

**Supplemental Table 1. Electrical membrane properties of hippocampal pyramidal neurons**

Genotype	Membrane potential (mV)	AP threshold <sup>a</sup> (mV)	Input resistance (M $\Omega$ )	AP amplitude (peak potential) (mV)	AP duration (ms)
WT neurons ( <i>n</i> = 33)	-58.3 $\pm$ 1.03	-36.8 $\pm$ 1.02	37.8 $\pm$ 3.07	134.7 $\pm$ 3.16 (77.31 $\pm$ 2.39)	3.5 $\pm$ 0.12
Tg neurons ( <i>n</i> = 33)	-56.7 $\pm$ 1.20	-34.9 $\pm$ 1.00	38.1 $\pm$ 3.52	134.0 $\pm$ 2.75 (76.48 $\pm$ 2.67)	3.2 $\pm$ 0.16

Data are expressed as mean  $\pm$  SEM.

<sup>a</sup>Action potential (AP) threshold was measured as the starting potential of the spike in the neurons of wild-type (WT) and mutPOLG Tg (Tg) mice.