

**ORAI1 Antibody**  
**Catalog # ASC10502****Specification**

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**ORAI1 Antibody - Product Information**

Application	WB
Primary Accession	<a href="#">Q96D31</a>
Other Accession	<a href="#">Q96D31</a> , <a href="#">84876</a>
Reactivity	Human, Mouse
Host	Rabbit
Clonality	Polyclonal
Isotype	IgG
Calculated MW	Predicted: 33 kDa

Application Notes	Observed: 50 kDa KDa ORAI1 antibody can be used for detection of ORAI1 by Western blot at 1 µg/mL. Antibody can also be used for immunohistochemistry starting at 10 µg/mL. For immunofluorescence start at 20 µg/mL.
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**ORAI1 Antibody - Additional Information**Gene ID **84876****Other Names**

ORAI1 Antibody: IMD9, ORAT1, CRACM1, TMEM142A, Calcium release-activated calcium channel protein 1, Protein orai-1, ORAI calcium release-activated calcium modulator 1

**Target/Specificity**

ORAI1 antibody was raised against an 18 amino acid synthetic peptide from near the amino terminus of human ORAI1.<br><br>The immunogen is located within the first 50 amino acids of ORAI1.

**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:<a href="http://www.uniprot.org/citations/16582901" target="\_blank">16582901</a>, PubMed:<a href="http://www.uniprot.org/citations/16645049" target="\_blank">16645049</a>, PubMed:<a href="http://www.uniprot.org/citations/16733527" target="\_blank">16733527</a>, PubMed:<a href="http://www.uniprot.org/citations/16766533" target="\_blank">16766533</a>, PubMed:<a href="http://www.uniprot.org/citations/16807233" target="\_blank">16807233</a>, PubMed:<a href="http://www.uniprot.org/citations/19249086" target="\_blank">19249086</a>, PubMed:<a href="http://www.uniprot.org/citations/23307288" target="\_blank">23307288</a>, PubMed:<a href="http://www.uniprot.org/citations/24351972" target="\_blank">24351972</a>, PubMed:<a href="http://www.uniprot.org/citations/24591628" target="\_blank">24591628</a>, PubMed:<a href="http://www.uniprot.org/citations/28219928" target="\_blank">28219928</a>, PubMed:<a href="http://www.uniprot.org/citations/20354224" target="\_blank">20354224</a>, PubMed:<a href="http://www.uniprot.org/citations/26956484" target="\_blank">26956484</a>). 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:<a href="http://www.uniprot.org/citations/16582901" target="\_blank">16582901</a>). 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).

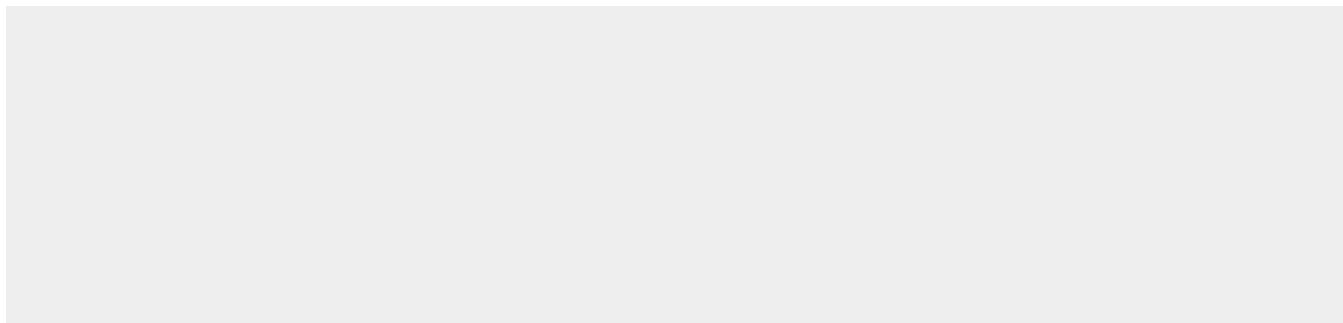
**Tissue Location**

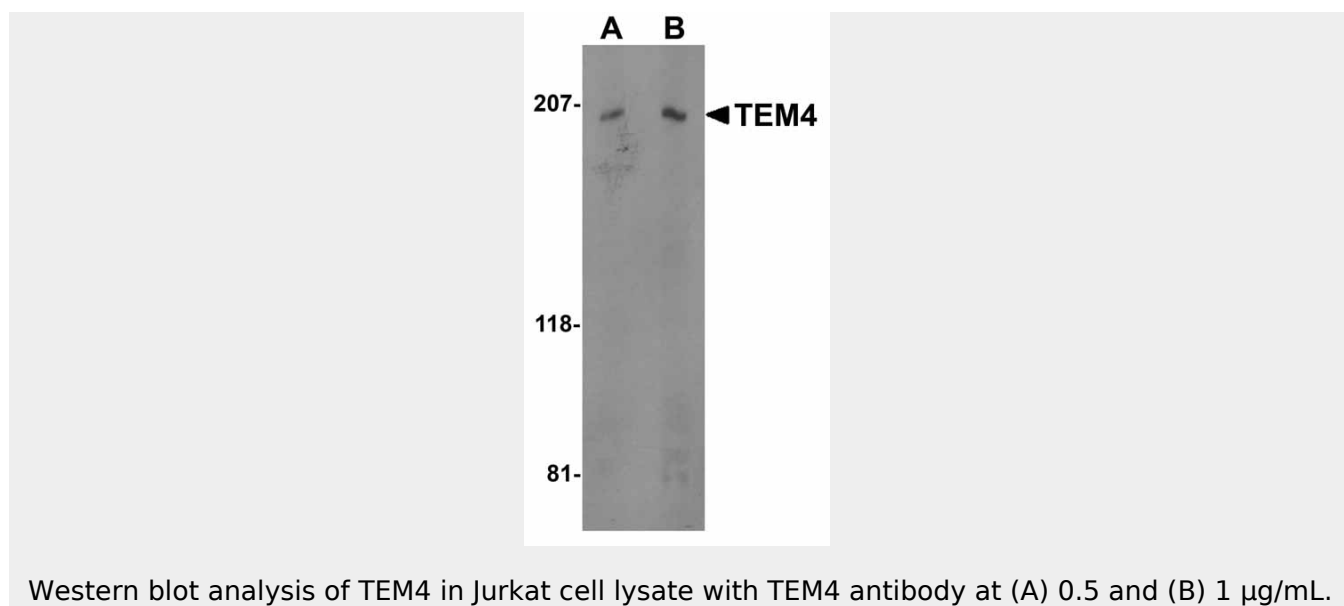
Expressed in naive CD4 and CD8 T cells (at protein level) (PubMed:26956484). Expressed at similar levels in naive and effector T helper cells (PubMed:20354224)

**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**



### **ORAI1 Antibody - Background**

ORAI1 Antibody: Antigen stimulation of immune cells triggers  $\text{Ca}^{++}$  entry through  $\text{Ca}^{++}$  release-activated  $\text{Ca}^{++}$  (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  $\text{Ca}^{++}$  entry. It has been suggested that ORAI1 functions as a highly selective  $\text{Ca}^{++}$  plasma membrane channel that is gated through interactions with STIM1, the store-activated endoplasmic reticulum  $\text{Ca}^{++}$  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.