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 $I = (x \times P_0) \times (L(t - 0 \text{ min}) = 0.8 \pm 0.05, L(t - 4 \text{ min}) = 1.7 \pm 0.15, L(t - 8 \text{ min}) = 10.6 \pm 2.27, K_1 = 15.6 \pm 2.37, z_1 = 1.5 \pm 0.08, x = 847 \pm 22$. 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 $I/I_{\text{max}}$ (mean ± SEM, $n = 3–4$) is graphed as a function of log(CTX concentration). The solid line represents a fit to the data with $I/I_{\text{max}} = (1 + [\text{CTX}]K_d)^{-1}$ with $K_d(\text{bilayer}) = 1.6 \pm 0.09$ nM and $K_d(\text{oocyte}) = 5.3 \pm 0.14$ nM.