

**Figure S1.** (A) Representative tail current families measured at -50mV for Kv1.1WT, and at -30mV for Kv1.1T68K. (B) Representative current traces showing current deactivation for the indicated channels. (C) (*Upper panel*) Sample current trace showing C-type inactivating T268K channels. (*Lower panel*) Sample current trace evoked by the two-pulse protocol for T268K channels showing recovery from C-type inactivation. Protocols are described in the Materials and Methods section.