

Anti-Orai1 Rabbit Monoclonal Antibody

Catalog # ABO15211

Product Information

Application	WB
Primary Accession	Q96D31
Host	Rabbit
Isotype	IgG
Reactivity	Human
Clonality	Monoclonal
Format	Liquid
Description	Anti-Orai1 Rabbit Monoclonal Antibody . Tested in WB application. This antibody reacts with Human.

Additional Information

Gene ID	84876
Other Names	Calcium release-activated calcium channel protein 1, Protein orai-1, Transmembrane protein 142A, ORAI1 {ECO:0000303 PubMed:16921383, ECO:0000312 HGNC:HGNC:25896}
Calculated MW	32668
Application Details	WB 1:500-1:2000
Source	Eukaryota
Contents	Rabbit IgG in phosphate buffered saline, pH 7.4, 150mM NaCl, 0.02% sodium azide and 50% glycerol, 0.4-0.5mg/ml BSA.
Clone Names	Clone: 17O87
Immunogen	A synthesized peptide derived from human Orai1
Purification	Affinity-chromatography
Storage	Store at -20°C for one year. For short term storage and frequent use, store at 4°C for up to one month. Avoid repeated freeze-thaw cycles.

Protein Information

Name	ORAI1 {ECO:0000303 PubMed:16921383, ECO:0000312 HGNC:HGNC:25896}
Function	Pore-forming subunit of two major inward rectifying Ca(2+) channels at the plasma membrane: Ca(2+) release-activated Ca(2+) (CRAC) channels and arachidonate-regulated Ca(2+)-selective (ARC) channels (Probable)

(PubMed:[16645049](#), PubMed:[16733527](#), PubMed:[16807233](#), PubMed:[16921383](#), PubMed:[19249086](#), PubMed:[19706554](#), PubMed:[23307288](#), PubMed:[26956484](#), PubMed:[28219928](#)). Assembles with ORAI2 and ORAI3 to form hexameric CRAC channels that mediate Ca^{2+} influx upon depletion of endoplasmic reticulum Ca^{2+} store and channel activation by Ca^{2+} sensor STIM1, a process known as store-operated Ca^{2+} entry (SOCE). Various pore subunit combinations may account for distinct CRAC channel spatiotemporal and cell-type specific dynamics. ORAI1 mainly contributes to the generation of Ca^{2+} plateaus involved in sustained Ca^{2+} entry and is dispensable for cytosolic Ca^{2+} oscillations, whereas ORAI2 and ORAI3 generate oscillatory patterns. CRAC channels assemble in Ca^{2+} signaling microdomains where Ca^{2+} influx is coupled to calmodulin and calcineurin signaling and activation of NFAT transcription factors recruited to ORAI1 via AKAP5. Activates NFATC2/NFAT1 and NFATC3/NFAT4-mediated transcriptional responses. CRAC channels are the main pathway for Ca^{2+} influx in T cells and promote the immune response to pathogens by activating NFAT-dependent cytokine and chemokine transcription (PubMed:[16582901](#), PubMed:[17442569](#), PubMed:[19182790](#), PubMed:[20354224](#), PubMed:[22641696](#), PubMed:[26221052](#), PubMed:[32415068](#), PubMed:[33941685](#)). Assembles with ORAI3 to form channels that mediate store-independent Ca^{2+} influx in response to inflammatory metabolites arachidonate or its derivative leukotriene C4, termed ARC and LRC channels respectively (PubMed:[19622606](#), PubMed:[32415068](#)). Plays a prominent role in Ca^{2+} influx at the basolateral membrane of mammary epithelial cells independently of the Ca^{2+} content of endoplasmic reticulum or Golgi stores. May mediate transepithelial transport of large quantities of Ca^{2+} for milk secretion (By similarity) (PubMed:[20887894](#)).

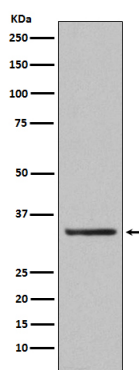
Cellular Location

Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:Q8BWG9}; Multi-pass membrane protein. Note=Upon store depletion, colocalizes with STIM1 in membrane punctae at ER-PM junctions (PubMed:19182790, PubMed:19249086, PubMed:26221052, PubMed:27185316) [Isoform beta]; Cell membrane

Tissue Location

Expressed in naive CD4 and CD8 T cells (at protein level) (PubMed:26956484). Expressed at similar levels in naive and effector T helper cells (PubMed:20354224)

Images



Western blot analysis of Orai1 expression in human platelet lysate.

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