Recombinant KCNN3 protein (His tag)

Catalog Number	548458
Synonyms	SK3; SKCa 3; SKCa3; KCa2.3
Species	Human
Expression System	E. coli
Accession	Q9UGI6
Molecular Weight	Predictes a molecular mass of 19.26 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 19 kDa band.

Product Information

Sequence Region	544-693
Form	Lyophilized powder
Formulation	Lyophilized from sterile PBS, pH 7.4
Purity	>89%, 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 544-693 aa (Q9UGI6) 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 Small Conductance Calcium-Activated Potassium Channel Protein 3 (SK3, KCa2.3) Fragment (residues 544-693) is a high-purity, stable protein designed for structural and biochemical studies. This 150-amino acid fragment, derived from the KCNN3 gene, offers a soluble and functional unit ideal for investigating calcium-gated potassium channel mechanisms and neuronal excitability regulation. The full-length Small Conductance Calcium-Activated Potassium Channel Protein 3 (SK3), encoded by the KCNN3 gene in Homo sapiens, is a voltage-independent potassium channel that mediates transmembrane potassium transfer through constitutive calmodulin interaction upon intracellular calcium binding. It exhibits a characteristic 10 picosiemens single-channel conductance, inwardly rectifying currents at membrane potentials above +20 mV, and activation-induced membrane hyperpolarization. SK3 is implicated in regulating neuronal excitability by contributing to synaptic afterhyperpolarization. Isoform 3 acts dominantly-negative, suppressing functional channel activity. Subcellularly, SK3 localizes to the cell membrane as a multi-pass membrane protein and is also found at the Z line of sarcomeres in the cytoplasm. This recombinant fragment provides a targeted tool for exploring these critical functions without domain complexities.