

Anti-Orai1 Reference Antibody (Amgen patent anti-ORAI1)

Recombinant Antibody
Catalog # APR10996

Product Information

Application	FC, Kinetics, Animal Model
Primary Accession	Q96D31
Reactivity	Human
Clonality	Monoclonal
Isotype	IgG2SA
Calculated MW	32668

Additional Information

Target/Specificity	Orai1
Endotoxin Conjugation	Unconjugated
Expression system	CHO Cell
Format	Purified monoclonal antibody supplied in PBS, pH6.0, without preservative. This antibody is purified through a protein A column.

Protein Information

Name	ORAI1 {ECO:0000303 PubMed:16921383, ECO:0000312 HGNC:HGNC:25896}
Function	<p>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</p>

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](#)).

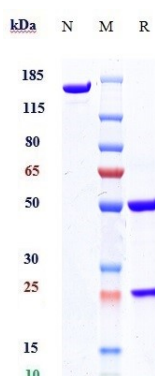
Cellular Location

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

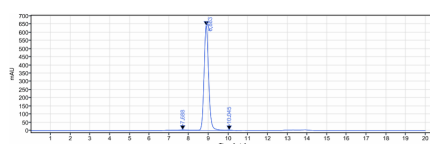
Tissue Location

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)

Images



Anti-Orai1 Reference Antibody (Amgen patent anti-ORAI1) on SDS-PAGE under reducing (R) condition. The gel was stained with Coomassie Blue. The purity of the protein is greater than 90%



The purity of Anti-Orai1 Reference Antibody (Amgen patent anti-ORAI1) is more than 95%, determined by SEC-HPLC.

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