



Supplementary Figure 1. Ni²⁺ prevents Ba²⁺ entry and exit from the pore binding site. **A**, Diary plots of normalized peak current amplitude measured using 15 ms pulses to +50 mV, applied at 0.5 Hz. Currents are normalized to the average control peak current amplitude at the beginning of each experiment, before test treatments. Each plot represents a separate experiment in a different cell. The durations of exposure to 5 mM Ni²⁺ and/or 20 mM Ba²⁺ are indicated by the horizontal bars at the top of each plot. **B**, Comparison of the time constants for recovery from exposure to Ni²⁺ only; Ni²⁺ followed by Ba²⁺; Ba²⁺ only; and Ba²⁺ followed by Ni²⁺. Ni²⁺ prevents Ba²⁺ from binding to Kv1.5 channels, resulting in a recovery time course from Ni²⁺ followed by Ba²⁺ that is not significantly different from recovery from Ni²⁺ alone. Conversely, when Ba²⁺ is applied first, it is trapped within the pore by subsequently applied Ni²⁺. This results in a recovery time course that is not significantly different from the recovery from Ba²⁺ alone. Error bars represent S.E.M.; *n*-values for each data set are shown in parentheses.