

# ATP5B (H-300): sc-33618

## BACKGROUND

Mitochondrial ATP synthase is composed of two multi-subunit complexes that utilize an inner membrane electrochemical gradient to catalyze the synthesis of ATP during oxidative phosphorylation. The two multi-subunit complexes are designated  $F_1$  and  $F_0$ , the former of which comprises the soluble catalytic core and the latter of which comprises the membrane-spanning proton channel of ATP synthase.  $F_1$  consists of five distinct subunits, designated ATP5A, ATP5B, ATP5C1, ATP5D and ATP5E, while  $F_0$  consists of ten subunits, designated ATP5H, ATP5G1, ATP5I, ATP5G2, ATP5J2, ATP5J, ATP5G3, ATP5S, ATP5F1 and ATP5L. ATP5B, also designated ATPMB, ATPSB or mitochondrial ATP synthetase,  $\beta$  subunit, is a 529 amino acid protein that localizes to the mitochondrial membrane and exists as a subunit of the  $F_0$  complex. ATP5B is encoded by a nuclear gene and assembled with the other subunits encoded by both mitochondrial and nuclear genes. The ATP5B gene is activated by members of the Ets family of transcription factors, suggesting that Ets transcription factors are involved in the enhanced expression of the ATP5B gene in highly proliferating cells and in the coordinate transcription of nuclear genes for mitochondrial proteins. ATP5B mRNA levels vary among species through transcriptional control with high expression levels in heart, lower levels in skeletal muscle and the lowest levels in liver and kidney.

## CHROMOSOMAL LOCATION

Genetic locus: ATP5B (human) mapping to 12q13.3; Atp5b (mouse) mapping to 10 D3.

## SOURCE

ATP5B (H-300) is a rabbit polyclonal antibody raised against amino acids 230-529 mapping at the C-terminus of ATP5B of human origin.

## PRODUCT

Each vial contains 200  $\mu$ g IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

## APPLICATIONS

ATP5B (H-300) is recommended for detection of ATP5B of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2  $\mu$ g per 100-500  $\mu$ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ATP5B (H-300) is also recommended for detection of ATP5B in additional species, including equine, canine, bovine, porcine and avian.

Suitable for use as control antibody for ATP5B siRNA (h): sc-40565, ATP5B siRNA (m): sc-40566, ATP5B shRNA Plasmid (h): sc-40565-SH, ATP5B shRNA Plasmid (m): sc-40566-SH, ATP5B shRNA (h) Lentiviral Particles: sc-40565-V and ATP5B shRNA (m) Lentiviral Particles: sc-40566-V.

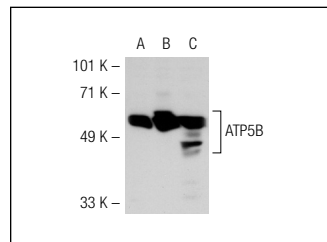
Molecular Weight of ATP5B: 51 kDa.

Positive Controls: ATP5B (h): 293T Lysate: sc-113533, Hep G2 cell lysate: sc-2227 or Y79 cell lysate: sc-2240.

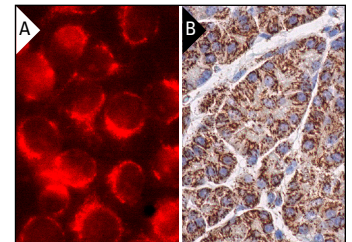
## RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use goat anti-rabbit IgG-HRP: sc-2004 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible goat anti-rabbit IgG-HRP: sc-2030 (dilution range: 1:2000-1:5000), Cruz Marker™ Molecular Weight Standards: sc-2035, TBS Blotto A Blocking Reagent: sc-2333 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use goat anti-rabbit IgG-FITC: sc-2012 (dilution range: 1:100-1:400) or goat anti-rabbit IgG-TR: sc-2780 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941. 4) Immunohistochemistry: use ImmunoCruz™: sc-2051 or ABC: sc-2018 rabbit IgG Staining Systems.

## DATA



ATP5B (H-300): sc-33618. Western blot analysis of ATP5B expression in non-transfected 293T: sc-117752 (A), human ATP5B transfected 293T: sc-113533 (B) and Hep G2 (C) whole cell lysates.



ATP5B (H-300): sc-33618. Immunofluorescence staining of methanol-fixed HeLa cells showing cytoplasmic localization (A). Immunoperoxidase staining of formalin fixed, paraffin-embedded human pancreas tissue showing cytoplasmic staining of glandular cells (B).

## SELECT PRODUCT CITATIONS

- Lin, X., et al. 2009. Identification and properties of a receptor for the invertebrate cytokine astakine, involved in hematopoiesis. *Exp. Cell Res.* 315: 1171-1180.

## STORAGE

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. Non-hazardous. No MSDS required.

## RESEARCH USE

For research use only, not for use in diagnostic procedures.

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.


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Try **ATP5B (E-1): sc-55597** or **ATP5B (H-3): sc-166443**, our highly recommended monoclonal alternatives to ATP5B (H-300).