

ATP5F1 (Y-15): sc-162553

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 5 distinct subunits, designated ATP5A, ATP5B, ATP5C1, ATP5D and ATP5E, while F_0 consists of 10 subunits, designated ATP5H, ATP5G1, ATP5I, ATP5G2, ATP5J2, ATP5J, ATP5G3, ATP5S, ATP5F1 and ATP5L. ATP5F1 (ATP synthase, H^+ transporting, mitochondrial F_0 complex, subunit B_1), also known as PIG47, is a 256 amino acid protein that localizes to the mitochondrial membrane and exists as a subunit of the F_0 complex. ATP5F1 is encoded by a gene located on human chromosome 1, which spans about 260 million base pairs and comprises nearly 8% of the human genome.

REFERENCES

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- Javed, A.A., et al. 1991. Human mitochondrial ATP synthase: cloning cDNA for the nuclear-encoded precursor of coupling factor 6. *Gene* 97: 307-310.
- Yan, W.L., et al. 1994. Sequence analysis and mapping of a novel human mitochondrial ATP synthase subunit 9 cDNA (ATP5G3). *Genomics* 24: 375-377.
- Elston, T., et al. 1998. Energy transduction in ATP synthase. *Nature* 391: 510-513.
- Wang, H., et al. 1998. Energy transduction in the F_1 motor of ATP synthase. *Nature* 396: 279-282.
- Leyva, J.A., et al. 2003. Understanding ATP synthesis: structure and mechanism of the F_1 -ATPase. *Mol. Membr. Biol.* 20: 27-33.

CHROMOSOMAL LOCATION

Genetic locus: ATP5F1 (human) mapping to 1p13.2; Atp5f1 (mouse) mapping to 3 F2.2.

SOURCE

ATP5F1 (Y-15) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATP5F1 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-162553 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

STORAGE

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

APPLICATIONS

ATP5F1 (Y-15) is recommended for detection of ATP5F1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ g of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000); non cross-reactive with other ATP5 family members.

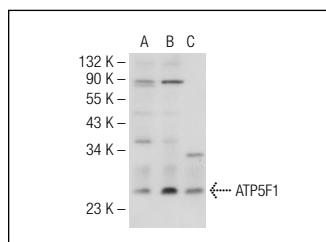
ATP5F1 (Y-15) is also recommended for detection of ATP5F1 in additional species, including equine, canine, bovine and porcine.

Suitable for use as control antibody for ATP5F1 siRNA (h): sc-88835, ATP5F1 siRNA (m): sc-141347, ATP5F1 shRNA Plasmid (h): sc-88835-SH, ATP5F1 shRNA Plasmid (m): sc-141347-SH, ATP5F1 shRNA (h) Lentiviral Particles: sc-88835-V and ATP5F1 shRNA (m) Lentiviral Particles: sc-141347-V.

Molecular Weight of ATP5F1: 29 kDa.

Positive Controls: Ramos cell lysate: sc-2216, Hep G2 cell lysate: sc-2227 or K-562 whole cell lysate: sc-2203.

DATA



ATP5F1 (Y-15): sc-162553. Western blot analysis of ATP5F1 expression in K-562 (A), Ramos (B) and Hep G2 (C) whole cell lysates.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com or our catalog for detailed protocols and support products.



Try **ATP5F1 (C-12): sc-514419**, our highly recommended monoclonal alternative to ATP5F1 (Y-15).