

*Supplemental Data*

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*Neural Activity Correlates with Behavior Effects of Anti-Seizure Drugs Efficacy Using the Zebrafish Pentylentetrazol Seizure Model*

**Table S3. Statistical Results for behavioral profile of zebrafish larvae exposed to lamotrigine**

The table displays the results of both the two-way ANOVA (Fig 3A) and one-way ANOVA (Fig 3B) performed for Figures 3 (A and B) and the resulting post-hoc Tukey comparisons and accompanying p-values for groups marked for significance within the Figure 3 graphs.

**Table S3: Statistical Results for LTG Assay**

Two-way ANOVA table results			
	DF	F (DFn, DFd)	P value
<b>Time x Column Factor</b>	30	F (30, 2625) = 8.983	P<0.0001
<b>Time</b>	5	F (2.762, 1450) = 0.7716	P=0.5002
<b>Column Factor</b>	6	F (6, 525) = 29.19	P<0.0001
<b>Subject</b>	525	F (525, 2625) = 5.437	P<0.0001
<b>Residual</b>	2625		
Two-way ANOVA Tukey's Post-hoc Results			
Tukey's multiple comparisons test	Adjusted P Value	Tukey's multiple comparisons test	Adjusted P Value
<b>Time period: 0 -15 minutes</b>		<b>Time period: 45 - 60 minutes</b>	
EM vs. 0.1 % DMSO	0.863	EM vs. 0.1 % DMSO	0.9335
EM vs. 10 mM PTZ	0.0138	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM LTG - pretreatment	>0.9999	EM vs. 100 µM LTG - pretreatment	0.9886
EM vs. 100 µM LTG acute	0.5665	EM vs. 100 µM LTG acute	>0.9999
EM vs. 100 µM LTG - pretreatment	0.6537	EM vs. 100 µM LTG - pretreatment	0.0001
EM vs. 10 mM PTZ / 100 µM LTG acute	0.0325	EM vs. 10 mM PTZ / 100 µM LTG acute	0.0006
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.2824	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.1745
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	>0.9999	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	0.7238
<b>Time period: 15 - 30 minutes</b>		<b>Time period: 60 - 75 minutes</b>	
EM vs. 0.1 % DMSO	0.8197	EM vs. 0.1 % DMSO	0.945
EM vs. 10 mM PTZ	0.0007	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM LTG - pretreatment	0.7785	EM vs. 100 µM LTG - pretreatment	0.9127
EM vs. 100 µM LTG acute	0.9935	EM vs. 100 µM LTG acute	>0.9999
EM vs. 100 µM LTG - pretreatment	<0.0001	EM vs. 100 µM LTG - pretreatment	0.0026
EM vs. 10 mM PTZ / 100 µM LTG acute	0.0741	EM vs. 10 mM PTZ / 100 µM LTG acute	0.0054
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.148	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	<0.0001
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	0.0619	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	>0.9999
<b>Time period: 30 - 45 minutes</b>		<b>Time period: 75 - 90 minutes</b>	
EM vs. 0.1 % DMSO	0.9983	EM vs. 0.1 % DMSO	0.993
EM vs. 10 mM PTZ	<0.0001	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM LTG - pretreatment	0.858	EM vs. 100 µM LTG - pretreatment	0.1641
EM vs. 100 µM LTG acute	0.9999	EM vs. 100 µM LTG acute	>0.9999
EM vs. 100 µM LTG - pretreatment	<0.0001	EM vs. 100 µM LTG - pretreatment	0.1349
EM vs. 10 mM PTZ / 100 µM LTG acute	0.0002	EM vs. 10 mM PTZ / 100 µM LTG acute	0.0001
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.9989	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.0008
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	0.5785	10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	0.9649
One-way ANOVA table results			
	DF	F (DFn, DFd)	P value
<b>Treatment (between columns)</b>	DF	F (DFn, DFd)	P value
<b>Residual (within columns)</b>	6	F (6, 525) = 29.19	P<0.0001
<b>Total</b>	525		
One-way ANOVA Tukey's Post-hoc Results			
Tukey's multiple comparisons test	Adjusted P Value		
EM vs. 0.1 % DMSO	0.9849		
EM vs. 10 mM PTZ	<0.0001		
EM vs. 100 µM LTG - pretreatment	0.9849		
EM vs. 100 µM LTG acute	0.9997		
EM vs. 100 µM LTG - pretreatment	<0.0001		
EM vs. 10 mM PTZ / 100 µM LTG acute	<0.0001		
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG - pretreatment	0.0959		
10 mM PTZ vs. 10 mM PTZ / 100 µM LTG acute	0.9111		