	Sup 3m									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	41.645299	Sup 3m									
WT Hoxb8 KO	WT vs KO Postsynaptic diameter	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.4264	0.63357345	Sup 3m	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	-0.02691	Paired t test (Two-tailed)	< 0.0001	0.03063	-0.01382	4.874	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.01301	6.2136541	Sup 3m									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	56.874578	Sup 3m									
WT Hoxb8 KO	WT vs KO PSD length	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	36.668902	Fig. 1o	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.0001405	Paired t test (Two-tailed)	< 0.0001	0.1133	0.02945	9.804	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	82.125239	Fig. 1o									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.02656	4.9500146	Fig. 1o									
WT Hoxb8 KO	WT vs KO PSD length	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.04343	4.0980626	Fig. 1o	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.02837	Paired t test (Two-tailed)	< 0.0001	0.06685	0.003541	7.34	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	130.33212	Fig. 1o									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	0.21351	1.5515854	Fig. 1o									
WT Hoxb8 KO	WT vs KO PSD length	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	24.230351	Fig. 1p	Wilcoxon-matched pairs signed rank two-tailed t test	<.0001	-0.08443	Paired t test (Two-tailed)	< 0.0001	0.02841	-0.008984	4.689	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	160.7466	Fig. 1p									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	39.286084	Fig. 1p									
WT Hoxb8 KO	WT vs KO PSD length	Striatum	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.28146	0.76723656	Fig. 1p	Wilcoxon-matched pairs signed rank two-tailed t test	0.0002	-0.1568	Paired t test (Two-tailed)	< 0.0001	0.02083	-0.136	4	751
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	17.246183	Fig. 1p									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	137.96759	Fig. 1p									
WT Hoxb8 KO	WT vs KO PSD thickness	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	0.01296	6.215331	Fig. 1q	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.1255	Paired t test (Two-tailed)	< 0.0001	0.2428	0.06694	15.53	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	133.65279	Fig. 1q									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	278.80701	Fig. 1q									
WT Hoxb8 KO	WT vs KO PSD thickness	Frontal cortex	Asymmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	32.09493	Fig. 1q	Wilcoxon-matched pairs signed rank two-tailed t test	< 0.0001	0.2487	Paired t test (Two-tailed)	0.0078	0.009383	0.1832	2.669	752
			Symmetric	1	1	90 One-way ANOVA	Tukey's HSD test	<.0001	24.515411	Fig. 1q									
			Asymmetric	2	2	80 One-way ANOVA	Tukey's HSD test	<.0001	42.866119	Fig. 1q									

