

ATP5F1A Protein, Human (His)

Cat. No.:	HY-P72095
Synonyms:	ATP synthase alpha chain; ATP synthase alpha chain; mitochondrial; ATP synthase; H ⁺ transporting; mitochondrial F1 complex; alpha subunit 1; cardiac muscle; ; ATP synthase; H ⁺ transporting; mitochondrial F1 complex; alpha subunit; isoform 2; alpha subunit; ATP5A; Atp5a1; ATP5AL2; ATPA_HUMAN; ATPM; hATP1; HEL-S-123m; MC5DN4; mitochondrial;
Species:	Human
Source:	E. coli
Accession:	P25705 (Q44-A553)
Gene ID:	498
Molecular Weight:	Approximately 59.2 kDa

PROPERTIES

AA Sequence	<div> <div>Q K T G T A E M S S</div> <div>V H G L R N V Q A E</div> <div>L I K E G D I V K R</div> <div>I G S K T R R R V G</div> <div>R G Q R E L I I G D</div> <div>C I Y V A I G Q K R</div> <div>P L Q Y L A P Y S G</div> <div>M S L L L R R P P G</div> <div>L T A L P V I E T Q</div> <div>I R P A I N V G L S</div> <div>A A F A Q F G S D L</div> <div>Q V A V I Y A G V R</div> <div>G T I R A D G K I S</div> </div> <div> <div>I L E E R I L G A D</div> <div>E M V E F S S G L K</div> <div>T G A I V D V P V G</div> <div>L K A P G I I P R I</div> <div>R Q T G K T S I A I</div> <div>S T V A Q L V K R L</div> <div>C S M G E Y F R D N</div> <div>R E A Y P G D V F Y</div> <div>A G D V S A Y I P T</div> <div>V S R V G S A A Q T</div> <div>D A A T Q Q L L S R</div> <div>G Y L D K L E P S K</div> <div>E Q S D A K L K E I</div> </div> <div> <div>T S V D L E E T G R</div> <div>G M S L N L E P D N</div> <div>E E L L G R V V D A</div> <div>S V R E P M Q T G I</div> <div>D T I I N Q K R F N</div> <div>T D A D A M K Y T I</div> <div>G K H A L I I Y D D</div> <div>L H S R L L E R A A</div> <div>N V I S I T D G Q I</div> <div>R A M K Q V A G T M</div> <div>G V R L T E L L K Q</div> <div>I T K F E N A F L S</div> <div>V T N F L A G F E A</div> </div> <div> <div>V L S I G D G I A R</div> <div>V G V V V F G N D K</div> <div>L G N A I D G K G P</div> <div>K A V D S L V P I G</div> <div>D G S D E K K K L Y</div> <div>V V S A T A S D A A</div> <div>L S K Q A V A Y R Q</div> <div>K M N D A F G G G S</div> <div>F L E T E L F Y K G</div> <div>K L E L A Q Y R E V</div> <div>G Q Y S P M A I E E</div> <div>H V V S Q H Q A L L</div> </div>
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DESCRIPTION

Background

ATP5F1A, a crucial component of the mitochondrial membrane ATP synthase (F(1)F(0) ATP synthase or Complex V), plays a pivotal role in ATP production from ADP by harnessing the proton gradient across the membrane generated by the respiratory chain's electron transport complexes. Comprising the catalytic core (F(1)) and the membrane proton channel (F(0)), F-type ATPases, like ATP5F1A, consist of multiple subunits with distinct functions. The alpha and beta subunits form the catalytic core in F(1), where rotation of the central stalk against surrounding alpha(3)beta(3) subunits facilitates ATP hydrolysis. Intriguingly, ATP5F1A binds the bacterial siderophore enterobactin, promoting the accumulation of enterobactin-derived iron ions within mitochondria. Additionally, ATP5F1A interacts with various proteins, such as ATPAF2, HRG, PLG, BLOC1S1, BCL2L1 isoform BCL-X(L), CLN5, PPT1, S100A1, and ABCB7, influencing diverse cellular processes ranging from metabolic efficiency and iron homeostasis to apoptotic regulation. Furthermore, ATP5F1A is a crucial component of the ATP synthase complex, highlighting its central role in cellular energy production. Understanding these intricate interactions sheds light on the multifaceted functions of ATP5F1A in cellular physiology.

Caution: Product has not been fully validated for medical applications. For research use only.

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