

ORAI1 Antibody
Catalog # ASC10561**Specification****ORAI1 Antibody - Product Information**

Application	WB, IHC
Primary Accession	Q96D31
Other Accession	Q96D31 , 97180269
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Application Notes	ORAI1 antibody can be used for detection of ORAI1 by Western blot at 0.5 - 2 µg/mL. ORAI1 often migrates at a higher than expected molecular weight in SDS-PAGE. Antibody can also be used for immunohistochemistry starting at 2.5 µg/mL.

ORAI1 Antibody - Additional InformationGene ID **84876****Target/Specificity**

ORAI1; This antibody is predicted to have no cross-reactivity to ORAI2 or ORAI3.

Reconstitution & Storage

ORAI1 antibody can be stored at 4°C for three months and -20°C, stable for up to one year. As with all antibodies care should be taken to avoid repeated freeze thaw cycles. Antibodies should not be exposed to prolonged high temperatures.

Precautions

ORAI1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

ORAI1 Antibody - Protein Information**Name** ORAI1**Synonyms** CRACM1, TMEM142A**Function**

Ca(2+) release-activated Ca(2+) (CRAC) channel subunit which mediates Ca(2+) influx following depletion of intracellular Ca(2+) stores and channel activation by the Ca(2+) sensor, STIM1
(PubMed: [16582901](http://www.uniprot.org/citations/16582901)),
(PubMed: [16645049](http://www.uniprot.org/citations/16645049)),
(PubMed: [16733527](http://www.uniprot.org/citations/16733527)),
(PubMed: [16766533](http://www.uniprot.org/citations/16766533)),
(PubMed: [16807233](http://www.uniprot.org/citations/16807233)),

PubMed:19249086, PubMed:23307288, PubMed:24351972, PubMed:24591628, PubMed:28219928, PubMed:20354224, PubMed:26956484). CRAC channels are the main pathway for Ca(2+) influx in T-cells and promote the immune response to pathogens by activating the transcription factor NFAT (PubMed:16582901). 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.

Cellular Location

Cell membrane; Multi-pass membrane protein. Basolateral cell membrane {ECO:0000250|UniProtKB:Q8BWG9}; Multi-pass membrane protein. Note=Isoform beta is more mobile in the plasma membrane (PubMed:23307288). Colocalizes with STIM1 at the cell membrane (PubMed:27185316).

Tissue Location

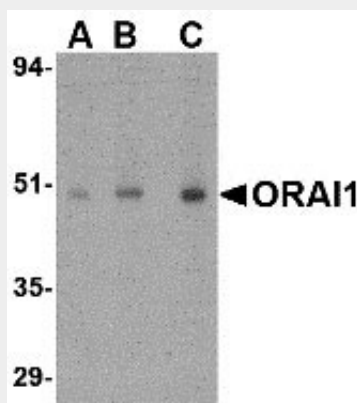
Expressed in naive CD4 and CD8 T cells (at protein level) (PubMed:26956484). Expressed at similar levels in naive and effector T helper cells (PubMed:20354224)

ORAI1 Antibody - Protocols

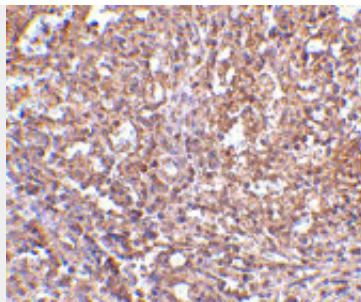
Provided below are standard protocols that you may find useful for product applications.

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

ORAI1 Antibody - Images



Western blot analysis of ORAI1 in human ovary tissue lysate with ORAI1 antibody at (A) 0.5, (B) 1 and (C) 2 µg/mL.



Immunohistochemistry of ORAI1 in human spleen tissue with ORAI1 antibody at 2.5 µg/mL.

ORAI1 Antibody - Background

ORAI1 Antibody: Antigen stimulation of immune cells triggers Ca^{++} entry through Ca^{++} release-activated Ca^{++} (CRAC) channels. ORAI1 is a recently identified four-transmembrane spanning protein that is an essential component of CRAC. A missense mutation in this protein in humans is the cause of one form of hereditary severe combined immune deficiency (SCID) which results in ablated T-cell Ca^{++} entry. It has been suggested that ORAI1 functions as a highly selective Ca^{++} plasma membrane channel that is gated through interactions with STIM1, the store-activated endoplasmic reticulum Ca^{++} sensor.

ORAI1 Antibody - References

Lewis RS. Calcium signaling mechanisms in T lymphocytes. *Annu. Rev. Immunol.*2001; 19:497-521.
Feske S, Gwack Y, Prakriya M, et al. A mutation in Orai1 causes immune deficiency by abrogating CRAC channel function. *Nature*2006; 441:179-85.
Soboloff J, Spassova MA, Dziadek MA, et al. Calcium signals mediated by STIM and Orai proteins - a new paradigm in inter-organelle communication. *Biochim. Biophys. Acta.*2006; 1763:1161-8.