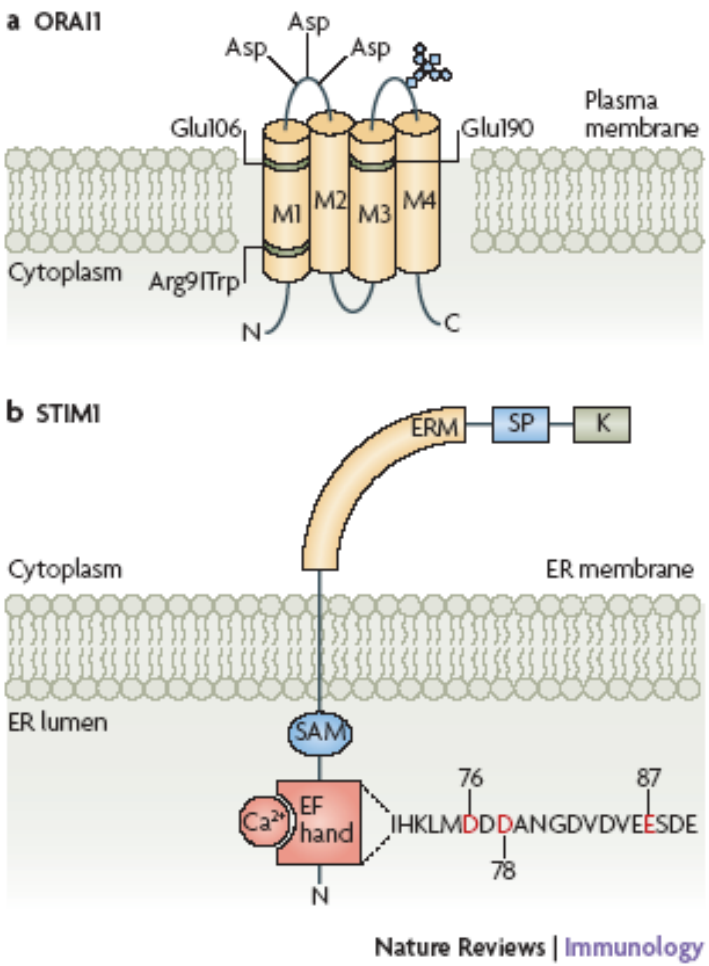

Figure 3. Domain architecture of the CRAC channel subunit ORAI1 and the Ca^{2+} sensor in the endoplasmic reticulum STIM1. a ORAI1 is a plasma membrane protein with four predicted transmembrane segments (M1-M4) and intracellular amino- and carboxy-termini. The site of the Arg91Trp mutation in human patients with severe combined immunodeficiency (SCID) that abrogates CRAC channel function is indicated by a red "R". Two conserved glutamate residues (E106, E190) and three aspartate residues (D) implicated in the Ca^{2+} permeability of the CRAC channel are shown in blue. **b** Stromal interaction molecule 1 (STIM1) is a single-pass transmembrane protein that is mainly localized in the endoplasmic reticulum (ER). The N-terminus contains a Ca^{2+}-binding EF-hand motif with negatively charged residues (D76, D78, E87) that are crucial for sensing Ca^{2+}. Predicted protein–protein interaction domains in STIM1 include a sterile a-motif (SAM), a coiled-coil/ezrin-radixin-moesin (ERM) domain, a serine/proline rich region (SP) and a lysine-rich region (K). -- From Feske 2007, Nature Reviews Immunology.