For Research Use Only

ATP5A1 Monoclonal antibody

Catalog Number:66037-1-Ig Featured Product 22 Publications

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Basic Information

Catalog Number:
66037-1-Ig

Size:
150ul , Concentration: 1840 μg/ml by Nanodrop and 947 μg/ml by Bradford method using BSA as the standard;

Source:
Mouse

Isotype:
IgG2b

Immunogen Catalog Number:
AG8119

GenBank Accession Number:
BC064562

GeneID (NCBI):
498

UNIPROT ID:
P25705

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

Calculated MW:
60 kDa

Observed MW:
50 kDa

Purification Method:
Protein A purification

CloneNo.:
1B10H3

Recommended Dilutions:
WB 1:5000-1:50000
IP 0.5-4.0 ug for 1.0-3.0 mg of total protein lysate
IHC 1:1000-1:4000
IF 1:150-1:600

Applications

Tested Applications:
WB, IP, IF, FC, IHC, ELISA

Cited Applications:
WB, IF, IHC

Species Specificity:
human, mouse, rat, monkey

Cited Species:
human, rat, mouse, 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 : MCF-7 cells, HeLa cells, HEK-293 cells, HepG2 cells, HSC-T6 cells, NIH/3T3 cells, RAW 264.7 cells

IP : mouse heart tissue,

IHC : human liver cancer tissue, human liver tissue, human heart tissue

IF : HepG2 cells, HeLa 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
Han Liu	36106364	Adv Sci (Weinh)	IF
Meng Ding	35709007	Diabetes	WB
Jia Xu	36269134	Acta Biochim Biophys Sin (Shanghai)	WB

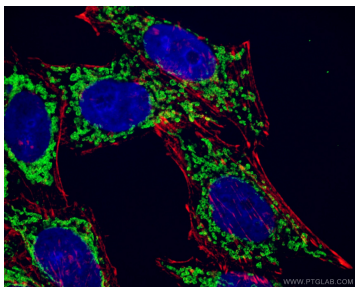
Storage

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

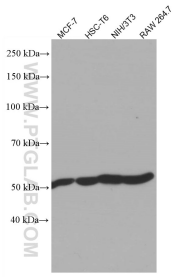
*** 20ul sizes contain 0.1% BSA

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

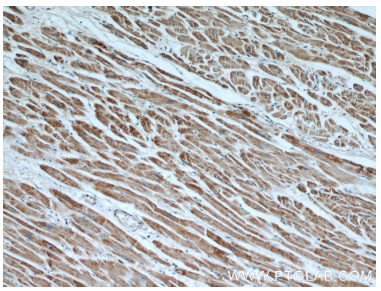
Selected Validation Data



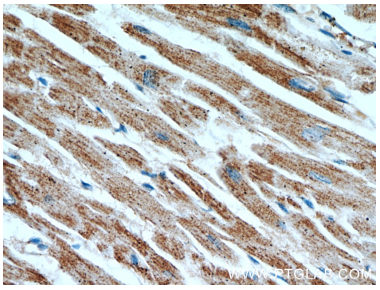
Immunofluorescent analysis of (-20°C Ethanol) fixed HepG2 cells using 66037-1-Ig (ATP5A1 antibody) at dilution of 1:300 and CoraLite488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L). Red: CL555-phalloidin staining of F-actin. .



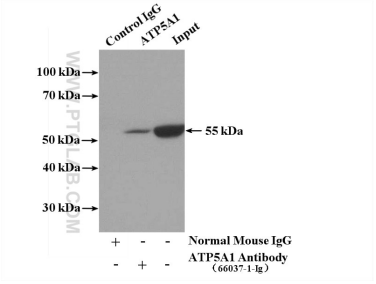
Various lysates were subjected to SDS PAGE followed by western blot with 66037-1-Ig (ATP5A1 antibody) at dilution of 1:25000 incubated at room temperature for 1.5 hours.



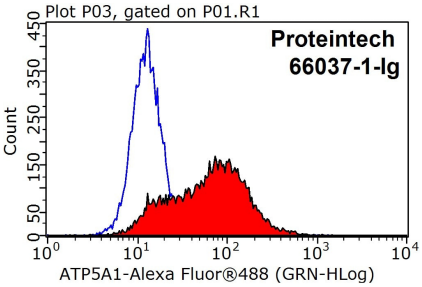
Immunohistochemical analysis of paraffin-embedded human heart using 66037-1-Ig(ATP5A1 antibody) at dilution of 1:50 (under 10x lens).



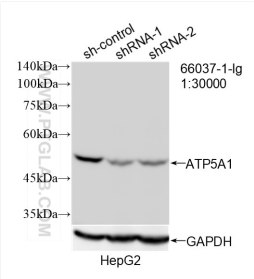
Immunohistochemical analysis of paraffin-embedded human heart using 66037-1-Ig(ATP5A1 antibody) at dilution of 1:50 (under 40x lens).



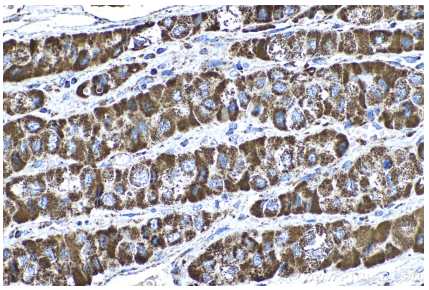
IP result of anti-ATP5A1 (IP:66037-1-Ig, 5ug; Detection:66037-1-Ig 1:500) with mouse heart tissue lysate 4000ug.



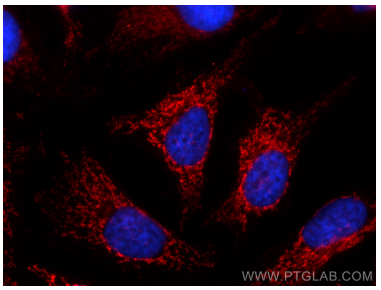
1X10^6 HeLa cells were stained with 0.2 ug Anti-Human ATP5A1 (66037-1-Ig, Clone:1B10H3) and CoraLite488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L) at dilution 1:1000 (red), or stained with 0.2 ug isotype control and CoraLite488-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L) at dilution 1:1000 (blue). Cells were fixed with 90% MeOH.



WB result of ATP5A1 antibody (66037-1-Ig; 1:30000; incubated at room temperature for 1.5 hours) with sh-Control and sh-ATP5A1 transfected HepG2 cells.



Immunohistochemical analysis of paraffin-embedded human liver cancer tissue slide using 66037-1-Ig (ATP5A1 antibody) at dilution of 1:2000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunofluorescent analysis of (4% PFA) fixed HeLa cells using ATP5A1 antibody (66037-1-Ig, Clone: 1B10H3) at dilution of 1:800 and CoraLite®594-Conjugated AffiniPure Goat Anti-Mouse IgG(H+L).