



**Supplementary information, Fig. S13: Dominant negative mutation Thr11Ala (2-E<sup>T11A</sup>) impairs 2-E channel activity.**

**a** Representative trace for 2-E/2-E<sup>T11A</sup> mixture proteins in lipid bilayers with PC/PS = 3:2 lipids at -50 mV. The protein was reconstituted in asymmetric 50:500 mM KCl solutions (*trans* : *cis*). **b** Current amplitude of each 2-E/2-E<sup>T11A</sup> trace by Gaussian

fitting. c, Statistics of each 2-E/2-E<sup>T11A</sup> currents. d, Current amplitude of 2-E or 2-E<sup>T11A</sup> (Left) and mixture of 2-E/2-E<sup>T11A</sup> (Right).