Recombinant ITPR3 protein (His tag)

Catalog Number	544985
Synonyms	IP3 receptor isoform 3; IP3R-3; InsP3R3; Type 3 inositol 1,4,5-trisphosphate receptor; Type 3 InsP3 receptor
Species	Human
Expression System	E. coli
Accession	Q14573
Molecular Weight	Predictes a molecular mass of 37.83 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 38 kDa band.

Product Information

Sequence Region	1-321
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>85%, 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 1-321 aa (Q14573) 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	Introducing the recombinant human ITPR3 fragment (amino acids 1-321), a high-purity protein encompassing the critical MIR 1, MIR 2, and MIR 3 domains. This fragment serves as an essential tool for investigating the structural and functional mechanisms of the inositol 1,4,5-trisphosphate-gated calcium channel, enabling targeted studies of calcium signaling pathways. The full-length ITPR3 protein, encoded by the ITPR3 gene in Homo sapiens, functions as an inositol 1,4,5-trisphosphate-gated calcium channel localized to the endoplasmic reticulum and secretory vesicle membranes. It plays a pivotal role in cellular calcium homeostasis by transporting calcium from the endoplasmic reticulum lumen to the cytoplasm upon binding 1D-myo-inositol 1,4,5-trisphosphate. This process involves conformational transitions from resting to activated states, regulated by calcium binding at specific cytoplasmic sites, and is critical for terminating calcium release. ITPR3's presence at mitochondria-associated membranes further underscores its significance in intracellular calcium dynamics and signaling.