Supporting Information

Schmidt and MacKinnon 10.1073/pnas.0810187105

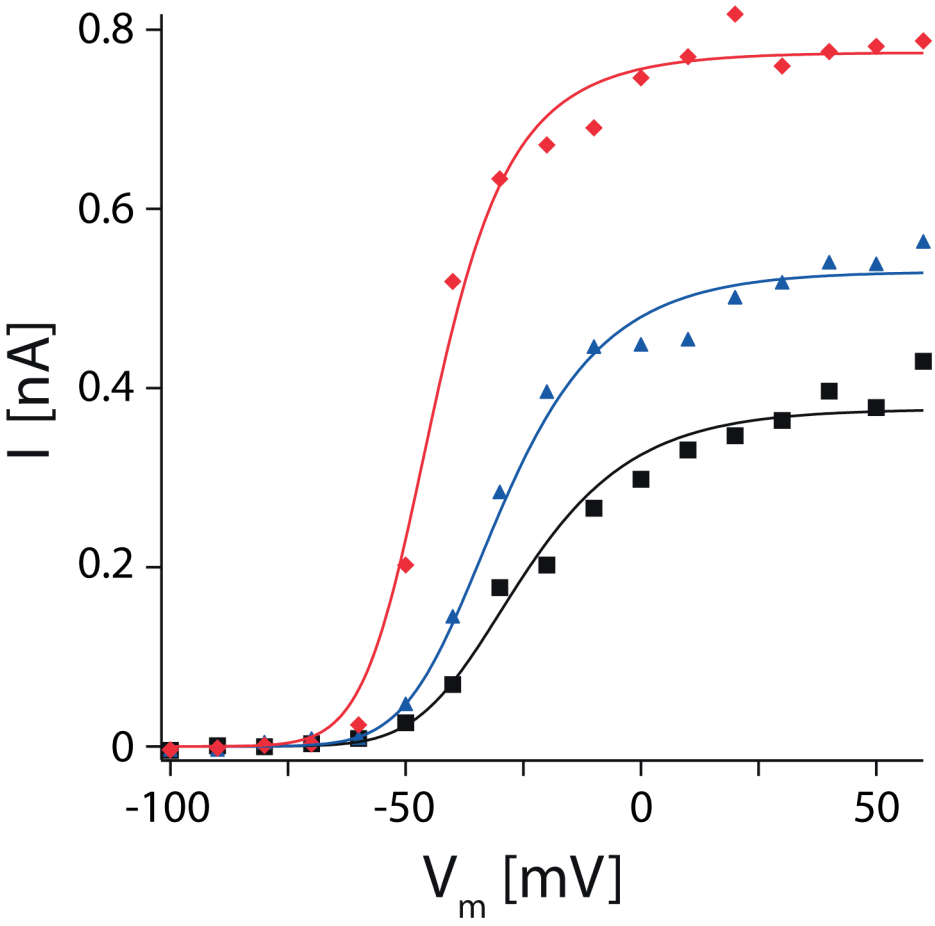

Fig. S1. The effects of membrane forces on *Shaker* wt. The solid curves are fit globally to data from the same *Shaker* wt outside-out patch with Eq. **4** (see *Modeling of Gating Conversion*) using the relationships $K_1(V) = K_1 \times \exp(z_1 \times V)$ and $I = (x \times P_O)$: $L_{(t = 0\ min)} = 0.8 \pm 0.05$, $L_{(t = 4\ min)} = 1.7 \pm 0.15$, $L_{(t = 8\ min)} = 10.6 \pm 2.27$, $K_1 = 15.6 \pm 2.37$, $z_1 = 1.5 \pm 0.08$, $x = 847 \pm 22$. Times are given post patch excision.

