Recombinant KCNN4 protein (His tag)

Catalog Number	537210
Synonyms	SKCa 4; SKCa4; hSK4; Gardos channel; IKCa1; hIK1; KCa3.1; Putative Gardos channel; hKCa4
Species	Human
Expression System	E. coli
Accession	O15554
Molecular Weight	Predictes a molecular mass of 18.39 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 18 kDa band.

Product Information

Sequence Region	286-427
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>90%, 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 286-427 aa (O15554) 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 Intermediate Conductance Calcium-Activated Potassium Channel Protein 4 (KCa3.1/KCNN4) fragment (residues 286-427), a highly stable and soluble protein unit ideal for structural studies, biochemical assays, and functional investigations of this key potassium channel involved in cellular signaling and calcium regulation. The full-length Intermediate Conductance Calcium-Activated Potassium Channel Protein 4 (KCNN4/KCa3.1), also known as the Gardos channel, is a calcium-activated potassium channel that mediates voltage-independent potassium transport across cell membranes through constitutive calmodulin interaction. This channel exhibits characteristic intermediate single-channel conductance (~25 pS) and plays crucial roles in vascular contractility by mediating membrane hyperpolarization in proliferative vascular smooth muscle cells. It is essential for maximal calcium influx and proliferation during T-cell reactivation, contributes to chemotactic peptide-induced sustained calcium entry, and participates in EGF-induced macropinocytosis through PI(3)P activation. The channel localizes to the cell membrane and, upon EGF stimulation, translocates to membrane ruffles in cell projections, highlighting its dynamic regulatory functions in cellular physiology and signaling pathways.