

# Orai1 Rabbit pAb

Catalog # AP97342

## Product Information

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| <b>Application</b>             | IHC-P, IHC-F, IF, E                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Primary Accession</b>       | <a href="#">Q96D31</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Other Accession</b>         | <a href="#">Q96D31</a>                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Host</b>                    | Rabbit                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Clonality</b>               | Polyclonal                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Calculated MW</b>           | 32668                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| <b>Physical State</b>          | Liquid                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Immunogen</b>               | KLH conjugated synthetic peptide derived from human Orai1                                                                                                                                                                                                                                                                                                                                                                                                                                |
| <b>Epitope Specificity</b>     | 151-250/301                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>Isotype</b>                 | IgG                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Purity</b>                  | affinity purified by Protein A                                                                                                                                                                                                                                                                                                                                                                                                                                                           |
| <b>Buffer</b>                  | 0.01M TBS (pH7.4) with 1% BSA, 0.02% Proclin300 and 50% Glycerol.                                                                                                                                                                                                                                                                                                                                                                                                                        |
| <b>SIMILARITY</b>              | Belongs to the Orai family.                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| <b>DISEASE</b>                 | Defects in ORAI1 are the cause of immune dysfunction with T-cell inactivation due to calcium entry defect type 1 (IDTICED1) [MIM:612782]. IDTICED1 is an immune disorder characterized by recurrent infections, impaired T-cell activation and proliferative response, decreased T-cell production of cytokines, and normal lymphocytes counts and serum immunoglobulin levels. In surviving patients ectodermal dysplasia with anhydrosis and non-progressive myopathy may be observed. |
| <b>Important Note</b>          | This product as supplied is intended for research use only, not for use in human, therapeutic or diagnostic applications.                                                                                                                                                                                                                                                                                                                                                                |
| <b>Background Descriptions</b> | Calcium release activated calcium channel protein 1; Calcium release activated calcium modulator 1; Calcium release-activated calcium channel protein 1; CRACM 1; CRACM1; CRCM1; CRCM1_HUMAN; FLJ14466; Orai 1; ORAI calcium release activated calcium modulator 1; orai1; ORAT1; Protein orai 1; Protein orai-1; TMEM 142A; TMEM142A; Transmembrane protein 142A.                                                                                                                       |

## Additional Information

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| <b>Gene ID</b>     | 84876                                                                                                                                                                                                                                                             |
| <b>Other Names</b> | CRACM1; IMD9; ORAT1; TAM2; TMEM142A; D730049H07Rik; orai-1; RGD1311873; ORAI1_HUMAN; ORAI1; Protein orai-1; Transmembrane protein 142A; ORAI1_MOUSE; ORAI1_RAT; ORAI calcium release-activated calcium modulator 1; calcium release-activated calcium modulator 1 |
| <b>Dilution</b>    | IHC-P=1:100-500,IHC-F=1:100-500,ICC/IF=1:100-500,IF=1:100-500,ELISA=1:500<br>0-10000                                                                                                                                                                              |
| <b>Storage</b>     | Store at -20 °C for one year. Avoid repeated freeze/thaw cycles. When reconstituted in sterile pH 7.4 0.01M PBS or diluent of antibody the antibody is stable for at least two weeks at 2-4 °C.                                                                   |

## Protein Information

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| <b>Name</b>              | ORAI1 {ECO:0000303   PubMed:16921383, ECO:0000312   HGNC:HGNC:25896}                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| <b>Function</b>          | <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:<a href="#">16645049</a>, PubMed:<a href="#">16733527</a>, PubMed:<a href="#">16807233</a>, PubMed:<a href="#">16921383</a>, PubMed:<a href="#">19249086</a>, PubMed:<a href="#">19706554</a>, PubMed:<a href="#">23307288</a>, PubMed:<a href="#">26956484</a>, PubMed:<a href="#">28219928</a>). 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:<a href="#">16582901</a>, PubMed:<a href="#">17442569</a>, PubMed:<a href="#">19182790</a>, PubMed:<a href="#">20354224</a>, PubMed:<a href="#">22641696</a>, PubMed:<a href="#">26221052</a>, PubMed:<a href="#">32415068</a>, PubMed:<a href="#">33941685</a>). 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:<a href="#">19622606</a>, PubMed:<a href="#">32415068</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 (By similarity) (PubMed:<a href="#">20887894</a>).</p> |
| <b>Cellular Location</b> | <p>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</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| <b>Tissue Location</b>   | <p>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)</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |

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