**Proteins** 



# ATP5F1B Protein, Human (P.pastoris, His)

Cat. No.: HY-P71716

Synonyms: ATP 5B; ATP synthase H+ transporting mitochondrial F1 complex beta polypeptide; ATPB;

ATPB\_HUMAN; ATPMB; ATPSB

Species: Human Source: P. pastoris

P06576 (48A-529S) Accession:

506 Gene ID:

Molecular Weight: Approximately 53.8 kDa

## **PROPERTIES**

A A Sequence  A Q T S P S P K A G		
VQGRETRLVL EVAQHLGEST VRTIAMDGTE GLVRGQKVLD SGAPIKIPVG PETLGRIMNV IGEPIDERGP IKTKQFAPIH AEAPERMEMS VEQEILVTGI KVVDLLAPYA KGGKIGLFGG AGVGKTVLIM ELINNVAKAH GGYSVFAGVG ERTREGNDLY HEMIESGVIN LKDATSKVAL VYGQMNEPPG ARARVALTGL TVAEYFRDQE GQDVLLFIDN IFRFTQAGSE VSALLGRIPS AVGYQPTLAT DMGTMQERIT TTKKGSITSV QAIYVPADDL TDPAPATTFA HLDATTVLSR AIAELGIYPA VPDLDSTSRI MDPNIVGSEH YDVARGVQKI LQDYKSLQDI IAILGMDELS EEDKLTVSRA RKIQRFLSQP FQVAEVFTGH MGKLVPLKET IKGFQQILAG EYDHLPEQAF YMVGPIEEAV AKADKLAEEH SS  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1 EU/µg, determined by LAL method.  Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mLin ddH2O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C for extended storage.	AA Sequence	AOTSPSPKAG AATGRIVAVI GAVVDVOFDE GLPPILNALE
A E A P E F M E M S  A G V G K T V L I M  B L I N N V A K A H  G G Y S V F A G V G  E R T R E G N D L Y  H E M I E S G V I N  L K D A T S K V A L  V Y G Q M N E P P G  A R A R V A L T G L  T V A E Y F R D Q E  G Q D V L L F I D N  I F R F T Q A G S E  V S A L L G R I P S  A V G Y Q P T L A T  D M G T M Q E R I T  T T K K G S I T S V  Q A I Y V P A D D L  T D P A P A T T F A  H L D A T T V L S R  A I A E L G I Y P A  V D P L D S T S R I  M D P N I V G S E H  Y D V A R G V Q K I  L Q D Y K S L Q D I  I A I L G M D E L S  E E D K L T V S R A  R K I Q R F L S Q P  F Q V A E V F T G H  M G K L V P L K E T  I K G F Q Q I L A G  S S  Biological Activity  The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance  Lyophilized powder.  Formulation  Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level  A L E L U/µg, determined by LAL method.  It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.  Storage & Stability  Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		
A E A P E F M E M S A G V G K T V L I M B L I N N V A K A H G G Y S V F A G V G E R T R E G N D L Y H E M I E S G V I N L K D A T S K V A L V Y G Q M N E P P G A R A R V A L T G L T V A E Y F R D Q E G Q D V L L F I D N I F R F T Q A G S E V S A L L G R I P S A V G Y Q P T L A T D M G T M Q E R I T T T K K G S I T S V Q A I Y V P A D D L T D P A P A T T F A H L D A T T V L S R A I A E L G I Y P A V D P L D S T S R I M D P N I V G S E H Y D V A R G V Q K I L Q D Y K S L Q D I I A I L G M D E L S E E D K L T V S R A R K I Q R F L S Q P F Q V A E V F T G H M G K L V P L K E T I K G F Q Q I L A G S S  Biological Activity  The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation  Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level  A t E U/µg, determined by LAL method.  It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH20.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		SGAPIKIPVG PETLGRIMNV IGEPIDERGP IKTKQFAPIH
HEMIESGVIN LKDATSKVAL VYGQMNEPPG ARARVALTGL TVAEYFRDQE GQDVLLFIDN IFRFTQAGSE VSALLGRIPS AVGYQPTLAT DMGTMQERIT TTKKGSITSV QAIYVPADDL TDPAPATTFA HLDATTVLSR AIAELGIYPA VDPLDSTSRI MDPNIVGSEH YDVARGVQKI LQDYKSLQDI IAILGMDELS EEDKLTVSRA RKIQRFLSQP FQVAEVFTGH MGKLVPLKET IKGFQQILAG EYDHLPEQAF YMVGPIEEAV AKADKLAEEH SS  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1EU/µg, determined by LAL method.  Reconstitution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH2O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		-
TVAEYFRDQE GQDVLLFIDN IFRFTQAGSE VSALLGRIPS AVGYQPTLAT DMGTMQERIT TTKKGSITSV QAIYVPADDL TDPAPATTFA HLDATTVLSR AIAELGIYPA VDPLDSTSRI MDPNIVGSEH YDVARGVQKI LQDYKSLQDI IAILGMDELS EEDKLTVSRA RKIQRFLSQP FQVAEVFTGH MGKLVPLKET IKGFQQILAG EYDHLPEQAF YMVGPIEEAV AKADKLAEEH SS  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1EU/µg, determined by LAL method.  Reconsititution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH <sub>2</sub> O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		AGVGKTVLIM ELINNVAKAH GGYSVFAGVG ERTREGNDLY
