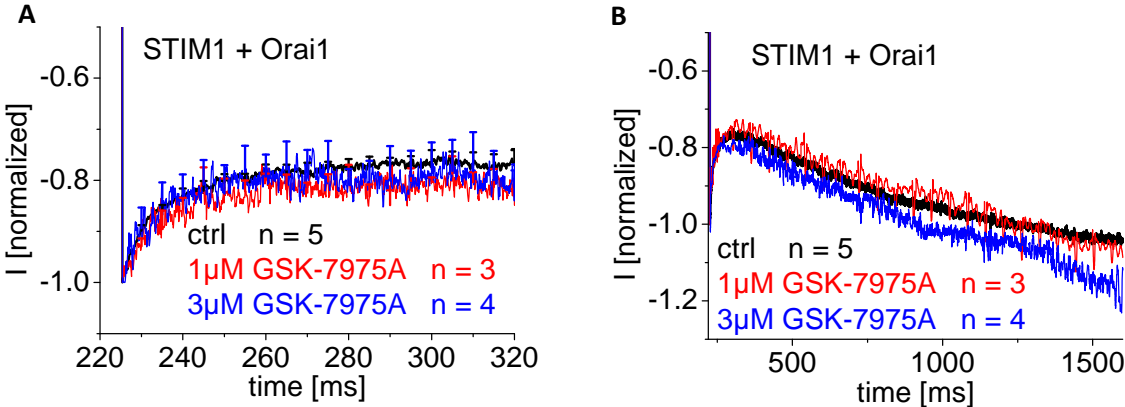
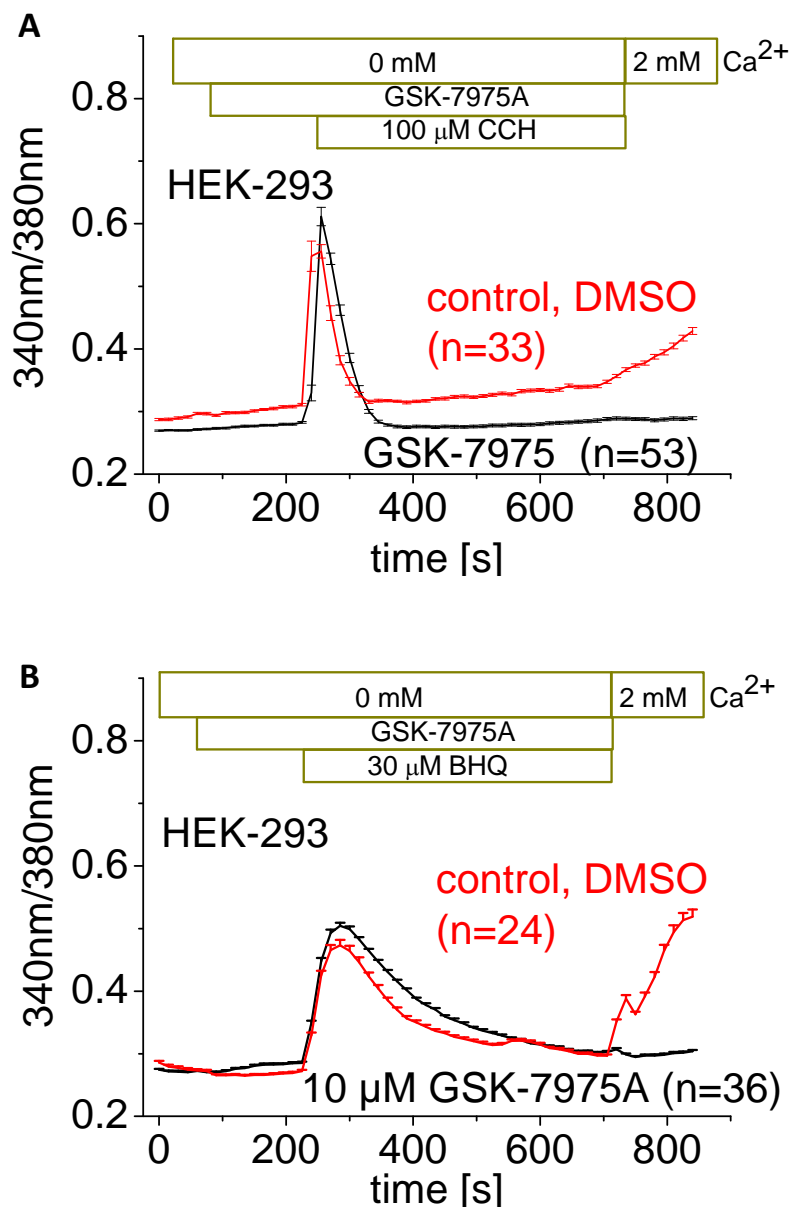


Suppl. Figure 1 Inactivation of STIM1/Orai1 remained unaltered upon application of GSK-7975A. Note the distinct time span given for the same record in A (~100 ms) and (B) (~1400 ms)



Suppl. Figure 2 Pre-incubation of HEK293 cells with 10 $\mu$ M GSK-7975A did not markedly alter the amount of Ca<sup>2+</sup> released from ER stores via stimulation by either carbachol (CCH) or BHQ pointing to a minor effect of GSK-7975A on pathways affecting the ER Ca<sup>2+</sup> content. The subsequent endogenous, store-operated Ca<sup>2+</sup> entry was substantially inhibited by GSK-7975A compared to control.



Employing Fura-2 microscopy, HEK293 cells were grown on coverslips for 1 day and loaded with fura-2/AM (1 $\mu$ M) for 30 min at 20°C in Dulbecco's Modified Eagle Medium. Coverslips were transferred to an extracellular solution without Ca<sup>2+</sup> (0mM Ca<sup>2+</sup>: 140 NaCl, 5 KCl, 1 MgCl<sub>2</sub>, 10 glucose, 10 Hepes, pH 7.4 (NaOH)) and mounted at an inverted Axiovert 100 TV microscope (Zeiss, Germany). Excitation of Fura-2 was performed at 340nm and 380nm, and

Ca<sup>2+</sup> measurements are shown as 340/380 ratios of untransfected HEK293 cells. To monitor store-operated Ca<sup>2+</sup> entry upon store-depletion we employed a 2mM Ca<sup>2+</sup> solution (140 NaCl, 5 KCl, 1 MgCl<sub>2</sub>, 2 CaCl<sub>2</sub>, 10 glucose, 10 Hepes, pH 7.4 (NaOH)).