Recombinant MICU2 protein (His tag)

Catalog Number	547702
Synonyms	hMICU3; EF-hand domain-containing family member A1
Species	Human
Expression System	E. coli
Accession	Q8IYU8
Molecular Weight	Predictes a molecular mass of 43.04 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 46 kDa band.

Product Information

Sequence Region	85-434
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 85-434 aa (Q8IYU8) 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 MICU2 (EF-hand domain-containing family member A1) Fragment (aa 85-434) – a high-purity protein fragment encompassing the critical EF-hand domains essential for mitochondrial calcium sensing. This product is an invaluable tool for studying calcium-dependent regulation of the mitochondrial calcium uniporter (MCU) channel, enabling researchers to investigate domain-specific functions in calcium homeostasis and signaling pathways. MICU2 (Calcium uptake protein 2, mitochondrial) functions as a calcium sensor within the mitochondrial calcium uniporter complex, working in concert with MICU1 to form a disulfide-linked heterodimer that dynamically regulates MCU channel activity. Located in the mitochondrial intermembrane space and inner membrane, this protein exhibits calcium concentration-dependent behavior: at low calcium levels, it helps occlude the MCU pore to prevent calcium uptake, while at higher concentrations, calcium binding induces conformational changes that permit calcium permeation. The provided fragment (aa 85-434) contains all four EF-hand domains (including two degenerate EF-hands), which are directly responsible for calcium sensing and the subsequent regulatory mechanisms that control mitochondrial calcium flux, making it particularly suitable for structural and functional studies of calcium-dependent mitochondrial signaling.