Recombinant ATPD protein (His tag)

Catalog Number	537670
Synonyms	1; ATP synthase F1 subunit delta; F-ATPase delta subunit
Species	Human
Expression System	E. coli
Accession	P30049
Molecular Weight	Predictes a molecular mass of 15.64 kDa. In SDS-PAGE under reducing conditions, it migrates as an approximately 16 kDa band.

Product Information

Sequence Region	36-168
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 36-168 aa (P30049) 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 ATP synthase F1 subunit delta fragment (residues 36-168) is a high-quality protein preparation ideal for structural and functional studies of mitochondrial ATP synthase complex assembly and function. This 133-amino acid fragment represents a stable, soluble domain computationally selected for optimal biochemical performance. ATP synthase F1 subunit delta (encoded by ATP5F1D) is a crucial component of the mitochondrial F(1)F(0) ATP synthase complex (Complex V), which generates ATP from ADP using the proton gradient across the mitochondrial inner membrane. The full-length protein forms part of the peripheral stalk that connects the soluble F1 catalytic head domain to the membrane-embedded F0 proton channel. This subunit, along with the gamma subunit, is essential for the biogenesis of the F1 catalytic core and formation of F1 assembly intermediates. The ATP synthase complex operates through a rotary mechanism where proton translocation drives ATP synthesis in the catalytic domain. The protein is localized to the mitochondrial inner membrane, where it participates in oxidative phosphorylation, the fundamental energy-producing process in eukaryotic cells.