Supplemental Data
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Neural Activity Correlates with Behavior Effects of Anti-Seizure Drugs Efficacy Using the Zebrafish Pentylenetetrazol Seizure Model

Table S2. Statistical Results for behavioral profile of zebrafish larvae exposed to carbamazepine

The table displays the results of both the two-way ANOVA (Fig 2A) and one-way ANOVA (Fig 2B) performed for Figures 2 (A and B) and the resulting post-hoc Tukey comparisons and accompanying p-values for groups marked for significance within the Figure 2 graphs.

Table S2: Statistical Results for CBZ Assay

	Two-way ANOVA table results		
	DF	**F (DFn, DFd)**	**P value**
Time x Column Factor	30	F (30, 2625) = 5.171	P<0.0001
Time	5	F (3.761, 1975) = 14.03	P<0.0001
Column Factor	6	F (6, 525) = 51.76	P<0.0001
Subject	525	F (525, 2625) = 3.701	P<0.0001
Residual	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**
Time period: 0 -15 minutes		**Time period: 45 - 60 minutes**	
EM vs. 0.1 % DMSO	>0.9999	EM vs. 0.1 % DMSO	>0.9999
EM vs. 10 mM PTZ	0.0263	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM CBZ - pretreatment	<0.0001	EM vs. 100 µM CBZ - pretreatment	0.0109
EM vs. 100 µM CBZ acute	0.0022	EM vs. 100 µM CBZ acute	<0.0001
EM vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.1683	EM vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.1259
EM vs. 10 mM PTZ / 100 µM CBZ acute	0.4155	EM vs. 10 mM PTZ / 100 µM CBZ acute	0.0014
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.9963	10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ - pretreatment	<0.0001
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.8847	10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.0023
Time period: 15 - 30 minutes		**Time period: 60 - 75 minutes**	
EM vs. 0.1 % DMSO	0.9996	EM vs. 0.1 % DMSO	0.9628
EM vs. 10 mM PTZ	0.0036	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM CBZ - pretreatment	<0.0001	EM vs. 100 µM CBZ - pretreatment	0.0016
EM vs. 100 µM CBZ acute	<0.0001	EM vs. 100 µM CBZ acute	<0.0001
EM vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.0136	EM vs. Group F	0.3976
EM vs. 10 mM PTZ / 100 µM CBZ acute	0.9278	EM vs. 10 mM PTZ / 100 µM CBZ acute	0.001
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.4954	10 mM PTZ vs. Group F	0.0098
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.0576	10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.4587
Time period: 30 - 45 minutes		**Time period: 75 - 90 minutes**	
EM vs. 0.1 % DMSO	0.8612	EM vs. 0.1 % DMSO	>0.9999
EM vs. 10 mM PTZ	<0.0001	EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM CBZ - pretreatment	<0.0001	EM vs. 100 µM CBZ - pretreatment	<0.0001
EM vs. 100 µM CBZ acute	<0.0001	EM vs. 100 µM CBZ acute	<0.0001
EM vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.0828	EM vs. Group F	0.413
EM vs. 10 mM PTZ / 100 µM CBZ acute	0.0159	EM vs. 10 mM PTZ / 100 µM CBZ acute	0.0015
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.0003	10 mM PTZ vs. Group F	0.203
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.0027	10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	0.9853
	One-way ANOVA table results		
	DF	**F (DFn, DFd)**	**P value**
Treatment (between columns)	DF	**F (DFn, DFd)**	**P value**
Residual (within columns)	6	F (6, 525) = 51.76	P<0.0001
Total	525		

	One-way ANOVA Tukey's Post-hoc Results
Tukey's multiple comparisons test	**Adjusted P Value**
EM vs. 0.1 % DMSO	>0.9999
EM vs. 10 mM PTZ	<0.0001
EM vs. 100 µM CBZ - pretreatment	0.0031
EM vs. 100 µM CBZ acute	0.0005
EM vs. 10 mM PTZ / 100 µM CBZ - pretreatment	0.0155
EM vs. 10 mM PTZ / 100 µM CBZ acute	<0.0001
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ - pretreatment	<0.0001
10 mM PTZ vs. 10 mM PTZ / 100 µM CBZ acute	<0.0001