# Recombinant ITPR2 protein (His tag)

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| **Catalog Number** | 542679 |
| **Synonyms** | IP3 receptor isoform 2; IP3R 2; InsP3R2; Inositol 1,4,5-trisphosphate receptor type 2; Type 2 inositol 1,4,5-trisphosphate receptor; Type 2 InsP3 receptor |
| **Species** | Human |
| **Expression System** | E. coli |
| **Accession** | Q14571 |
| **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

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| **Sequence Region** | 1-320 |
| **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 1-320 aa (Q14571) were fused with 6His tag. |

## Storage & Handling

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| **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.<br>Bulk packages of recombinant proteins are provided as frozen liquid. They are shipped out with blue ice unless customers require otherwise. |

## Description

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| **Description** | Recombinant Human ITPR2 (1-320) Fragment - A high-purity protein fragment encompassing the MIR 1, MIR 2, and MIR 3 domains of the inositol 1,4,5-trisphosphate-gated calcium channel IP3R2. This carefully designed 320-amino acid construct serves as an essential tool for investigating the specific functional roles of these critical domains in calcium signaling pathways.<br>The full-length ITPR2 protein functions as an inositol 1,4,5-trisphosphate-gated calcium channel that transports calcium from the endoplasmic reticulum lumen to the cytoplasm upon ligand binding. This receptor exists in distinct conformational states, transitioning from a long-lived closed 'parked' state to a 'drive' mode characterized by periods of bursting activity when activated by ligands. ITPR2 is primarily localized to the endoplasmic reticulum membrane as a multi-pass membrane protein, where it forms clusters upon inositol 1,4,5-trisphosphate binding, and is also found on secretory vesicle membranes. As a key regulator of intracellular calcium homeostasis, ITPR2 plays a fundamental role in numerous cellular processes including signal transduction, secretion, and cell proliferation. |