For Research Use Only

ATP5A1 Polyclonal antibody

Catalog Number:14676-1-AP 98 Publications

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Basic Information

Catalog Number:
14676-1-AP

Size:
150ul , Concentration: 400 μg/ml by Nanodrop;

Source:
Rabbit

Isotype:
IgG

Immunogen Catalog Number:
AG6385

GenBank Accession Number:
BC064562

GeneID (NCBI):
498

Full Name:
ATP synthase, H+ transporting, mitochondrial F1 complex, alpha subunit 1, cardiac muscle

Calculated MW:
60 kDa

Observed MW:
50-55 kDa

Purification Method:
Antigen affinity purification

Recommended Dilutions:
WB 1:5000-1:50000
IHC 1:50-1:500
IF 1:400-1:1600

Applications

Tested Applications:
IF, IHC, WB, ELISA

Cited Applications:
CoIP, IF, IHC, IP, WB

Species Specificity:
human, mouse, rat

Cited Species:
human, rat, mouse, zebrafish, hamster

Note-IHC: suggested antigen retrieval with TE buffer pH 9.0; (*) Alternatively, antigen retrieval may be performed with citrate buffer pH 6.0

Positive Controls:

WB : HeLa cells, various samples, HepG2 cells, Jurkat cells, mouse heart tissue, rat heart tissue, mouse liver tissue, rat liver tissue, mouse brain tissue, rat brain tissue

IHC : human liver tissue, human kidney tissue, human brain tissue, mouse brain tissue

IF : HeLa cells, HepG2 cells

Background Information

The ATP5A1 gene encodes the α subunit of mitochondrial ATP synthase which produces ATP from ADP in the presence of a proton gradient across the membrane. The mitochondrial ATP synthase, also known as Complex V or F1F0 ATP synthase, is a multi-subunit enzyme complex consisting of two functional domains, the F1-containing the catalytic core and the Fo-containing the membrane proton channel. F0 domain has 10 subunits: a,b, c, d, e, f, g, OSCP, A6L, and F6. F1 is composed of subunits α, β, γ , δ, ε, and a loosely attached inhibitor protein IF1. Recently defect in ATP5A1 has been linked to the fatal neonatal mitochondrial encephalopathy. ATP5A1 is localized in the mitochondria and anti-ATP5A1 can be used as the loading control for mitochondrial or Complex V proteins. This antibody recognizes the endogenous ATP5A1 protein in lysates from various cell lines and tissues. The predicted MW of ATP5A1 is 60 kDa, while it undergoes the transit peptide cleavage to become a mature form around 50-55 kDa. Several isoforms of ATP5A1 exist due to the alternative splicing.

Notable Publications

Author	Pubmed ID	Journal	Application
Yujie Li	31563988	Arch Toxicol	WB
Hiroaki Hirata	32962196	Int J Mol Sci	WB
Liangde Zheng	31525119	Autophagy	WB

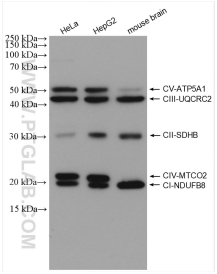
Storage

Storage:
Store at -20°C. Stable for one year after shipment.
Storage Buffer:
PBS with 0.02% sodium azide and 50% glycerol pH 7.3.
Aliquoting is unnecessary for -20°C storage

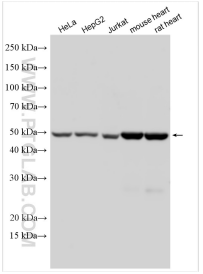
*** 20ul sizes contain 0.1% BSA

For technical support and original validation data for this product please contact:
T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)
E: proteintech@ptglab.com
W: ptglab.com

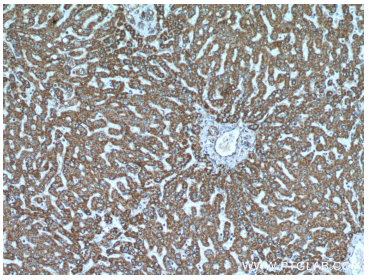
Selected Validation Data



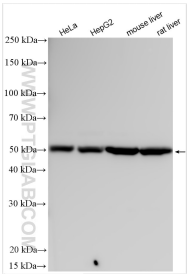
These five antibodies, ATP5A1 (14676-1-AP, 1:8000), UQCRC2 (14742-1-AP, 1:4000), SDHB (10620-1-AP, 1:8000), MTCO2 (55070-1-AP, 1:1000), NDUFB8 (14794-1-AP, 1:5000), can be assembled OXPHOS kit to detect the relative levels of the 5 OXPHOS complexes in mitochondrial preparations.



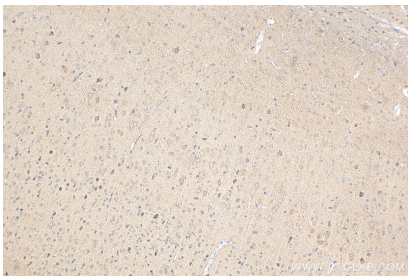
Various lysates were subjected to SDS PAGE followed by western blot with 14676-1-AP (ATP5A1 antibody) at dilution of 1:10000 incubated at room temperature for 1.5 hours.



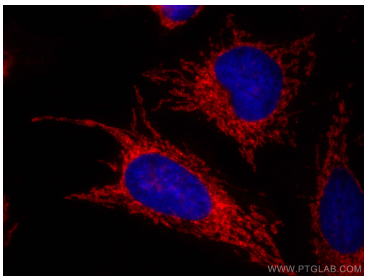
Immunohistochemical analysis of paraffin-embedded human liver tissue slide using 14676-1-AP (ATP5A1 antibody) at dilution of 1:200 (under 10x lens).



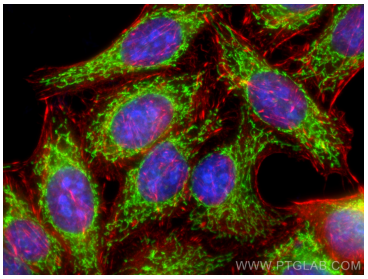
Various lysates were subjected to SDS PAGE followed by western blot with 14676-1-AP (ATP5A1 antibody) at dilution of 1:20000 incubated at room temperature for 1.5 hours.



Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 14676-1-AP (ATP5A1 antibody) at dilution of 1:400 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (-20°C Ethanol) fixed HeLa cells using ATP5A1 antibody (14676-1-AP) at dilution of 1:800 and CoraLite®594-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L).



Immunofluorescent analysis of (-20°C Ethanol) fixed HepG2 cells using ATP5A1 antibody (14676-1-AP) at dilution of 1:400 and CoraLite®488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).