



Supplementary Fig 1. **Effect of extracellular Ca^{2+} on whole-cell currents in TRPC6-expressing HEK cells: NMDG buffer with 4 K^+ .** *Panel A.* Currents were recorded as described in the legend to Fig 1 in HEK cells stably expressing TRPC6. TRPC6 was activated by superfusion with normal Na^+ -containing Ringer's solution containing $100 \mu\text{M}$ OAG. A representative I-V plot under this condition is shown (black trace). The extracellular solution was changed to NMDG- 4K^+ with 0.02 (blue trace), 2 (red trace), or 20 mM Ca^{2+} (green trace). *Panel B.* I-V relationships predicted by the single site pore permeation model with the parameter set given in the legend to Fig 5. The simulated I-V plots are shown for the experimental ionic conditions shown in panel A. *Panels C and D.* Same as panels A and B with an expanded current scale to better visualize the reversal potentials under each condition.