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ATP5B Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AW5235

Product Information

Application	IHC-P, IF, FC, WB
Primary Accession	P06576
Other Accession	P10719, P56480, P00829
Reactivity	Human, Mouse, Rat
Predicted	Bovine
Host	Rabbit
Clonality	Polyclonal
Calculated MW	56560
Isotype	Rabbit IgG
Antigen Source	HUMAN

Additional Information

Gene ID	506
Antigen Region	135-163
Other Names	ATP5B; ATPMB; ATPSB; ATP synthase subunit beta, mitochondrial
Dilution	IHC-P~~1:100~500 IF~~1:25 FC~~1:10~50 WB~~1:1000
Target/Specificity	This ATP5B antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 135-163 amino acids from the Central region of human ATP5B.
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	ATP5B Antibody (Center) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ATP5F1B (HGNC:830)
Function	Catalytic subunit beta, 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 (Probable) (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). With the subunit alpha (ATP5F1A), forms the catalytic core in the F(1) domain (PubMed:37244256).

Cellular Location

Mitochondrion inner membrane; Peripheral membrane protein {ECO:0000250|UniProtKB:P00829}; Matrix side {ECO:0000250|UniProtKB:P00829, ECO:0000269|PubMed:25168243}

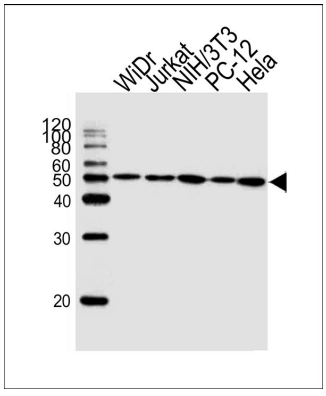
Background

ATP5B is a subunit of mitochondrial ATP synthase. Mitochondrial ATP synthase catalyzes ATP synthesis, utilizing an electrochemical gradient of protons across the inner membrane during oxidative phosphorylation. ATP synthase is composed of two linked multi-subunit complexes: the soluble catalytic core, F1, and the membrane-spanning component, Fo, comprising the proton channel. The catalytic portion of mitochondrial ATP synthase consists of 5 different subunits (alpha, beta, gamma, delta, and epsilon) assembled with a stoichiometry of 3 alpha, 3 beta, and a single representative of the other 3. The proton channel consists of three main subunits (a, b, c). It is the beta subunit of the catalytic core.

References

Neckelmann,N., et.al., Genomics 5 (4), 829-843 (1989) Ohta,S., et.al., J. Biol. Chem. 263 (23), 11257-11262 (1988) Wallace,D.C., et.al., Curr. Genet. 12 (2), 81-90 (1987)

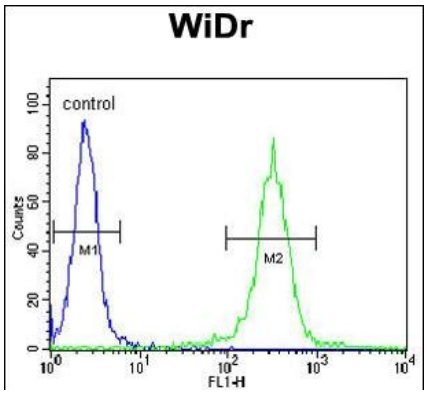
Images



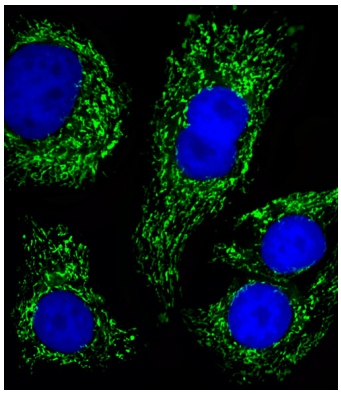
Western blot analysis of lysates from WiDr,Jurkat,mouse NIH/3T3,rat PC-12,Hela cell line (from left to right), using ATP5B Antibody (Center)(Cat. #AW5235). AW5235 was diluted at 1:1000 at each lane. A goat anti-rabbit IgG H&L(HRP) at 1:10000 dilution was used as the secondary antibody.

Formalin-fixed and paraffin-embedded human brain tissue reacted with ATP5B Antibody (Center), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.

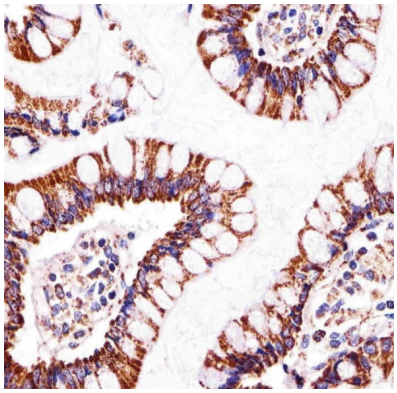




ATP5B Antibody (Center) (Cat. #AW5235) flow cytometric analysis of WiDr cells (right histogram) compared to a negative control cell (left histogram).FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

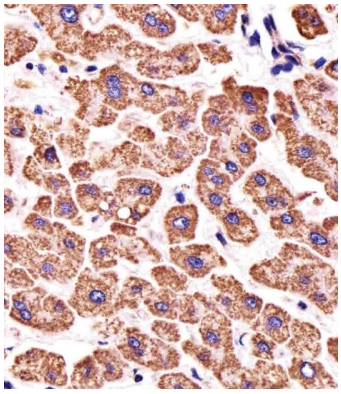


Fluorescent image of SK-BR-3 cells stained with ATP5B Antibody (Center)(Cat#AW5235). AW5235 was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). DAPI was used to stain the cell nuclear (blue) .



Immunohistochemical analysis of paraffin-embedded H. small intestine section using ATP5B Antibody (Center)(Cat#AW5235). AW5235 was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

Immunohistochemical analysis of paraffin-embedded H. liver section using ATP5B Antibody (Center)(Cat#AW5235). AW5235 was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.



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