

Figure legends for supplementary figures

Figure S1. Ca^{2+} is not required for the depolarization-induced enhancement of KCNQ2/Q3 current and activation of PKC β II

(A) Summary data shows that the treatments that either did not contain extracellular Ca^{2+} [EGTA (EGTA 100 μM + Ca^{2+} free), Cd^{2+} (Cd^{2+} 200 μM + Ca^{2+} free)] or affected intracellular Ca^{2+} [ionomycin (1 μM), thapsigargin (2 μM), and BAPTA-AM (100 μM)] did not affect the depolarization-induced increase of KCNQ2/Q3 currents.

(B) The depolarization did not induce an increase of intracellular Ca^{2+} levels. The oocytes were injected with Ca^{2+} -green-1-dextran (23 nl of 2 mM to obtain a final concentration of 60 μM), a Ca^{2+} fluorescence indicator, and monitored using a confocal microscope (Leica SP2). The right panel shows the time course of the Ca^{2+} signal. Clearly the depolarization (ND96-K) did not cause an increase in intracellular Ca^{2+} , whereas ionomycin (1 μM) did.

(C) The absence of extracellular Ca^{2+} did not affect the depolarization- or PMA-induced increase of membrane PKC β II (the left panel) or PKC α (the right panel).

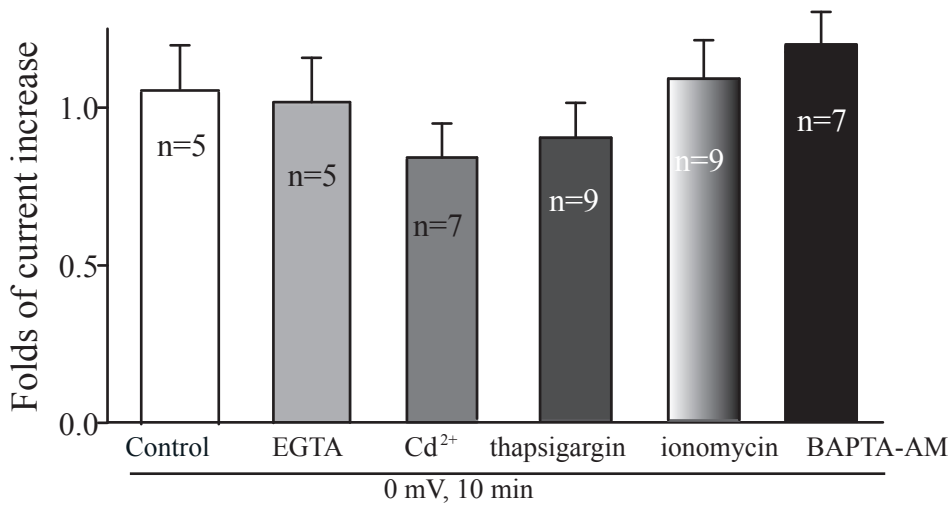
Figure S2. DAG has no effect on the KCNQ2/Q3 current

(A) Treatment of oocytes with either OAG (10 μM , an analogue of DAG) or m-3M3FBS (20 μM , an activator of PLC) did not affect the KCNQ2/Q3 currents in *Xenopus* oocytes.

