Recombinant TM63B protein (His tag)

Catalog Number	542837
Synonyms	Transmembrane protein 63B; hTMEM63B
Species	Human
Expression System	E. coli
Accession	Q5T3F8
Molecular Weight	Predictes a molecular mass of 24.89 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 26 kDa band.

Product Information

Sequence Region	228-427
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 228-427 aa (Q5T3F8) 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	Recombinant human TMEM63B (228-427) is a high-quality protein fragment derived from the mechanosensitive cation channel TMEM63B. This 200-amino acid fragment has been computationally selected for stability and solubility, making it an ideal reagent for structural studies, biochemical assays, and functional investigations of this important osmosensing and mechanosensitive channel. TMEM63B is a mechanosensitive cation channel with low conductance and high activation threshold that functions as an osmosensitive channel preferentially activated by hypotonic stress. Beyond its channel activities, TMEM63B also acts as a phospholipid scramblase that translocates phospholipids in response to changes in membrane structure, controlling plasma membrane lipid distribution. The protein forms heterodimers with SLC19A2 to mediate phospholipid scramblase activity following calcium stimulation. TMEM63B is expressed in excitatory neurons of the subfornical organ where it functions as a thirst receptor mediating neuronal response to hyperosmolality, driving thirst and drinking behavior. It plays essential roles in respiration by facilitating the baby's first breath and conducting cation currents in alveolar cells upon lung inflation, triggering surfactant secretion. The protein is also required for cochlear outer hair cell function, mediating calcium influx and regulatory volume decrease, and is essential for maintaining hair cell morphology, survival, and normal hearing. TMEM63B localizes to multiple membrane compartments including the cell membrane, endoplasmic reticulum, lysosomes, and early endosomes, and colocalizes with cortical F-actin and lamellar body membranes in alveolar type 2 cells.