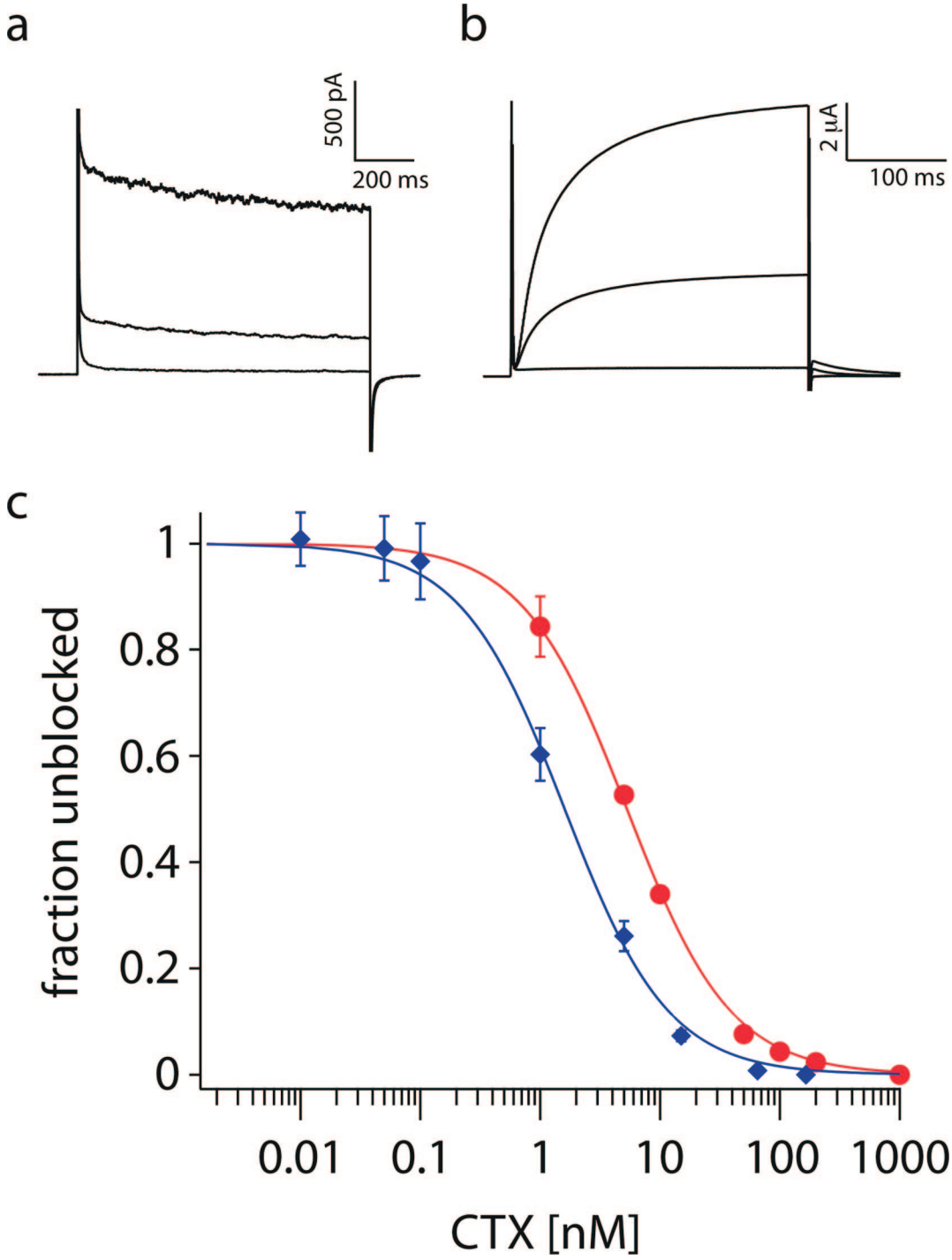

Fig. S2. Pore-blocking toxin CTX affinity. a, Paddle chimera in POPE:POPG bilayers with 0 nM (top trace), 5 nM (middle trace) and 165 nM (bottom trace) Charybdotoxin (CTX) added. b, Paddle chimera in *Xenopus* oocytes with 0 nM (top trace), 10 nM (middle trace) and 1000 nM (bottom trace) CTX added. c, CTX affinity titration with Paddle chimera in POPE:POPG bilayers (blue squares) and *Xenopus* oocytes (red circles). Fraction of unblocked current I/I_{max} (mean ± SEM, $n = 3–4$) is graphed as a function of log(CTX concentration). The solid line represents a fit to the data with $I/I_{max} = (1 + [CTX]/K_d)^{-1}$ with K_d(bilayer) = 1.6 ± 0.09 nM and K_d(oocyte) = 5.3 ± 0.14 nM.