

Supplementary Table1.

Figure 1a

Group	Number	Test Name	Statistical summary	
Sal	3	Two-way RM ANOVA	Interaction	F(6, 18) = 4.229, p = 0.0079
5	3		Time factor	F(3, 18) = 16.64, p < 0.0001
50	3		Dose factor	F(2, 6) = 0.5916, p = 0.5828

Test Name	Group	0.5 hr	1 hr	1.5 hr	2 hr
Tukey's multiple comparison test	Sal vs 5	p = 0.9894	p = 0.6261	p = 0.5026	p = 0.9727
	Sal vs 50	p = 0.0197	p = 0.7532	p = 0.848	p = 0.8331
	5 vs 50	p = 0.0143	p = 0.2436	p = 0.8289	p = 0.9336

Figure 1b

Group	Number	Mean	Std. Deviation	Std. Error
Sal	10	181.3	21.29	6.733
Ket5	10	142.1	37.97	12.01
Ket20	9	168.4	25.07	8.355
Ket50	10	169.7	33.08	10.46

Test Name	Statistical summary	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(3, 35) = 3.005, p = 0.0434	Fisher's LSD	Veh vs. Ket5	0.0064	**
			Veh vs. Ket20	0.3607	ns
			Veh vs. Ket50	0.3963	ns
			Ket5 vs. Ket20	0.0659	ns
			Ket5 vs. Ket50	0.0486	*
			Ket20 vs. Ket50	0.9284	ns

Figure 2b
BDNF

Group	Number	Mean	Std. Deviation	Std. Error
Vehicle	8	1	0.1658	0.05861
Ket5	7	1.326	0.2959	0.1119
Ket20	8	0.7591	0.1675	0.05922
Ket50	8	0.7489	0.255	0.09015

Test Name	Statistical summary	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(3, 27) = 10.67, p < 0.0001	Fisher's LSD	Veh vs. Ket5	0.0094	**
			Veh vs. Ket20	0.0416	*
			Veh vs. Ket50	0.0343	*
			Ket5 vs. Ket20	<0.0001	***
			Ket5 vs. Ket50	<0.0001	***
			Ket20 vs. Ket50	0.9284	ns

pS6K/S6K

Group	Number	Mean	Std. Deviation	Std. Error
Vehicle	8	1	0.1274	0.04503
Ket5	8	0.93	0.6481	0.2292
Ket20	8	1.906	1.825	0.6453
Ket50	8	2.322	1.928	0.6815

Test Name	Statistical summary	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(3, 28) = 2.009, p = 0.1355	Fisher's LSD	Veh vs. Ket5	0.9192	ns
			Veh vs. Ket20	0.196	ns
			Veh vs. Ket50	0.0633	ns
			Ket5 vs. Ket20	0.1647	ns
			Ket5 vs. Ket50	0.0513	ns
			Ket20 vs. Ket50	0.5474	ns

pGSK3β/GSK3β

Group	Number	Mean	Std. Deviation	Std. Error
Vehicle	8	1	0.3746	0.1324
Ket5	8	0.8477	0.3043	0.1076
Ket20	8	0.793	0.3458	0.1223
Ket50	8	0.8867	0.2943	0.1041

Test Name	Statistical summary	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(3, 28) = 0.5598, p = 0.6430	Fisher's LSD	Veh vs. Ket5	0.3659	ns
			Veh vs. Ket20	0.2218	ns
			Veh vs. Ket50	0.4995	ns
			Ket5 vs. Ket20	0.7434	ns
			Ket5 vs. Ket50	0.816	ns
			Ket20 vs. Ket50	0.5762	ns

Figure 3b

Potentiation magnitude

Group	Number	Mean	Std. Deviation	Std. Error
20	7	1.285	0.1356	0.05126
50	7	1.127	0.0851	0.03009
100	6	1.03	0.07067	0.02671

Test Name	Statistical summary	F-test (p-value)	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(2, 17) = 9.721, p = 0.0015	0.2865	Tukey's multiple comparison	20 vs. 50	0.0447	*
				20 vs. 100	0.0012	**
				50 vs. 100	0.1839	ns

Figure 3c

Slope 20 uM

Group	Number	Mean	Std. Deviation	Std. Error
Before	7	4.377	1.276	0.4822
After	7	5.446	1.414	0.5344

Test Name	Group	Statistical summary
Paired t-test	Before vs After	t(6) = 5.359, p = 0.0017

Figure 3d

Slope 50 uM

Group	Number	Mean	Std. Deviation	Std. Error
Before	6	4.965	1.702	0.6948
After	6	5.582	1.634	0.6673

Test Name	Group	Statistical summary
Paired t-test	Before vs After	t(5) = 4.505, p = 0.0064

