

ORAI1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)

Catalog # AP9371c

Product Information

Application	WB, E
Primary Accession	Q96D31
Other Accession	Q5M848 , Q8BWG9 , Q6TLE6 , Q5ZL05
Reactivity	Human, Mouse
Predicted	Rat, Zebrafish, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB25166
Calculated MW	32668
Antigen Region	145-173

Additional Information

Gene ID	84876
Other Names	Calcium release-activated calcium channel protein 1, Protein orai-1, Transmembrane protein 142A, ORAI1, CRACM1, TMEM142A
Target/Specificity	This ORAI1 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 145-173 amino acids of human ORAI1.
Dilution	WB~~1:1000 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ORAI1 Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

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)

Background

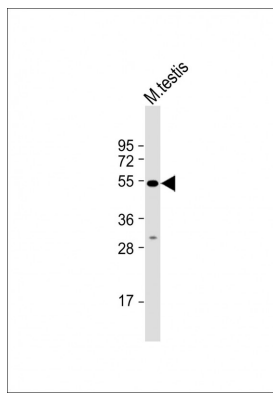
ORAI1 is a plasma membrane protein essential for store-operated calcium entry.

References

Zhou,Y. Proc. Natl. Acad. Sci. U.S.A. 107 (11), 4896-4901 (2010)
 Calloway,N. Biochemistry 49 (6), 1067-1071 (2010)
 McCarl,C.A. J. Allergy Clin. Immunol. 124 (6), 1311-1318 (2009)

Images

Anti-ORAI1 Antibody (Center) at 1:2000 dilution + mouse testis lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 33 kDa
 Blocking/Dilution buffer: 5% NFDM/TBST.



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