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ATP5J Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP12457c

Product Information

Application	WB, IHC-P, IF, E
Primary Accession	P18859
Other Accession	Q8SPH6, NP_001003701.1, NP_001003696.1
Reactivity	Human, Rat, Mouse
Predicted	Monkey
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB31956
Calculated MW	12588
Antigen Region	28-56

Additional Information

Gene ID	522
Other Names	ATP synthase-coupling factor 6, mitochondrial, ATPase subunit F6, ATP5J, ATP5A, ATPM
Target/Specificity	This ATP5J antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 28-56 amino acids from the Central region of human ATP5J.
Dilution	WB~~1:1000 IHC-P~~1:100~500 IF~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is purified through a protein A column, followed by peptide affinity purification.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ATP5J Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATP5PF (HGNC:847)
Synonyms	ATP5A, ATP5J, ATPM

Function	Subunit F6, of the mitochondrial membrane ATP synthase complex (F(1)F(0) ATP synthase or Complex V) that 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 (PubMed:37244256). ATP synthase complex consist of a soluble F(1) head domain - the catalytic core - and a membrane F(1) domain - the membrane proton channel (PubMed:37244256). These two domains are linked by a central stalk rotating inside the F(1) region and a stationary peripheral stalk (PubMed:37244256). During catalysis, ATP synthesis in the catalytic domain of F(1) is coupled via a rotary mechanism of the central stalk subunits to proton translocation (Probable). In vivo, can only synthesize ATP although its ATP hydrolase activity can be activated artificially in vitro (By similarity). Part of the complex F(0) domain (PubMed:37244256). Part of the complex F(0) domain and the peripheric stalk, which acts as a stator to hold the catalytic alpha(3)beta(3) subcomplex and subunit a/ATP6 static relative to the rotary elements (By similarity).
Cellular Location	Mitochondrion. Mitochondrion inner membrane.

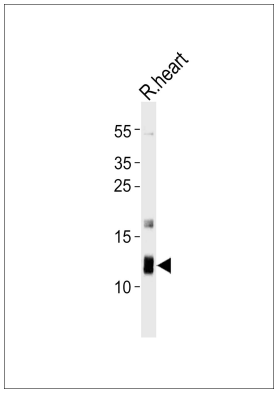
Background

Mitochondrial ATP synthase catalyzes ATP synthesis, utilizing an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. It is composed of two linked multi-subunit complexes: the soluble catalytic core, F1, and the membrane-spanning component, Fo, which comprises the proton channel. The F1 complex consists of 5 different subunits (alpha, beta, gamma, delta, and epsilon) assembled in a ratio of 3 alpha, 3 beta, and a single representative of the other 3. The Fo seems to have nine subunits (a, b, c, d, e, f, g, F6 and 8). This gene encodes the F6 subunit of the Fo complex, required for F1 and Fo interactions. Alternatively spliced transcript variants encoding different isoforms have been identified for this gene. A pseudogene exists on chromosome Yp11.

References

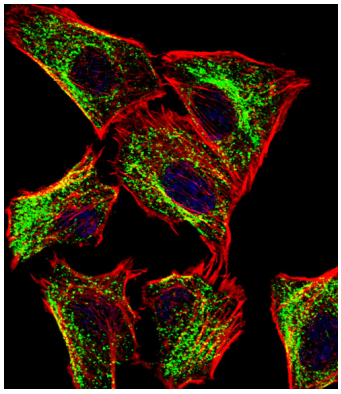
Osanai, T., et al. Cardiovasc. Res. 81(4):780-787(2009)
Wang, L., et al. Cancer Epidemiol. Biomarkers Prev. 17(12):3558-3566(2008)
Kumagai, A., et al. Atherosclerosis 200(1):45-50(2008)
Chai, S.B., et al. Circ. J. 71(5):693-697(2007)
Morava, E., et al. Am. J. Med. Genet. A 140(8):863-868(2006)

Images

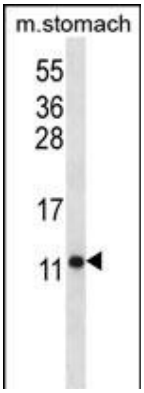


Western blot analysis of lysate from rat heart tissue lysate, using ATP5J Antibody (Center)(Cat. #AP12457c). AP12457c was diluted at 1:1000. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody. Lysate at 20ug.

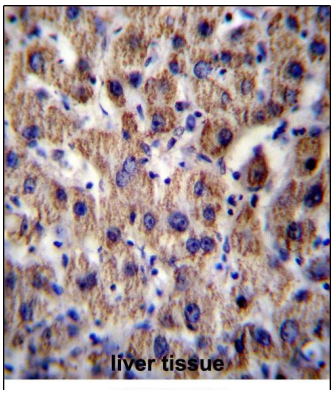
Fluorescent confocal image of U251 cell stained with ATP5J Antibody (Center)(Cat#AP12457c).U251 cells were fixed with 4% PFA (20 min), permeabilized with Triton



X-100 (0.1%, 10 min), then incubated with ATP5J primary antibody (1:25, 1 h at 37°C). For secondary antibody, Alexa Fluor® 488 conjugated donkey anti-rabbit antibody (green) was used (1:400, 50 min at 37°C).Cytoplasmic actin was counterstained with Alexa Fluor® 555 (red) conjugated Phalloidin (7units/ml, 1 h at 37°C). Nuclei were counterstained with DAPI (blue) (10 µg/ml, 10 min).ATP5J immunoreactivity is localized to Mitochondria significantly.



ATP5J Antibody (Center) (Cat. #AP12457c) western blot analysis in mouse stomach tissue lysates (35ug/lane).This demonstrates the ATP5J antibody detected the ATP5J protein (arrow).



ATP5J Antibody (Center) (Cat. #AP12457c)immunohistochemistry analysis in formalin fixed and paraffin embedded human liver tissue followed by peroxidase conjugation of the secondary antibody and DAB staining.This data demonstrates the use of ATP5J Antibody (Center) for immunohistochemistry. Clinical relevance has not been evaluated.