## **Supplemental Figure Caption**

**Figure S1**. Population distributions of Ca<sup>2+</sup> levels. Bars show the percentage of cells showing greater than 3x the Ca<sup>2+</sup> of untransfected, prestimulation cells. Ca<sup>2+</sup> levels (Fluo-4 fluorescence) were normalized to the average prestimulation Ca<sup>2+</sup> level in untransfected cells for each experiment as in Figure 3. Distributions of Ca<sup>2+</sup> levels in A) unstimulated cells, and B) cells after 10 min. in the presence of 150 nM thapsigargin. Cells scored in each sample were transfected with a pair of wild type or mutant STIM1 and Orai1. Each STIM1/Orai1 pair represents 20-60 cells, and error bars show SE.

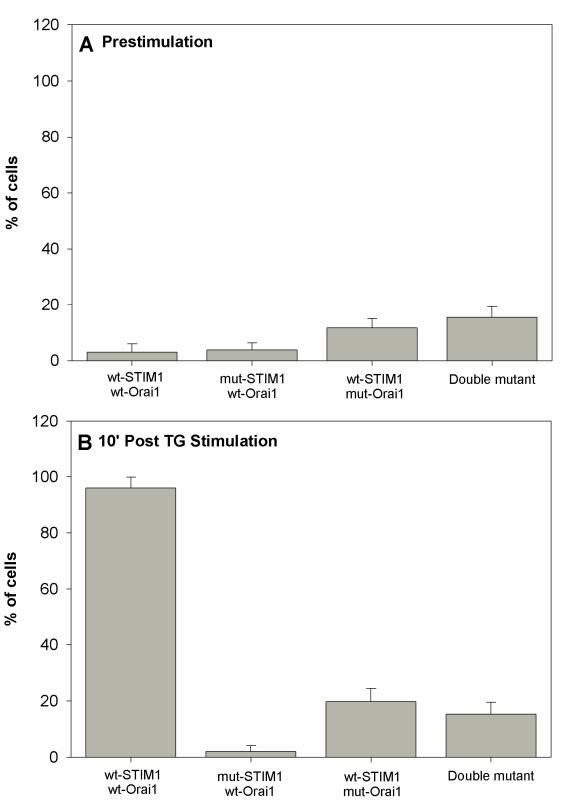


Figure S1