



Supplementary Figure S1. Individual plasma exposures from experiments.

A. Plasma levels from *Scn1a*^{+/-} mice that received an acute IP dose of SGE-516 and underwent hyperthermia-threshold seizure testing. Plasma samples were collected immediately following the seizure induction protocol. The 0.1 mg/kg SGE-516 dose was BQL (blue asterisk). Average is depicted by the horizontal line and error bars are SEM, n=6/group. **B.** Plasma levels from *Scn1a*^{+/-} mice maintained on 40 mg/kg/day SGE-516 orally via chow. Plasma samples were collected at a variety of times (24, 48 and 72 hours) to verify plasma exposures. Average is depicted by the horizontal line and error bars are SEM, n=5/group. **C.** Plasma levels from *Scn1a*^{+/-} mice maintained on 120 mg/kg/day SGE-516 orally via chow. Plasma samples were collected at a variety of times (24, 48 and 72 hours, 30 days) and also include *Scn1a*^{+/-} mice that were monitored for spontaneous seizure frequency to verify plasma exposures following 12 days of treatment. Average is depicted by the horizontal line and error bars are SEM, n=5-12/group. **D.** Plasma levels from *Scn1a*^{+/-} mice maintained on 267 mg/kg/day SGE-516 orally via chow. Plasma samples were collected at a variety of times (24, 48 and 72 hours) to verify plasma exposures. Average is depicted by the horizontal line and error bars are SEM, n=5/group.