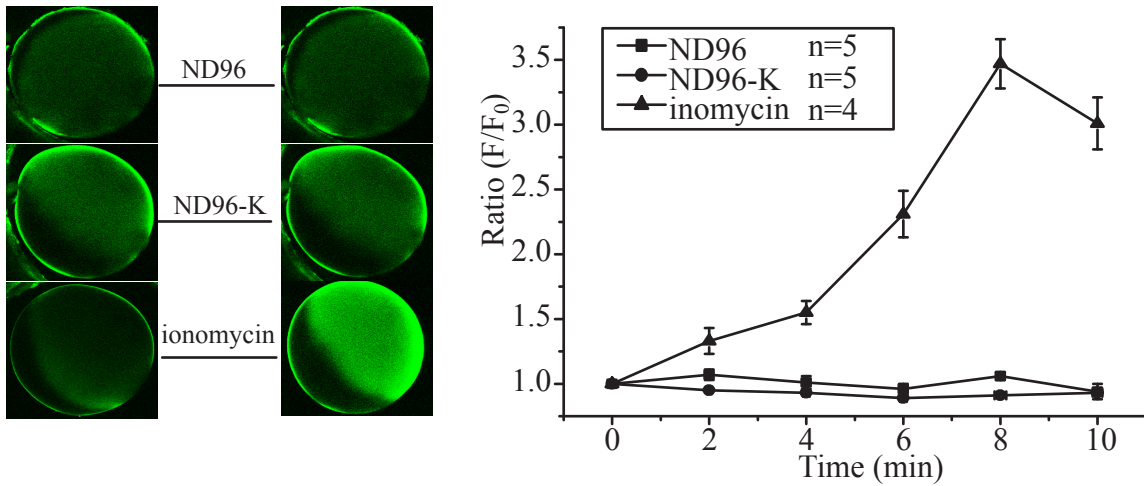
(B) Genistein (20 μM), a non-specific blocker of receptor tyrosine kinases, did not inhibit the depolarization-induced potentiation of KCNQ2/Q3.

Fig.S1

A



B



C

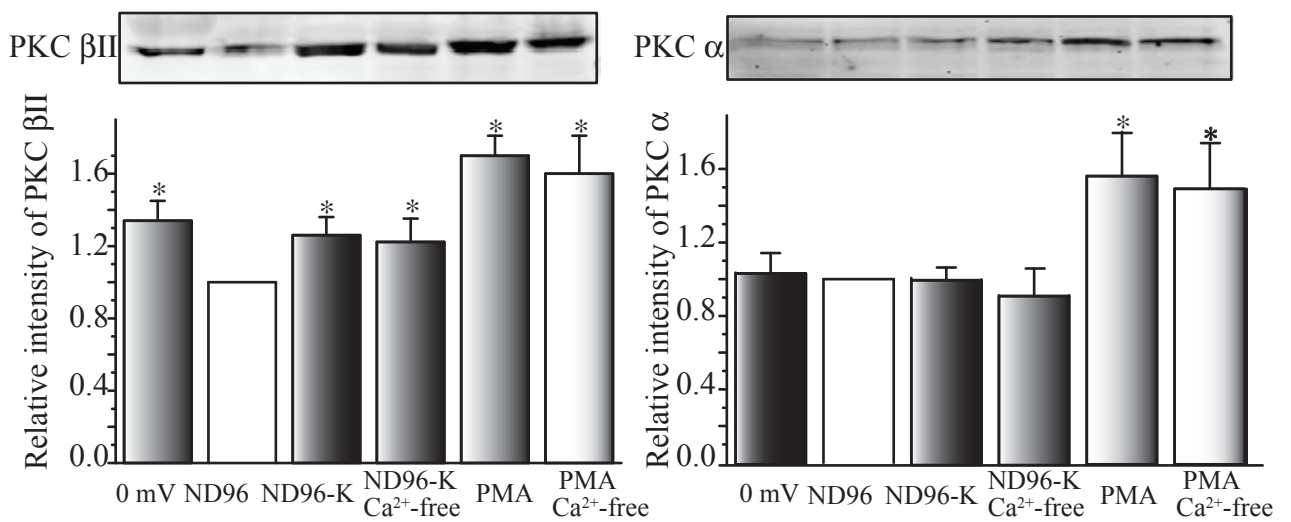
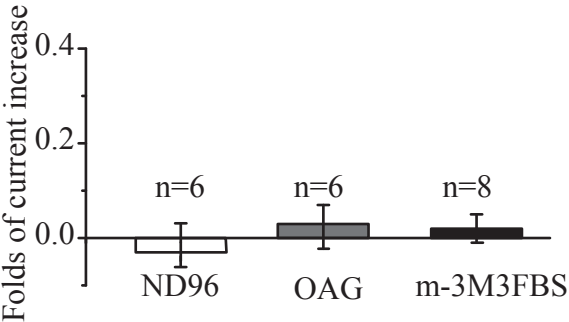


Fig.S2

A



B

