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ORAI1 Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP9371c

Specification

ORAI1 Antibody (Center) - Product Information

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

ORAI1 Antibody (Center) - 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~~1:2000
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.

ORAI1 Antibody (Center) - 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)

ORAI1 Antibody (Center) - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

ORAI1 Antibody (Center) - Images

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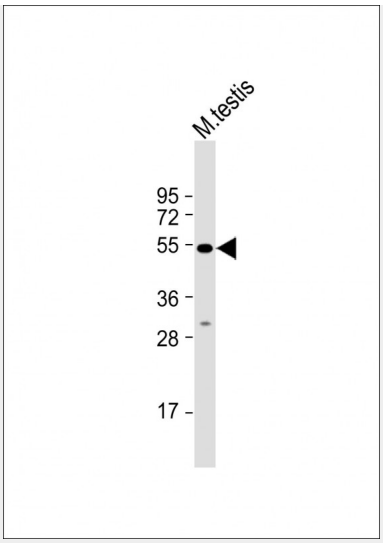

Anti-ORAI1 Antibody (Center) at 1:2000 dilution + mouse testis lysate Lysates/proteins at 20 µg per lane. Secondary Goat Anti-Rabbit IgG, (H+L), Peroxidase conjugated at 1/10000 dilution. Predicted band size : 33 kDa Blocking/Dilution buffer: 5% NFDM/TBST.

ORAI1 Antibody (Center) - Background

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

ORAI1 Antibody (Center) - 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)