Recombinant JPH2 protein (His tag)

Catalog Number	541132
Synonyms	JP-2; Junctophilin type 2; JP2NT
Species	Human
Expression System	E. coli
Accession	Q9BR39
Molecular Weight	Predictes a molecular mass of 20.17 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	283-446
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 283-446 aa (Q9BR39) 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 stable and soluble fragment (residues 283-446) of human Junctophilin-2 (JP-2), a critical membrane-binding protein essential for excitation-contraction coupling in cardiomyocytes. Ideal for structural and biochemical studies, this fragment enables researchers to investigate key aspects of JP-2 function in a manageable, experimentally accessible format. Junctophilin-2 (JP-2), encoded by the JPH2 gene, is a membrane-binding protein that forms a structural bridge between the plasma membrane and sarcoplasmic reticulum in cardiomyocytes, facilitating normal excitation-contraction coupling. It maintains the precise 12-15 nm gap between these membranes in cardiac dyads, enabling proper intracellular calcium signaling through ryanodine receptor-mediated release. JP-2 is also involved in constructing skeletal muscle triad junctions. Under cardiac stress, calpain cleavage generates the Junctophilin-2 N-terminal fragment (JP2NT), which translocates to the nucleus and acts as a transcription repressor, modulating gene expression to attenuate pathological remodeling. The full-length protein localizes to the cell membrane (as a peripheral membrane protein) and sarcoplasmic reticulum/endoplasmic reticulum membranes (as a single-pass type IV membrane protein), while the cleaved JP2NT fragment accumulates in the nucleus during stress responses.