

Recombinant Rat TRPM2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP52193

Size: 10ug, 100ug

Protein Name: Transient receptor potential cation channel subfamily M member 2

Synonym: Trpm2

UniProt ID: E9PTA2

UniProt Link: www.uniprot.org/uniprotkb/E9PTA2/entry

Species Source: Rat

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1507 AA

Molecular Weight: 172 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MEPLDQRRRTSDSQEEGFGVQSRRATDLGMVPNLRRSNSSLCKSRRLCSFSSEKQENLSSWIPENI
KKKECVYFVESSKLS DAGKVVCECGYTHEQHIEVAIKPHTFQGKEWDPKKHVHEMPTDAFGDIVFT
GLSQKVGKYVRLSQDTSSIVYQLMTQHWGLDVPSSLISVTGGAKNFNMKRLKLSIFRRGLVKVAQTT
GAWIITGGSHTGVMKQVGEAVRDFSLSSSCKEGDVITIGIATWGTIHNREALIHPMGGFPAEYMLDEE
GQGNLTCLDSNHSHFILVDDGTHGQYGVEIPLRTKLEKFISEQTKERGGVAIKIPIVCVVLEGGPGTLH
TIYNAITNGTPCVIVEGSGRVADVIAQVAALPVSEITISLIQQKLSVFFQEMFETFTENQIVEWTKKIQDI
VRRRQLLTVFREGKDGQQDQVDVAILQALLKASRSQDHFGHENWDHQLKLAVAWNRRVDIARSEIFTD
EWQWKPSDLHPMMTAALISNKPEFVRLFLENGVRLKEFVTWDTLLCLYENLEPSCLFHSLKQLKVLAE
EHERLAYASETPRLQMHHVAQVRLRELLGDSTQLLYPRPRYTDRPRLSLPMPHIKLNQGVSLRSLYK
RSTGHVTFIDPVRDLLIWAIQNHRELAGIIWAQSQDCTAAALACSKILKELSKEEEDTDSSEMLALA
DEFEHRAIGVFTECYRKDEERAQKLLVRVSEAWGKTTCLQLALEAKDMKFVSHGGIQAFLTKVWWG
QLCVDNGLWRILCMLAFPLFTGFISFREKRLQALCRLARVRAFFNAPVVIFYLNILSYFAFLCLFAYV
LMVDFQPSPSWCEYLIYLWLFSLVCEETRQLFYDPDGCGLMKMASLYFSDFWNKLDVGAILLFIAGL
TCRLIPATLYPGRILSLDFIMFCLRLMHIFTISKTLGPKIIIVKRMMKDVFFFLFLLAVWVVSFGVAKQAIL
IHNESRVDWIFRGVIYHSYLTIFGQIPTYIDGVNFSMDQCSPNGTDPYKPKCPESDWTGQAPAFPEW
LTVTLLCLYLLFANILLNLLIAMFNFTFQEVQEHTDQIWKQFQRHDLIEEYHGRPPAPPPLILLSHLQLLI
KRIVLKIPAKRHKQLKNKLEKNEEAALLSWELYLKENYLQNNQYQHKQRPEQKIQDISEKVDTMVDLL
DMDRVKRSRGSTEQRLASLEEQVTQMGRSLHWIVTTLKDSGFGSGAGALTLAQRAFDEPDAELSIRK
KGEEGGDGYHVSARHLLYPDARIMRFPVPNEKVPWEAEFLIYDPPFYTAEEKDATLTDPVGDTAEPL



SKINYNVVDGLMDRCSFHGTYVVQYGFPLNPMGRTGLRGRGSLSWFGPNHTLQPVVTRWKRNQG
GGICRKSVRKMLEVLVVKLPQSEHWALPGGSREPGKMLPRKLKQVLQQEYWVTFETLLRQGTEVY
KGYVDDPRNTDNAWIETVAVSIHFQDQNDVELKRLEENLQTHDPKESARGLEMSTEWQVVDRIPL
YVNHKKILQKVASLFGAHF

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 Transient receptor potential cation channel subfamily M member 2 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: Nonselective, voltage-independent cation channel that mediates Na⁺ and Ca²⁺ influx, leading to increased cytoplasmic Ca²⁺ levels (PubMed:11804595, PubMed:16260005, PubMed:16601673, PubMed:16651700, PubMed:19454650). Functions as a ligand-gated ion channel gated by intracellular adenosine diphosphate ribose (ADP-ribose), Ca²⁺, warm temperature, and oxidative stress. The precise physiological activators are under debate; the true, physiological activators may be ADP-ribose and ADP-ribose-2'-phosphate (By similarity). Binding of ADP-ribose to the cytoplasmic Nudix domain causes a conformation change; the channel is primed but still requires Ca²⁺ binding to trigger channel opening. Extracellular Ca²⁺ passes through the channel and increases channel activity (By similarity). Also contributes to Ca²⁺ release from intracellular stores in response to ADP-ribose (PubMed:19454650). Plays a role in numerous processes that involve signaling via intracellular Ca²⁺ levels (Probable). Besides, mediates the release of lysosomal Zn²⁺ stores in response to reactive oxygen species, leading to increased cytosolic Zn²⁺ levels (PubMed:25562606). Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca²⁺ levels (PubMed:16601673). Required for normal IFNG and cytokine secretion and normal innate immune immunity in response to bacterial infection. Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca²⁺ levels (By similarity). Plays a role in the regulation of the reorganization of the actin cytoskeleton and filopodia formation in response to reactive oxygen species via its function in increasing cytoplasmic Ca²⁺ and Zn²⁺ levels (By similarity). Confers susceptibility to cell death following oxidative stress (PubMed:11804595, PubMed:16651700, PubMed:19454650, PubMed:25562606).

Subcellular Localization: Cell membrane ; Multi-pass membrane protein . Perikaryon . Cell projection . Cytoplasmic vesicle . Lysosome . Note=Detected at the cell membrane and in intracellular vesicles in cortical neurons. Detected on neuronal cell bodies and neurites (PubMed:16651700). Detected on the cell membrane in polymorphonuclear neutrophils. Detected on cytoplasmic vesicles and lysosomes in immature bone marrow dendritic cells (By similarity).

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.