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ATP5B Antibody (Center)

Affinity Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP2973c

Product Information

Application	WB, IHC-P, FC, IF, E
Primary Accession	P06576
Other Accession	P10719, P56480, P00829
Reactivity	Human
Predicted	Bovine, Mouse, Rat, Canine, Rabbit, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB20513
Calculated MW	56560
Antigen Region	135-163

Additional Information

Gene ID	506
Other Names	ATP synthase subunit beta, mitochondrial, ATP5B, ATPMB, ATPSB
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.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 IF~~1:25 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	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}

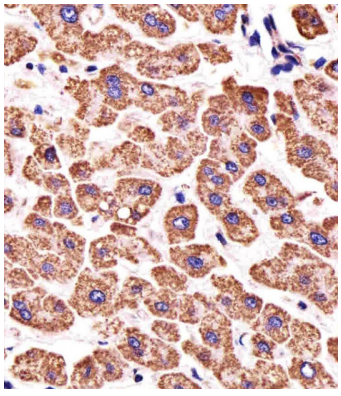
Background

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

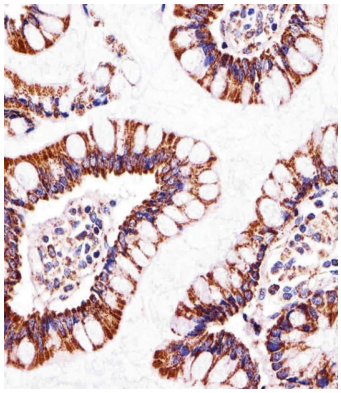
Neckelmann,N., et.al., Genomics 5 (4), 829-843 (1989) Ohta,S., et.al., J. Biol. Chem. 263 (23), 11257-11262 (1988) Wallace,D.C., et.al., Curr. Genet. 12 (2), 81-90 (1987)

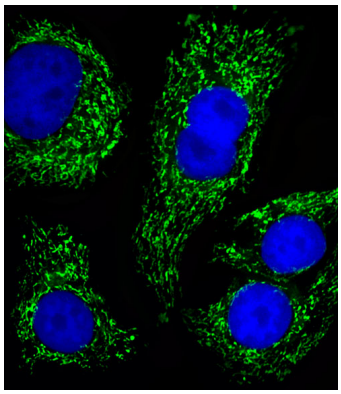
Images



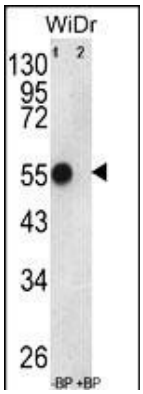
Immunohistochemical analysis of paraffin-embedded H. liver section using ATP5B Antibody (Center)(Cat#AP2973c). AP2973c was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

Immunohistochemical analysis of paraffin-embedded H. small intestine section using ATP5B Antibody (Center)(Cat#AP2973c). AP2973c was diluted at 1:25 dilution. A undiluted biotinylated goat polyvalent antibody was used as the secondary, followed by DAB staining.

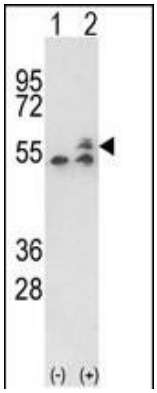




Fluorescent image of SK-BR-3 cells stained with ATP5B Antibody (Center)(Cat#AP2973c). AP2973c was diluted at 1:25 dilution. An Alexa Fluor 488-conjugated goat anti-rabbit lgG at 1:400 dilution was used as the secondary antibody (green). DAPI was used to stain the cell nuclear (blue) .



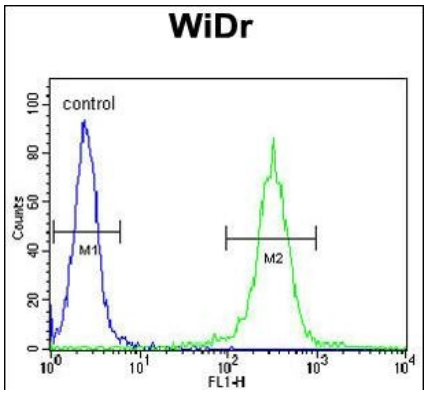
Western blot analysis of ATP5B Antibody (Center) Pab (Cat. #AP2973c) pre-incubated without(lane 1) and with(lane 2) blocking peptide in WiDr cell line lysate. ATP5B (arrow) was detected using the purified Pab.



Western blot analysis of ATP5B (arrow) using rabbit polyclonal ATP5B Antibody (Center) (Cat. #AP2973c). 293 cell lysates (2 ug/lane) either nontransfected (Lane 1) or transiently transfected with the ATP5B gene (Lane 2) .

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. #AP2973c) 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.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.