Recombinant TRPM8 protein (His tag)

Catalog Number	545294
Synonyms	Long transient receptor potential channel 6; LTrpC-6; LTrpC6; Transient receptor potential p8; Trp-p8
Species	Human
Expression System	E. coli
Accession	Q7Z2W7
Molecular Weight	Predictes a molecular mass of 16.14 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 16 kDa band.

Product Information

Sequence Region	984-1104
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>86%, by SDS-PAGE with Coomassie Brilliant Blue staining.
Endotoxin	Not tested.
Activity	Not tested.
Stability	Samples are stable for up to twelve months from date of receipt at -70℃
Protein Construction	DNA encoding 984-1104 aa (Q7Z2W7) were fused with 6His tag.

Storage & Handling

Reconstitution	Reconstitute at 0.25 μg/μl in sterile water for short-term storage. Reconstitution with 50% glycerol solution is recommended for longer term storage (see Stability and Storage for more details). If a different concentration is needed for your purposes please adjust the reconstitution volume as required (please note: the ion concentration of the final solution will vary according to the volume used). Note: Centrifuge vial before opening. When reconstituting, gently pipet and wash down the sides of the vial to ensure full recovery of the protein into solution.
Storage	Store it under sterile conditions at -20℃ to -80℃. It is recommended that the protein be aliquoted for optimal storage. Avoid repeated freeze-thaw cycles.
Shipping	In general, recombinant proteins are provided as lyophilized powder which are shipped at ambient temperature. Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise.

Description

Description	This recombinant protein product features a 121-amino acid fragment (residues 984-1104) of the human Transient Receptor Potential Cation Channel Subfamily M Member 8 (TRPM8), designed for structural and biochemical studies. TRPM8 is a key sensor for environmental cold temperatures and cooling agents like menthol, making this fragment an essential tool for investigating thermosensation mechanisms and ion channel function. TRPM8 is a non-selective cation channel permeable to monovalent and divalent cations, including Na+, K+, and Ca2+, with higher permeability for Ca2+. It is activated by cool temperatures (<23-28°C) and chemical ligands such as menthol and icilin, playing a central role in detecting environmental cold. The channel is voltage-dependent, and its activation by cold or chemicals shifts voltage thresholds toward physiological membrane potentials, leading to channel opening. TRPM8 also regulates basal tear secretion by sensing evaporation-induced cooling and osmotic changes and may contribute to prostate cancer cell migration. Subcellularly, it localizes to the cell membrane, membrane rafts, and endoplasmic reticulum, with lipid raft association modulating its activity. In prostate cancer cells, it is found in the endoplasmic reticulum. This fragment was computationally selected to represent a stable, soluble unit for research applications.