

TABLE 1. STATISTICAL SUMMARY; Hsiao et al, Journal of Neuroscience 2016

Assay	Measurement	N	Values (means±e.m.)	Statistical test and P value	Figure
Immunohistochem	vglut1 puncta size (area)	3mice/genotype, 3 sections/mouse, 3 images/section	WT: 0.2114 ± 0.004653 Cyfip1+/-: 0.2611 ± 0.008318	unpaired t-test, p = 0.01	Fig. 1B
	vglu1 puncta size (density)	3mice/genotype, 3 sections/mouse, 3 images/section	WT: 1497 ± 71.67 Cyfip1+/-: 1706 ± 42.60	unpaired t-test, p = 0.02	Fig. 1C
Hippocampal mEPSC	Amplitude (pA)	6 mice/genotype	WT (P10): 12 ± 0.9 pA Het (P10): 11 ± 1.1 pA WT (P21): 13.14 ± 1.2 pA Het (P21): 13.48 ± 0.98 pA	unpaired t-test p>0.05 unpaired t-test p>0.05	Fig. 1D
	Frequency (Hz)	6 mice/genotype	WT (P10): 0.8 ± 0.2 Hz Het (P10): 1.2 ± 0.18 Hz WT (P21): 3.58 ± 0.3 Hz Het (P21): 3.63 ± 0.4 Hz	unpaired t-test, *p<0.01 unpaired t-test p>0.05	Fig. 1D
Hippocampal Paired Pulse facilitation	Field excitatory postsynaptic potential (FP)2/FP1	6 mice/genotype; 1 -2 slices per animal	IPI=20 ms WT: 2.5±0.12 Het:1.4±0.07 IPI=50 ms WT: 1.6±0.14 Het:1.24±0.06 IPI=100 ms WT: 1.5±0.3 Het:1.17±0.05	unpaired t-test **p<0.001 unpaired t-test *p<0.01 unpaired t-test p>0.05	Fig. 1E
Hippocampal NMDA	time constant of MK-801 blockade	4 mice/genotype	WT (P10): 26.3±2.7 Het (P10): 18.6±0.5	1-way ANOVA, p = 0.035	Fig. 1F
Synaptic vesicle recycling pool total pool	Fold change synpH fluorescence intensity mouse hippocampal neurons	7 images	WT: 1.265 ± 0.08 fold	unpaired t-test; p = 0.04	Fig. 2B
		5 images	Het: 1.938 ± 0.25 fold		
		7 images	WT: 2.395 ± 0.2642 fold		
5 images	Het: 3.877 ± 0.5899 fold	unpaired t-test; p = 0.02			
Synaptic vesicle release kinetics	Release time constant FM4-64 (tau) mouse hippocampal neurons	56 synapses, two independent expts	τ WT: 87.06±1.135 sec	unpaired t-test, p<0.005	Fig. 2D
		45 synapses, two independent expts	t Het: 67.4±4.338 sec		
Cyfip1 immunolabeling	integrated intensity rat hippocampal neurons	56 synapses, two independent expts	WT: 0.56±0.006	unpaired t-test; ***p<0.0001	Fig. 2E
		45 synapses, two independent expts	Cyfip1+/-: 0.64±0.007		
Terminal release characteristics (cis)	area FM dye labeled puncta rat hippocampal neurons	9 images	shCon: 2000±210	unpaired t-test, p = 0.0064	Fig. 3C
		7 images	shCyfip1: 1170±118		
Terminal release characteristics (trans)	intensity rat hippocampal neurons	11 images	shCon: 0.68 ± 0.03	1-way ANOVA, p = 0.036 Dunn's test *, p < 0.05	Fig. 3E
		17 images	shCyfip1: 0.74 ± 0.02		
		11 images	shCyfip1+hCyfip1: 0.68 ± 0.03		
		17 images	shCon: 0.54 ± 0.02		
Terminal Release Characteristics (trans)	Release time constant rat hippocampal neurons	11 images	shCyfip1: 0.65 ± 0.10	1-way ANOVA, p < 0.0001 Tukey's post hoc ***p<.001	Fig. 3E
		11 images	shCyfip1+hCyfip1: 0.55 ± 0.01		
Postsynaptic size	mean PSD95 cluster area rat hippocampal neurons	5 experiments; 2 cultures	shCon: 71.85±3.711	unpaired t-test p = 0.0381	Fig. 3E
		5 experiments; 2 cultures	shCyfip1 62.18±2.421		
