Recombinant TRPM5 protein (His tag)

Catalog Number	543781
Synonyms	Long transient receptor potential channel 5; LTrpC-5; LTrpC5; MLSN1- and TRP-related gene 1 protein
Species	Human
Expression System	E. coli
Accession	Q9NZQ8
Molecular Weight	Predictes a molecular mass of 54.38 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 57 kDa band.

Product Information

Sequence Region	1-478
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>87%, 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 1-478 aa (Q9NZQ8) 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 amino acids 1-478 of Human TRPM5 (Transient receptor potential cation channel subfamily M member 5), representing a stable and soluble fragment ideal for structural studies and functional characterization of this important cation channel. TRPM5 is a monovalent cation-selective ion channel activated by intracellular Ca^{2+} in a voltage- and temperature-dependent manner. It mediates the transport of Na^{+}, K^{+}, and Cs^{+} ions equally well and is directly activated by increased intracellular Ca^{2+} while remaining impermeable to calcium ions. TRPM5 plays a crucial role in sensory perception, serving as a key player in sensing sweet, umami, and bitter stimuli. Additionally, it is involved in insulin secretion by pancreatic beta cells. The channel activation mechanism involves a multistep process initiated by ligand binding to Gq/G-protein coupled receptors, leading to phosphatidylinositol bisphosphate breakdown and subsequent protein kinase C phosphorylation of TRPM5. This protein is localized to the cell membrane as a multi-pass membrane protein, where it functions in signal transduction and cellular response mechanisms.