Recombinant MCU protein (His tag)

Catalog Number	543181
Synonyms	HsMCU; Coiled-coil domain-containing protein 109A
Species	Human
Expression System	E. coli
Accession	Q8NE86
Molecular Weight	Predictes a molecular mass of 20.06 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 21 kDa band.

Product Information

Sequence Region	74-233
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 74-233 aa (Q8NE86) 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 MCU (74-233) Protein Fragment - A high-quality, stable fragment of the mitochondrial calcium uniporter protein (HsMCU) designed for structural and biochemical studies. This 160-amino acid fragment represents a soluble domain of the critical calcium channel that regulates mitochondrial calcium uptake, offering researchers a valuable tool for investigating calcium signaling pathways and mitochondrial function. The full-length Calcium uniporter protein, mitochondrial (MCU) serves as the channel-forming and calcium-conducting subunit of the mitochondrial inner membrane calcium uniporter complex. This essential protein mediates calcium uptake into the mitochondrial matrix, playing a pivotal role in cellular physiology by regulating ATP production, cytoplasmic calcium signals, and activation of cell death pathways. MCU is localized to the mitochondrial inner membrane as a multi-pass membrane protein and functions in diverse physiological contexts including cardiac function during acute stress, synaptic vesicle endocytosis in nerve terminals, glucose-dependent insulin secretion in pancreatic beta-cells, and antigen processing. The protein's activity is regulated by calcium-sensor subunits MICU1 and MICU2/MICU3, forming a sophisticated regulatory system for mitochondrial calcium homeostasis. This recombinant fragment (residues 74-233) provides researchers with a stable, soluble unit ideal for investigating the structural and functional properties of this critical calcium channel component.