

For Research Use Only

# ATP5A1 Recombinant antibody

Catalog Number:82288-1-RR



## Basic Information

<b>Catalog Number:</b> 82288-1-RR	<b>GenBank Accession Number:</b> BC064562	<b>Purification Method:</b> Protein A purification
<b>Size:</b> 100ul , Concentration: 1000 ug/ml by Nanodrop;	<b>GeneID (NCBI):</b> 498	<b>CloneNo.:</b> 4O12
<b>Source:</b> Rabbit	<b>UNIPROT ID:</b> P25705	<b>Recommended Dilutions:</b> WB 1:5000-1:50000 IHC 1:500-1:2000 IF/ICC 1:1100-1:4400
<b>Isotype:</b> IgG	<b>Full Name:</b> ATP synthase, H <sup>+</sup> transporting, mitochondrial F1 complex, alpha subunit 1, cardiac muscle	
<b>Immunogen Catalog Number:</b> AG6385	<b>Calculated MW:</b> 60 kDa	
	<b>Observed MW:</b> 50-55 kDa	

## Applications

**Tested Applications:**  
WB, IHC, IF/ICC, FC (Intra), ELISA

**Species Specificity:**  
human, mouse, rat

**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 :** HEK-293 cells, HeLa cells, HepG2 cells, MCF-7 cells, Jurkat cells, NIH/3T3 cells, HSC-T6 cells

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

**IF/ICC :** HepG2 cells, HeLa cells

## Background Information

The ATP5A1 gene encodes the  $\alpha$  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 F0-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  $\alpha$ ,  $\beta$ ,  $\gamma$ ,  $\delta$ ,  $\epsilon$ , 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.

## 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

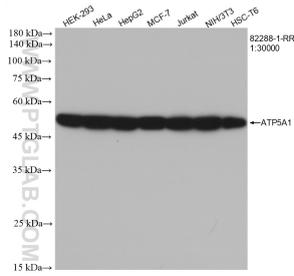
For technical support and original validation data for this product please contact:

T: 1 (888) 4PTGLAB (1-888-478-4522) (toll free in USA), or 1(312) 455-8498 (outside USA)

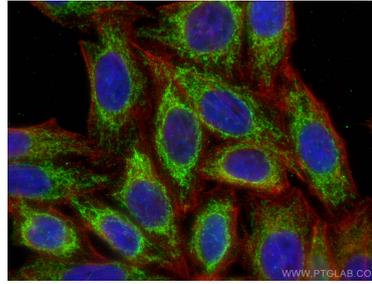
E: proteintech@ptglab.com  
W: ptglab.com

This product is exclusively available under Proteintech Group brand and is not available to purchase from any other manufacturer.

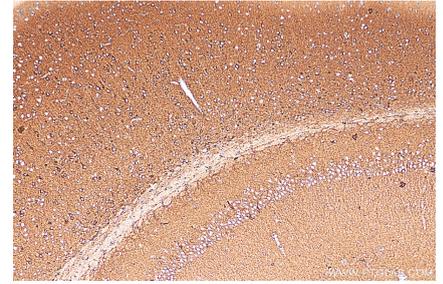
## Selected Validation Data



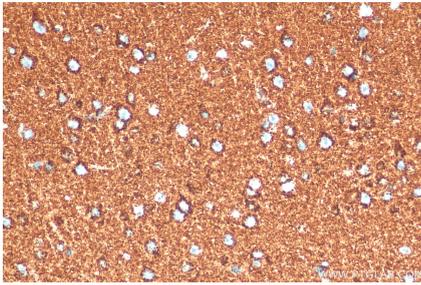
Various lysates were subjected to SDS PAGE followed by western blot with 82288-1-RR (ATP5A1 antibody) at dilution of 1:30000 incubated at room temperature for 1.5 hours.



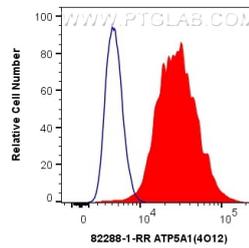
Immunofluorescent analysis of (4% PFA) fixed HepG2 cells using ATP5A1 antibody (82288-1-RR, Clone: 4O12) at dilution of 1:2000 and CoraLite@488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L), CL594-Phalloidin (red).



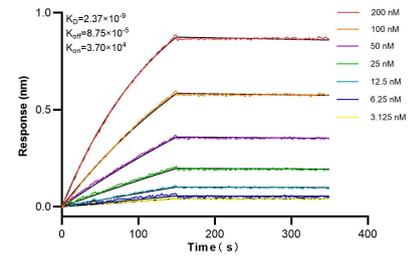
Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 82288-1-RR (ATP5A1 antibody) at dilution of 1:1000 (under 10x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



Immunohistochemical analysis of paraffin-embedded mouse brain tissue slide using 82288-1-RR (ATP5A1 antibody) at dilution of 1:1000 (under 40x lens). Heat mediated antigen retrieval with Tris-EDTA buffer (pH 9.0).



$1 \times 10^6$  HeLa cells were intracellularly stained with 0.4 ug Anti-Human ATP5A1 (82288-1-RR, Clone:4O12) and CoraLite@488-Conjugated AffiniPure Goat Anti-Rabbit IgG(H+L) at dilution 1:1000 (red), or 0.4 ug Isotype Control. Cells were fixed with 4% PFA and permeabilized with Flow Cytometry Perm Buffer (PF00011-C).



Bi-layer interferometry (BLI) kinetic assays of 82288-1-RR against Human ATP5A1 were performed. The affinity constant is 2.37 nM.