TRPM8 Human Protein

PRODUCT OVERVIEW

Product Name	TRPM8, Protein
Full Product Name	Human TRPM8 full length protein-synthetic nanodisc
Product Gene Name	TRPM8 protein
Product Synonym Names	LTRPC6; LTrpC-6; TRPP8; trp-p8
Host	HEK293
Form/Format	Lyophilized from nanodisc solubilization buffer (20 mM Tris-HCl, 150 mM NaCl, pH 8.0). Normally 5%-8% trehalose is added as protectants before lyophilization. Please see Certificate of Analysis for specific instructions. Do not use solvents with pH lower
Preparation and Storage	Store at -20 degree C to -80 degree C for 12 months in lyophilized form. After reconstitution, if not intended for use within a month, aliquot and store at -80 degree C (Avoid repeated freezing and thawing). Lyophilized proteins are shipped at ambient temperature.
Molecular Weight	79,096 Da
OMIM	606678
3D Structure	ModBase 3D Structure for Q7Z2W7
Tag	C-DYKDDDDK
Product Categories/Family for TRPM8 protein	Full Length Transmembrane Proteins; Ion Channels: Transient receptor potential
Related Product Information for TRPM8 protein	Receptor-activated non-selective cation channel involved in detection of sensations such as coolness, by being activated by cold temperature below 25 degrees Celsius. Activated by icilin, eucalyptol, menthol, cold and modulation of intracellular pH. Involved in menthol sensation. Permeable for monovalent cations sodium, potassium, and cesium and divalent cation calcium. Temperature sensing is tightly linked to voltage-dependent gating. Activated upon depolarization, changes in temperature resulting in graded shifts of its voltage-dependent activation curves. The chemical agonist menthol functions as a gating modifier, shifting activation curves towards physiological membrane potentials. Temperature sensitivity arises from a tenfold difference in the activation energies associated with voltage-dependent opening and closing. In prostate cancer cells, shows strong inward rectification and high calcium selectivity in contrast to its behavior in normal cells which is characterized by outward rectification and poor cationic selectivity. Plays a role in prostate cancer cell migration (PubMed:25559186). Isoform 2 and isoform 3 negatively regulate menthol- and cold-induced channel activity by stabilizing the closed state of the channel.[UniProtKB/Swiss-Prot Function]
Other Notes	Small volumes of TRPM8 protein vial(s) may occasionally become entrapped in the seal of the product vial during shipment and storage. If necessary, briefly centrifuge the vial on a tabletop centrifuge to dislodge any liquid in the container`s cap. Certain products may require to ship with dry ice and additional dry ice fee may apply.
Searchable Terms for TRPM8 purchase	MBS1883107 is a protein targeting TRPM8. Also known as Human TRPM8 full length protein-synthetic nanodisc. Host: HEK293.

ADDITIONAL DETAILS

NCBI/Uniprot data below describe general gene information for TRPM8. It may not necessarily be applicable to this product.

NCBI GI #	109689695
NCBI GeneID	79054
NCBI Accession #	NP_076985.4

UniProt Primary Accession #	Q7Z2W7
UniProt Secondary Accession #	Q3YFM7; Q6QNH9; Q8TAC3; Q8TDX8; Q9BVK1; A0AVG2
UniProt Related Accession #	Q7Z2W7
GenBank Nucleotide #	NM_024080.4
NCBI Official Full Name	transient receptor potential cation channel subfamily M member 8
NCBI Official Synonym Full Names	transient receptor potential cation channel subfamily M member 8
NCBI Official Symbol	TRPM8
NCBI Official Synonym Symbols	TRPP8; LTRPC6
UniProt Protein Name	Transient receptor potential cation channel subfamily M member 8
UniProt Synonym Protein Names	Long transient receptor potential channel 6; LTrpC-6; LTrpC6; Transient receptor potential p8; Trp-p8
Protein Family	Transient receptor potential cation channel subfamily
UniProt Gene Name	TRPM8
UniProt Synonym Gene Names	LTRPC6; TRPP8; LTrpC-6; LTrpC6; Trp-p8
UniProt Entry Name	TRPM8_HUMAN
NCBI Protein Information	transient receptor potential cation channel subfamily M member 8
UniProt Comments for TRPM8	TRPM8: Receptor-activated non-selective cation channel involved in detection of sensations such as coolness, by being activated by cold temperature below 25 degrees Celsius. Activated by icilin, eucalyptol, menthol, cold and modulation of intracellular pH. Involved in menthol sensation. Permeable for monovalent cations sodium, potassium, and cesium and divalent cation calcium. Temperature sensing is tightly linked to voltage-dependent gating. Activated upon depolarization, changes in temperature resulting in graded shifts of its voltage-dependent activation curves. The chemical agonists menthol functions as a gating modifier, shifting activation curves towards physiological membrane potentials. Temperature sensitivity arises from a tenfold difference in the activation energies associated with voltage-dependent opening and closing. Belongs to the transient receptor (TC 1.A.4) family. LTrpC subfamily. TRPM8 sub-subfamily. 3 isoforms of the human protein are produced by alternative splicing. Protein type: Membrane protein, multi-pass; Channel, cation; Membrane protein, integral Chromosomal Location of Human Ortholog: 2q37.1 Cellular Component: endoplasmic reticulum membrane; external side of plasma membrane; integral to membrane; lipid raft; plasma membrane Molecular Function: calcium channel activity; protein binding; protein homodimerization activity Biological Process: cellular calcium ion homeostasis; detection of temperature stimulus; protein homotetramerization; response to cold; thermoception
Research Articles on TRPM8	**1.** TRPM8 underlines the important physiologic role of the nose in temperature regulation, both in patients with allergy and those without allergy. Isometric contraction studies demonstrate the role of TRPM8 in regulating nasal patency and airway resistance.
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