

# Recombinant Mouse ORAI2 Protein

**For Research Use Only**

## 1. Basic Product Information

Catalog No.: REP52073

Size: 10ug, 100ug

Protein Name: Protein orai-2 (Transmembrane protein 142B)

Synonym: Orai2, Tmem142b

UniProt ID: Q8BH10

UniProt Link: [www.uniprot.org/uniprotkb/Q8BH10/entry](http://www.uniprot.org/uniprotkb/Q8BH10/entry)

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 250 AA

Molecular Weight: 28 KD

Protein Tag: C-terminal His6

## 2. Amino Acid Sequence

MSAELNVPMDPSAPACPEPGHKGM DYRDWVRRSYLELVTSNHHSVQALSWRKLYLSRAKLKASSR  
TSALLSGFAMVAMVEVQLET KYQPQLLIAFSACTTVLVAVHLFALLISTCILPNVEAVSNIHNLNSIS  
ESPHERMHPYIELAWGFSTVLGILLFLAEVLLCWIKFLPVDAKDQPGSHSHTGWQAALVSTIIMVPV  
GLIFVVFTIHFYRSLVRHKTERHNREIEELHKLKVQLDGHSLQVV

## 3. Buffer Composition

Liquid format: PBS-based buffer containing 50% glycerol. Glycerol concentration can be customized upon customer request; please state special requirements when placing your order.

Lyophilized format: Buffer before lyophilization is PBS supplemented with 6% trehalose.

## 4. Storage Conditions

Upon receipt, store the product at -20 °C or -80 °C. Aliquot the product for on-demand use to preserve protein activity and prevent denaturation and inactivation caused by repeated freeze-thaw cycles.

## 5. Product Description

This product is recombinant Protein orai-2 (Transmembrane protein 142B) produced using the HEK293T eukaryotic cell expression system. It is suitable for in-vitro functional assays, protein-protein interaction studies, antibody preparation and other biomedical research applications.

**Protein Function:** Pore-forming subunit of inward rectifying  $\text{Ca}^{2+}$  release-activated  $\text{Ca}^{2+}$  (CRAC) channels. Assembles with ORAI1 and ORAI3 to form hexameric CRAC channels that mediate  $\text{Ca}^{2+}$  influx upon depletion of endoplasmic reticulum  $\text{Ca}^{2+}$  store and channel activation by  $\text{Ca}^{2+}$  sensor STIM1, a process known as store-operated  $\text{Ca}^{2+}$  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  $\text{Ca}^{2+}$  plateaus involved in sustained  $\text{Ca}^{2+}$  entry and is dispensable for cytosolic  $\text{Ca}^{2+}$  oscillations, whereas ORAI2 and ORAI3 generate oscillatory patterns. CRAC channels assemble in  $\text{Ca}^{2+}$  signaling microdomains where  $\text{Ca}^{2+}$  influx is coupled to calmodulin and calcineurin signaling and activation of NFAT transcription factors recruited to ORAI1 via AKAP5. CRAC channels are the main pathway for  $\text{Ca}^{2+}$  influx in T cells and promote the immune response to pathogens by activating NFAT-dependent cytokine and chemokine transcription.

**Subcellular Localization:** Cell membrane ; Multi-pass membrane protein . Note=Colocalizes with STIM1 upon store depletion.

## 6. Notes

- Avoid repeated freeze-thaw cycles to maintain protein stability and biological activity.
- Please specify special buffer-composition requirements at the time of order placement.
- For research use only. Not intended for clinical diagnosis, therapeutic use or commercial manufacturing.