

## SUPPLEMENTARY FIGURE LEGENDS

**Figure S1. Inhibitors of  $\text{Ca}^{2+}$  channels and/or  $\text{Ca}^{2+}$  mobilizing proteins have no cytotoxic effects on LAD2 human mast cells.** LAD2 cells were incubated with increasing concentration of SKF (0, 30, 100  $\mu\text{M}$ ), YM (0, 0.3, 1  $\mu\text{M}$ ), Nifedipine (0, 0.1, 0.3  $\mu\text{M}$ ), or A425619 (0, 0.01, 0.03  $\mu\text{M}$ ) for 24hr. Viable cells were enumerated using trypan blue staining and a hemocytometer. Bar graph shows percent cell viability as compared to PBS treatment (vehicle). The results are expressed as the mean  $\pm$  S.E. values of 3 independent experiments.

**Figure S2. SOCE inhibition attenuates  $\text{Ca}^{2+}$  mobilization to different MRGPRX2 agonists in RBL-2H3 cells stably expressing MRGPRX2.** (A) Histograms show MRGPRX2 expression in wild type RBL-2H3 (RBL-2H3 WT), RBL-2H3 cells stably expressing MRGPRX2 (RBL-2H3 MRGPRX2) and flow sorted RBL-2H3 MRGPRX2 cells. (B) Both the RBL-2H3 WT and sorted RBL-2H3 MRGPRX2 cells were treated with vehicle (PBS) or SKF (30  $\mu\text{M}$ ), and  $\text{Ca}^{2+}$  mobilization assays were performed following incubation with compound 48/80 (C 48/80), substance P (Sub P), LL-37 and CST-14. Data shown are mean  $\pm$  S.E. of 3 independent experiments. Statistical significance was determined by two-way ANOVA. \*  $p < 0.05$ .