10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

Goat Anti-ORAI1 / CRACM1 Antibody

Peptide-affinity purified goat antibody
Catalog # AF1754a

Specification

Goat Anti-ORAI1 / CRACM1 Antibody - Product Information

Application	**WB**
Primary Accession	Q96D31
Other Accession	NP_116179, 84876, 109305 (mouse)
Reactivity	**Human**
Predicted	**Pig, Dog**
Host	**Goat**
Clonality	**Polyclonal**
Concentration	**100ug/200ul**
Isotype	**IgG**
Calculated MW	**32668**

Goat Anti-ORAI1 / CRACM1 Antibody - Additional Information

Gene ID 84876

Other Names
Calcium release-activated calcium channel protein 1, Protein orai-1, Transmembrane protein 142A, ORAI1, CRACM1, TMEM142A

Format
0.5 mg IgG/ml in Tris saline (20mM Tris pH7.3, 150mM NaCl), 0.02% sodium azide, with 0.5% bovine serum albumin

Storage
Maintain refrigerated at 2-8°C for up to 6 months. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.

Precautions
Goat Anti-ORAI1 / CRACM1 Antibody is for research use only and not for use in diagnostic or therapeutic procedures.

Goat Anti-ORAI1 / CRACM1 Antibody - 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:<a href="http://www.uniprot.org/citations/16807233"

target="_blank">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)

Goat Anti-ORAI1 / CRACM1 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 Cytomety
- Cell Culture

Goat Anti-ORAI1 / CRACM1 Antibody - Images

AF1754a (0.03 µg/ml) staining of Human Placenta lysate (35 µg protein in RIPA buffer). Primary incubation was 1 hour. Detected by chemiluminescence.

Goat Anti-ORAI1 / CRACM1 Antibody - Background

CRACM1 is a plasma membrane protein essential for store-operated calcium entry (Vig et al., 2006 [PubMed 16645049]).

Goat Anti-ORAI1 / CRACM1 Antibody - References

Protein kinase C-induced phosphorylation of Orai1 regulates the intracellular Ca2+ level via the store-operated Ca2+ channel. Kawasaki T, et al. J Biol Chem, 2010 Aug 13. PMID 20534587.
A novel native store-operated calcium channel encoded by Orai3: selective requirement of Orai3 versus Orai1 in estrogen receptor-positive versus estrogen receptor-negative breast cancer cells. Motiani RK, et al. J Biol Chem, 2010 Jun 18. PMID 20395295.
Differential redox regulation of ORAI ion channels: a mechanism to tune cellular calcium signaling. Bogeski I, et al. Sci Signal, 2010 Mar 30. PMID 20354224.
Pore architecture of the ORAI1 store-operated calcium channel. Zhou Y, et al. Proc Natl Acad Sci U S A, 2010 Mar 16. PMID 20194792.
Expression and association of TRPC subtypes with Orai1 and STIM1 in human parathyroid. Lu M, et al. J Mol Endocrinol, 2010 May. PMID 20194530.