SUPPORTING FIGURES

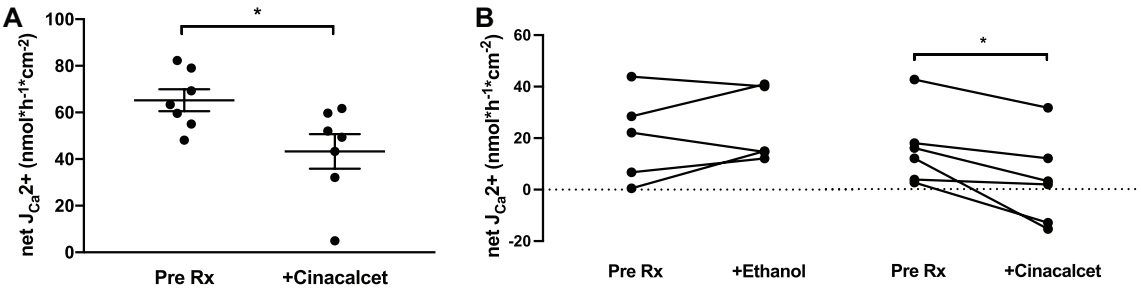

Figure S1. **The effect of basolateral CaSR activation on Ca^{2+} fluxes across mouse duodenum (A) and cecum (B).**

(A) The net Ca^{2+} flux (net J_{Ca}^{2+}) observed before and after ethanol treated duodenum or cinacalcet treated. N.B. duodenum could not be kept intact for long enough to perform paired experiments (n = 6 each). (B) Changes in the net Ca^{2+} flux (net J_{Ca}^{2+}) between Condition A: pre-treatment (Pre Rx) and Condition B: vehicle (ethanol) or basolateral 10 μM cinacalcet (n = 6 each). Raw values are presented; asterisks indicate a statistical difference between the conditions (student's unpaired t-test for (A) and paired t-tests for (B); *$P < 0.05$).

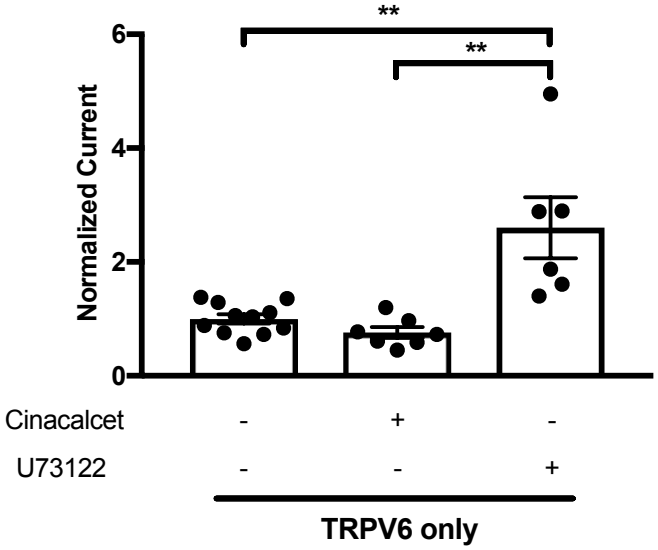

Figure S2. Ca^{2+}-induced currents (I_{Ca}) in TRPV6 expressing oocytes in the presence or absence of cinacalcet and/or U73122.

Mean I_{Ca} values were normalized to the vehicle I_{Ca} values from TRPV6 expressing oocytes ± SEM; asterisks indicate a statistically significant difference between the conditions (multiple comparisons non-parametric test; **P < 0.01) (n = 12, 7, and 6 from left to right).

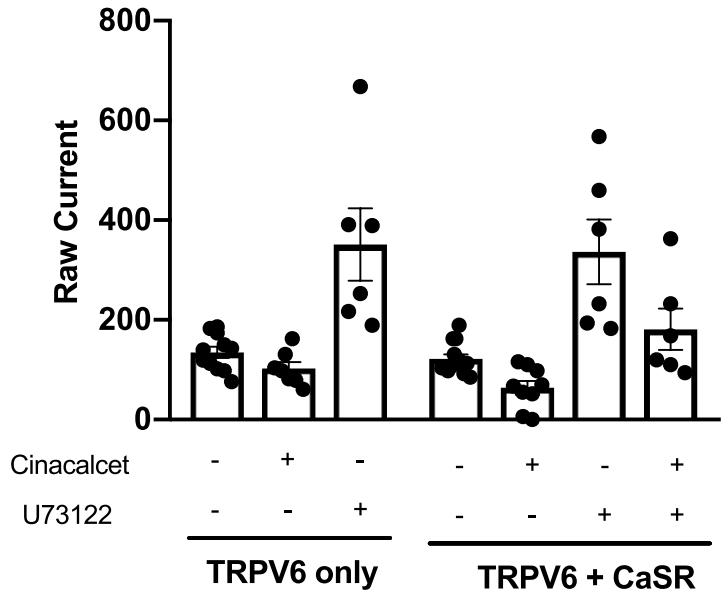

Figure S3. Raw current in TRPV6 only and TRPV6 and CaSR expressing oocytes, in presence and absence of cinacalcet and/or U73122. Refer to Fig. S1 and 6A for sample size.

Table S1. Transepithelial Resistance (Ω*cm^2) of Ussing Chamber Experiments (Figs. 3 - 7)

	Before (Condition A)	After (Condition B)
Figure 3B. Vehicle	68.7 ±3.9	45.1 ±1.0
Figure 3B. Cinacalcet	52.4 ±2.3	40.5 ±3.2
Figure 3C. High to Low	56.8 ±1.6	37.2 ±0.9
Figure 3C. Low to High	64.7 ±2.5	43.6 ±1.9
Figure 4B. Cinacalcet (AP)	65.1 ±3.7	44.2 ±2.5
Figure 4C. Cinacalcet (BL)	60.9 ±3.4	37.0 ±2.0
Figure 5A. TRPV6$^{WT/WT}$	60.4 ±1.2	38.3 ±2.0
Figure 5A. TRPV6$^{D541A/D541A}$	64.2 ±2.4	38.8 ±2.3
Figure 5B. TRPV6$^{WT/WT}$	56.8 ±1.6	37.2 ±0.9
Figure 5B. TRPV6$^{D541A/D541A}$	59.2 ±2.4	41.1 ±2.4
Figure 7. Vehicle	66.3 ±3.3	39.6 ±2.2
Figure 7. U73122	66.9 ±2.0	47.2 ±3.1