Recombinant HCN3 protein (His tag)

Catalog Number	548425
Species	Human
Expression System	E. coli
Accession	Q9P1Z3
Molecular Weight	Predictes a molecular mass of 28.58 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 29 kDa band.

Product Information

Sequence Region	351-582
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 351-582 aa (Q9P1Z3) 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 Potassium/sodium hyperpolarization-activated cyclic nucleotide-gated channel 3 (HCN3) fragment (residues 351-582), a stable and soluble unit ideal for structural studies and biochemical characterization of this key pacemaker ion channel. HCN3 is a hyperpolarization-activated ion channel permeable to sodium and potassium ions, exhibiting approximately 3:1 preference for potassium. It contributes to native pacemaker currents in both cardiac (If) and neuronal (Ih) tissues, playing a pivotal role in maintaining excitability and promoting rhythmic burst firing within hypothalamic nuclei. The channel significantly influences cardiac action potential waveform configuration, though it does not appear prominent in acute, neuropathic, or inflammatory pain processing. HCN3 localizes to the cell membrane as a multi-pass membrane protein, where it functions in electrical signaling and rhythmic activity regulation.