Table S1. Effect of Prototype Antiseizure Compounds on Seizure Burden in the TMEV Model: Seizures Observed at the Time of Drug Injection**.**

Compound	**Mechanism of Action**	**Mouse 6 Hz (44 mA) ED_{50}[a]**	**Dose mg/kg, IP**	**% VEH Cumulative Seizure Burden**
Vehicle				100 ± 24.7
Carbamazepine	*Na^+ Channel Blocker*	38.2	40	61.7 ± 18.7
Lacosamide	*Na^+ Channel Blocker*	12.9	13	18.3 ± 4.6**
Lamotrigine[b]	*Na^+ Channel Blocker*	43.4	20	49.6 ± 10.3**
Phenytoin	*Na^+ Channel Blocker*	44.6	20	15.6 ± 4.5**
Ezogabine	*K^+ Channel Opener*	32.5	20	41.6 ± 13.4
Clonazepam	*$GABA_A$ Receptor Modulator*	0.17	0.2	60.4 ± 12.6
Phenobarbital	*$GABA_A$ Receptor Modulator*	35.3	35	1.7 ± 1.3****
Tiagabine	*GABA Reuptake Inhibition*	1.0	1.3	48.0 ± 7.6
Ethosuximide	*T-Type Ca^{++} Channel Blocker*	271	300	112 ± 20.2
Gabapentin	*α2δ Ca^{++} Chanel Modulator*	>500	350	9.8 ± 3.3****
Levetiracetam	*SV2A Ligand*	>1000	1000	11.3 + 5.4****
Topiramate	*Mixed*	>300	300	57.2 ± 8.8
Valproic Acid	*Mixed*	239	239	0.6 ± 0.6****

Vehicle (0.5% methylcellulose)

[a]Metcalf et al., 2017

[b]Lamotrigine was administered once daily (QD), whereas other compounds noted were administered twice daily (BID).

*P<0.05, **P<0.01, ****P<0.0001 compared to VEH seizure burden from the same testing cohort; Mann-Whitney U test.

The vehicle-treated group was in the same testing cohort as topiramate (300 mg/kg) and ethosuximide (300 mg/kg) and was representative of other vehicle treatment groups.