Recombinant MITOK protein (His tag)

Catalog Number	545670
Synonyms	MITOK; Coiled-coil domain-containing protein 51
Species	Human
Expression System	E. coli
Accession	Q96ER9
Molecular Weight	Predictes a molecular mass of 18.38 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	60-201
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 60-201 aa (Q96ER9) 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 Mitochondrial Potassium Channel (MITOK) Fragment (60-201) is a high-purity protein derived from the CCDC51 gene, representing a stable and soluble unit ideal for structural and biochemical studies of mitochondrial ATP-gated potassium channel function. The full-length Mitochondrial potassium channel (MITOK), encoded by the CCDC51 gene in Homo sapiens, functions as the pore-forming subunit of the mitochondrial ATP-gated potassium channel (mitoK(ATP)). It collaborates with the ATP-binding subunit ABCB8/MITOSUR to mediate ATP-dependent potassium currents across the mitochondrial inner membrane. This channel regulates potassium transport in response to intracellular ATP levels: elevated ATP closes the channel, inhibiting K+ uptake, while reduced ATP enhances K+ influx into the mitochondrial matrix. MITOK is localized to the mitochondrial inner membrane as a multi-pass membrane protein and plays a critical role in maintaining mitochondrial matrix volume, contributing to cellular metabolic homeostasis under stress conditions, as supported by evidence from PubMed:31435016.