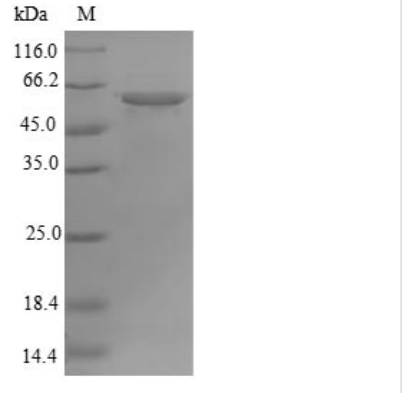
Recombinant Human ATP synthase subunit alpha, mitochondrial (ATP5F1A)

Product Code	CSB-EP002344HU
Relevance	Mitochondrial membrane ATP synthase (F1F0 ATP synthase or Complex V) produces ATP from ADP in the presence of a proton gradient across the membrane which is generated by electron transport complexes of the respiratory chain. F-type ATPases consist of two structural domains, F1 - containing the extramembraneous catalytic core, and F0 - containing the membrane proton channel, linked together by a central stalk and a peripheral stalk. During catalysis, ATP synthesis in the catalytic domain of F1 is coupled via a rotary mechanism of the central stalk subunits to proton translocation. Subunits alpha and beta form the catalytic core in F1. Rotation of the central stalk against the surrounding alpha3beta3 subunits leads to hydrolysis of ATP in three separate catalytic sites on the beta subunits. Subunit alpha does not bear the catalytic high-affinity ATP-binding sites
Abbreviation	Recombinant Human ATP5F1A protein
Storage	The shelf life is related to many factors, storage state, buffer ingredients, storage temperature and the stability of the protein itself. Generally, the shelf life of liquid form is 6 months at -20°C/-80°C. The shelf life of lyophilized form is 12 months at -20°C/-80°C.
Uniprot No.	P25705
Product Type	Recombinant Protein
Immunogen Species	Homo sapiens (Human)
Purity	Greater than 90% as determined by SDS-PAGE.
Sequence	QKTGTAEMSSILEERILGADTSVDLEETGRVLSIGDGIARVHGLRNVQAEEMVE FSSGLKGMSLNLEPDNVGVVVFGNDKLIKEGDIVKRTGAIVDVPVGEELLGRVV DALGNAIDGKGPIGSKTRRRVGLKAPGIIPRISVREPMQTGIKAVDSLVPIGRGQ RELIIGDRQTGKTSIAIDTIINQKRFNDGSDEKKKLYCIYVAIGQKRSTVAQLVKR LTDADAMKYTIVVSATASDAAPLQYLAPYSGCSMGEYFRDNGKHALIIYDDLSK QAVAYRQMSLLLRRPPGREAYPGDVFYLHSRLLERAAKMNDAFGGGSLTALP VIETQAGDVSAYIPTNVISITDGQIFLETELFYKGIRPAINVGLSVSRVGSAAQTR AMKQVAGTMKLELAQYREVAAFAQFGSDLDAATQQLLSRGVRLTELLKQGQY SPMAIEEQVAVIYAGVRGYLDKLEPSKITKFENAFLSHVVSQHQALLGTIRADG KISEQSDAKLKEIVTNFLAGFEA
Research Area	Metabolism
Source	E.coli
Target Names	ATP5F1A
Expression Region	44-553aa
Notes	Repeated freezing and thawing is not recommended. Store working aliquots at 4°C for up to one week.

Tag Info	N-terminal 6xHis-tagged
Mol. Weight	59.2kDa
Protein Length	Full Length of Mature Protein

Image



(Tris-Glycine gel) Discontinuous SDS-PAGE (reduced) with 5% enrichment gel and 15% separation gel.

Description

This Recombinant Human ATP5F1A protein was made through genetic engineering. By putting the ATP5F1A gene into the genetic material of E.coli cell, the E.coli could be used as factories or producers to make the desired ATP5F1A protein for research uses. The expression region of this protein is at 44-553aa. N-terminal 6xHis tag was used in the expression process. The purity is 90%+ determined by SDS-PAGE.

ATP synthase F1 subunit alpha (ATP5F1A), a complex V protein, was the most frequently affected subunit, in 10% of tumors and 11% of benign prostate tissues (but not both tissues in any single patient). A possible role of complex V in prostate cancer development is suggested by the significant positive correlation of ATP5F1A levels with earlier-onset prostate cancer. Besides, researchers found that a novel correlation between ATP5A1 gene expression and progression of human clear cell renal cell carcinoma by co?expression analysis. Additionally, ATP5A1 participates in transcriptional and posttranscriptional regulation of cancer-associated genes by modulating their expression and alternative splicing profiles in hela cells.

Reconstitution

We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Please reconstitute protein in deionized sterile water to a concentration of 0.1-1.0 mg/mL.We recommend to add 5-50% of glycerol (final concentration) and aliquot for long-term storage at -20°C/-80°C. Our default final concentration of glycerol is 50%. Customers could use it as reference.

Shelf Life

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