

Recombinant Mouse TRPM2 Protein

For Research Use Only

1. Basic Product Information

Catalog No.: REP51827

Size: 10ug, 100ug

Protein Name: Transient receptor potential cation channel subfamily M member 2 (Long transient receptor potential channel 2) (LTrpC-2) (LTrpC2) (Transient receptor potential channel 7) (TrpC7)

Synonym: Trpm2, Ltrpc2, Trpc7

UniProt ID: Q91YD4

UniProt Link: www.uniprot.org/uniprotkb/Q91YD4/entry

Species Source: Mouse

Expression System: HEK293T eukaryotic cell expression system Sequence

Length: 1506 AA

Molecular Weight: 172 KD

Protein Tag: C-terminal His6

2. Amino Acid Sequence

MESLDRRRTGSEQEFGVQSRRTDLGMVPLRRSNSSLCKSRRFLCSFSSEKQENLSSWIPENI
KKKECVYFVESSKLS DAGKVV CACGYTHEQHLEVAIKPHTFQGKEWDPKKHVQEMPTDAFGDIVFT
DLSQKVGKYVRVSQDTPSSVIYQLMTQHWGLDVPNLLISVTGGAKNFMKLRLKSIFRRGLVKVAQT
TGAWIITGGSHTGVMKQVGEAVRDFSLSSSCKEGETITGVATWGTIHNREGLIHPMGGFPAEYMLD
EEGQGNLTCLDSNHSHFILVDDGTHGQYGVEIPLRTKLEKFISEQTKERGGVAIKIPIVCVVLEGGPGT
LHTIYNAINNGTPCVIVEGSGRVADVIAQVATLPVSEITISLIQKLSIFFQEMFETFTENQIVEWTKKIQ
DIVRRRQLLTIFREGKDGGQDQVDVAILQALLKASRSQDHFHGHENWDHQLKLAVAWNRVDIARSEIFT
DEWQWKPADLHPMMTAALISNKPEFVRLFLENGVRLKEFVTWDTLLCLYENLEPSCLFHSKLQKVL A
EEQRLAYASATPRLHMHVAVQLRELLGDSTQLLYPRPRYTDRPRLSMTVPHIKLNVQGVSLRSLYK
RSTGHVTFITDPVRDLLIWAVIQNHREL AGIIWAQSQDCTAAALACSKILKELSKEEEDTDSSEMLAL
ADEFEHRAIGVFTECYRKDEERAQKLLVRVSEAWGKTTCLQLALEAKDMKFVSHGGIQAFLTKVWW
GQLCVDNGLWRIILCMLAFPLLTGFISFREKRLQALCRPARVRAFFNAPVVIFHMNILSYFAFLCLFA
YVLMVDFQSPSPWCEYLIYLWLFSLVCEETRQLFYDPDGCGLMKMASLYFSDFWNKLDVGAILLFIV
GLTCRLIPATLYPGRIILSLDFIMFCLRLMHIFTISKTLGPKIIIVKRMMKDVFFFLFLAVWVVSFGVAKQ
AILIHNESRVDWIFRGVVYHSYLTIFGQIPTYIDGVNFSMDQCSPNGTDPYKPKCPESDWTGQAPAFP
EWLTVTLLCLYLLFANILLNLLIAMFNFTFQEVQEHTDQIWKQFQRHDLIEEYHGRPPAPPPLILLSHLQ
LLIKRIVLKIPAKRHKQLKNKLEKNEETALLSWELYLKENYLNQYQQKQRPEQKIQDISEKVDTMV



DLLDMDQVKRSGSTEQRLASLEEQVTQVTRALHWIVTTLKDSGFGSGAGALTAPQRAFDEPDAEL
SIRRKVEEPGDGYHVSARHLLYPNARIMRFPVPNEKVPWAAEFLIYDPPFYTAEKDVALTDPVGD
EPLSKISYNVVDGPTDRRSFHGVYVVEYGFPLNPMGRTGLRGRGSLSWFGPNHTLQPVVTRWKR
QGAICRKSVRKMLEVLVMKLPRSEHWALPGGSREPGEMLPKLRVLRQEFWVAFETLLMQGTE
VYKGYVDDPRNTDANWVAVSIHFQDQNDMELKRLEENLHTHDPKELTRDLKLSTEWQVVDRI
LYANHKTILQKVASLFGAHF

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 (Long transient receptor potential channel 2) (LT_{TrpC}-2) (LT_{TrpC}2) (Transient receptor potential channel 7) (TrpC7) 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:19454650, PubMed:21753080, PubMed:22493272). 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:21753080). Plays a role in numerous processes that involve signaling via intracellular Ca²⁺ levels (PubMed:21753080). Besides, mediates the release of lysosomal Zn²⁺ stores in response to reactive oxygen species, leading to increased cytosolic Zn²⁺ levels (By similarity). Plays a role in mediating behavioral and physiological responses to moderate heat and thereby contributes to body temperature homeostasis (PubMed:27533035, PubMed:27562954). Plays a role in insulin secretion, a process that requires increased cytoplasmic Ca²⁺ levels (PubMed:20921208, PubMed:25817999). Required for normal IFN γ and cytokine secretion and normal innate immune immunity in response to bacterial infection (PubMed:21709234). Required for normal phagocytosis and cytokine release by macrophages exposed to zymosan (in vitro) (PubMed:22493272). Plays a role in dendritic cell differentiation and maturation, and in dendritic cell chemotaxis via its role in regulating cytoplasmic Ca²⁺ levels (PubMed:21753080). 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: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 (By similarity). Detected on the cell membrane in polymorphonuclear neutrophils (PubMed:21753080). Detected on cytoplasmic vesicles and lysosomes in immature bone marrow dendritic cells (PubMed:21753080).

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.