Presynaptic terminal	mean vGlut1 immunolabeling intensity in PSD95 rat hippocampal neurons	n = 4 dishes each	shCon: 309.1 ± 29.95	unpaired t-test; not significantly different	Fig. 3G
		n = 4 dishes each	shCyfip1: 304.3 ± 51.19		
Actin levels in axons	mean phalloidin intensity rat hippocampal neurons	n = 4 dishes each	shCon: 0.00254 ± 0.00007	unpaired t-test; not significantly different	Fig. 3H
		n = 4 dishes each	shCyfip1: 0.00249 ± 0.0000.8		
Actin ratio	F/G actin ratio	6 images	shCon: 0.33±0.006	ANOVA, p = 0.0027 Tukey's post hoc, **p<.01	Fig. 4D
		6 images	shCyfip1: 0.43±0.025		
Actin ratio	F/G actin ratio	8 images	shCyfip1+hCyfip1: 0.32±0.020		
		8 images	shCon: 2520±176	ANOVA, p = 0.0006 Tukey's post hoc, *p<0.05	Fig. 4E
Actin ratio	F/G actin ratio	6 images	shCyfip1: 3770±266		
		8 images	shCyfip1+hCyfip1: 1960±307		
Terminal size	area FM dye labeled puncta rat hippocampal neurons	7 images	shCon: 5072±748	1-way ANOVA, p = 0.01 Tukey's post hoc, *p<0.05	Fig. 5D
		8 images	shCyfip1: 7479±473		
Terminal size	area FM dye labeled puncta rat hippocampal neurons	7 images	shCyfip1+hCyfip1: 4785 ± 715		
		10 mice/genotype	WT F/G: 1.5 ± 0.29 Cyfip1+/- F/G: 3.5±1.1	unpaired t-test, p = 0.05	Fig. 5G
Terminal size	area FM dye labeled puncta rat hippocampal neurons	12 images	shCon: 0.30±0.03	1-way ANOVA, p=0.005 (size) Tukey's post hoc, *p<.05; ***p<.001 n.s. is not significant	Fig. 6D
		11 images	shCyfip1: 1.0±0.07		
		13 images	shCyfip1 + delta C: 1.0±0.04		
		12 images	shCyfip1 + mutE: 0.86±0.06		
Terminal size	area FM dye labeled puncta rat hippocampal neurons	12 images	shCyfip1 + hyCyfip1: 0.77±0.04		
		10 images	shCon: 0.66±0.007	1-way ANOVA, p < .0001 Tukey's post hoc, *p<.05; ***p<.001 n.s. is not significant	Fig. 6E
		14 images	shCyfip1: 0.86±0.02		
		12 images	shCyfip1 + delta C: 0.83±0.01		
12 images	shCyfip1 + mutE: 0.78±0.02				
WAVE levels	immunolabeling intensity rat hippocampal neurons	12 images	shCyfip1 + hyCyfip1: 0.74±0.01		
		21 images	shCon: 344.5 ± 22	unpaired t-test, p = 0.262	Fig. 7B
WAVE levels	immunolabeling intensity rat hippocampal neurons	21 images	shCyfip1: 307.7 ± 23.7		
		8 images	shCon + veh: 0.49 ± 0.04	1-way ANOVA, p < 0.0001. Tukey's post hoc, ***p<.001 n.s. is not significant	Fig. 7C
12 images	shCon + NSC2366: 0.57±0.03				
8 images	shCyfip1 + veh: 0.80±0.04				
9 images	shCyfip1 + NSC2366: 0.43±0.02				
Terminal release characteristics	deltaF/f rat hippocampal neurons	8 images	shCon + veh: 0.73±0.02	1-way ANOVA, p=0.0003 Tukey's post hoc, **p<.01; ***p<.001 n.s. is not significant	Fig. 7D
		12 images	shCon + NSC2366: 0.78±0.008		
		8 images	shCyfip1 + veh: 0.83±0.02		
		9 images	shCyfip1 + NSC2366: 0.74±0.01		
Hippocampal paired pulse facilitation	FP2/FP1	6 mice/genotype	IPI=20 ms WT:2.3±0.22 Het:1.28±0.17 Het+NSC23766:2.4±0.18 IPI=50 ms WT:1.55±0.26 Het:1.2±0.13 Het+NSC23766:1.7±0.22 IPI=100 ms WT:1.45±0.31 Het:1.16±0.1 Het+NSC23766: 1.48±0.18	2-way ANOVA, *p<0.01, F(2,17)= 13.8	Fig. 7F
		6 mice/genotype	WT (P10): 0.9±0.3 Hz Het (P10): 1.32 ± 0.21 Hz Het+NSC23766 (P10): 0.91±0.24 Hz	unpaired t-test, *p<0.05	Fig 7G