Figure 3e

Slope 100 uM

Group	Number	Mean	Std. Deviation	Std. Error
Before	6	6.528	2.241	0.9148
After	6	7.218	2.571	1.05

Test Name	Group	Statistical summary
Paired t-test	Before vs After	t(5) = 3.049, p = 0.0285

Figure 3f

Slope change

Group	Number	Mean	Std. Deviation	Std. Error
20	7	1.257	0.1122	0.04241
50	6	1.144	0.09406	0.0384
100	6	1.102	0.07595	0.03101

Test Name	Statistical summary	F-test (p-value)	Post-hoc test	Group	p-value	significance
One-way ANOVA	F(2, 19) = 4.579, p = 0.0268	0.6912	Tukey's multiple comparison	20 vs. 50	0.1173	ns
				20 vs. 100	0.027	*
				50 vs. 100	0.7399	ns

Figure 4a
20 uM

Interstimulus interval	Group	N number	Mean	Std. Deviation	Std. Error	Test Name	Statistical summary
20	before	7	1.468	0.09467	0.03578	paired t-test	t(6) = 1.357, p = 0.2236
	after	7	1.422	0.1704	0.06442		
30	before	7	1.571	0.1131	0.04276	paired t-test	t(6) = 1.777, p = 0.1259
	after	7	1.472	0.1232	0.04658		
50	before	7	1.526	0.153	0.05782	paired t-test	t(6) = 0.2163, p = 0.8359
	after	7	1.536	0.1103	0.0417		
100	before	7	1.487	0.1369	0.05174	Wilcoxon test	p > 0.9999
	after	7	1.491	0.1244	0.04701		
200	before	7	1.325	0.07107	0.02686	Wilcoxon test	p = 0.4688
	after	7	1.297	0.1094	0.04135		
400	before	7	1.116	0.09069	0.03428	paired t-test	t(6) = 1.282, p = 0.2473
	after	7	1.169	0.1008	0.03811		
500	before	7	1.051	0.07858	0.0297	paired t-test	t(6) = 0.3470, p = 0.7404
	after	7	1.089	0.06308	0.02384		

Figure 4b
50 uM

Interstimulus interval	Group	N number	Mean	Std. Deviation	Std. Error	Test Name	Statistical summary
20	before	6	1.327	0.1079	0.04407	paired t-test	t(5) = 1.367, p = 0.2298
	after	6	1.382	0.1471	0.06004		
30	before	6	1.453	0.08065	0.03293	paired t-test	t(5) = 0.4667, p = 0.6603
	after	6	1.418	0.1413	0.05769		
50	before	6	1.506	0.0597	0.02437	paired t-test	t(5) = 0.5600, p = 0.5996
	after	6	1.49	0.07815	0.03191		
100	before	6	1.464	0.1429	0.05833	paired t-test	t(5) = 0.0477, p = 0.9638
	after	6	1.461	0.03398	0.01387		
200	before	6	1.264	0.07279	0.02972	paired t-test	t(5) = 1.064, p = 0.3358
	after	6	1.225	0.06929	0.02829		
400	before	6	1.067	0.1126	0.04599	paired t-test	t(5) = 0.2980, p = 0.7777
	after	6	1.077	0.0781	0.03189		
500	before	6	1.047	0.05271	0.02152	paired t-test	t(5) = 1.390, p = 0.2233
	after	6	1.084	0.08187	0.03342		

Figure 4c
100 uM

Interstimulus interval	Group	N number	Mean	Std. Deviation	Std. Error	Test Name	Statistical summary
20	before	6	1.435	0.115	0.04066	paired t-test	t(5) = 2.099, p = 0.0899
	after	6	1.356	0.1212	0.04286		
30	before	6	1.451	0.146	0.0516	paired t-test	t(5) = 0.4123, p = 0.6972
	after	6	1.446	0.07146	0.02526		
50	before	6	1.494	0.1079	0.03814	paired t-test	t(5) = 0.9466, p = 0.3873
	after	6	1.58	0.2006	0.07092		
100	before	6	1.468	0.1342	0.04744	paired t-test	t(5) = 0.6361, p = 0.5527
	after	6	1.495	0.1342	0.04746		
200	before	6	1.313	0.1551	0.05484	paired t-test	t(5) = 0.5997, p = 0.5749
	after	6	1.338	0.1644	0.05812		
400	before	6	1.082	0.07235	0.02558	paired t-test	t(5) = 0.1988, p = 0.8503
	after	6	1.082	0.1079	0.03814		
500	before	6	1.119	0.08477	0.02997	paired t-test	t(5) = 0.7397, p = 0.4928
	after	6	1.077	0.05207	0.01841		