A V G Y Q P T L A T D M G T M Q E R I T T T K K G S I T S V Q A I Y V P A D D L T D P A P A T T F A H L D A T T V L S R A I A E L G I Y P A V D P L D S T S R I M D P N I V G S E H Y D V A R G V Q K I L Q D Y K S L Q D I I A I L G M D E L S E E D K L T V S R A R K I Q R F L S Q P F Q V A E V F T G H M G K L V P L K E T I K G F Q Q I L A G E Y D H L P E Q A F Y M V G P I E E A V A K A D K L A E E H S S  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1 EU/μg, determined by LAL method.  Reconstitution It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		HEMIESGVIN LKDATSKVAL VYGQMNEPPG ARARVALTGL
TDPAPATTFA HLDATTVLSR AIAELGIYPA VDPLDSTSRI MDPNIVGSEH YDVARGVQKI LQDYKSLQDI IAILGMDELS EEDKLTVSRA RKIQRFLSQP FQVAEVFTGH MGKLVPLKET IKGFQQILAG EYDHLPEQAF YMVGPIEEAV AKADKLAEEH SS  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1EU/µg, determined by LAL method.  Reconsititution It is not recommended to reconstitute to a concentration less than 100 µg/mL in ddH2O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		TVAEYFRDQE GQDVLLFIDN IFRFTQAGSE VSALLGRIPS
M D P N I V G S E H Y D V A R G V Q K I L Q D Y K S L Q D I I A I L G M D E L S E E D K L T V S R A R K I Q R F L S Q P F Q V A E V F T G H M G K L V P L K E T I K G F Q Q I L A G E Y D H L P E Q A F Y M V G P I E E A V A K A D K L A E E H S S  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1 EU/μg, determined by LAL method.  Reconstitution It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		AVGYQPTLAT DMGTMQERIT TTKKGSITSV QAIYVPADDL
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I K G F Q Q I L A G E Y D H L P E Q A F Y M V G P I E E A V A K A D K L A E E H S S  Biological Activity The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance Lyophilized powder.  Formulation Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level <1 EU/μg, determined by LAL method.  Reconstitution It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O.  Storage & Stability Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		MDPNIVGSEH YDVARGVQKI LQDYKSLQDI IAILGMDELS
S S  Biological Activity  The enzyme activity of this recombinant protein is testing in progress, we cannot offer a guarantee yet.  Appearance  Lyophilized powder.  Formulation  Lyophilized after extensive dialysis against solution in Tris-based buffer, 50% glycerol.  Endotoxin Level  <1 EU/μg, determined by LAL method.  Reconsititution  It is not recommended to reconstitute to a concentration less than 100 μg/mL in ddH <sub>2</sub> O.  Storage & Stability  Stored at -20°C for 2 years. After reconstitution, it is stable at 4°C for 1 week or -20°C for longer (with carrier protein). It is recommended to freeze aliquots at -20°C or -80°C for extended storage.		EEDKLTVSRA RKIQRFLSQP FQVAEVFTGH MGKLVPLKET
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	Storage & Stability	
Shipping Room temperature in continental US; may vary elsewhere.		recommended to freeze aliquots at -20°C or -80°C for extended storage.
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## **DESCRIPTION**

#### Background

The ATP5F1B protein is an integral part of the mitochondrial membrane ATP synthase, also known as Complex V, responsible for ATP production from ADP in the presence of a proton gradient across the membrane generated by the electron transport complexes of the respiratory chain. F-type ATPases are composed of two structural domains: F(1), which houses the extramembraneous catalytic core, and F(0), containing the membrane proton channel. These domains are interconnected by a central stalk and a peripheral stalk. During the catalytic process, ATP synthesis in the F(1) domain is coupled to proton translocation through a rotary mechanism of the central stalk subunits. The catalytic core in F(1) is formed by subunits alpha and beta, where the rotation of the central stalk against the surrounding alpha(3)beta(3) subunits leads to the hydrolysis of ATP in three separate catalytic sites on the beta subunits. ATP5F1B plays a crucial role in this intricate process, contributing to the efficient synthesis of ATP within the mitochondrial membrane.

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

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