

ATP5H (S-12): sc-136571

BACKGROUND

ATP5H (ATP synthase, H⁺ transporting, mitochondrial F₀ complex, subunit d), also known as ATPQ, is a 161 amino acid protein that belongs to the ATPase d subunit family. F-type ATPases, such as ATP5H, consist of two linked components: CF₁, a soluble catalytic core that consists of five different subunits (α , β , γ , δ and ϵ), and CF₀, a membrane proton channel that contains nine subunits (a, b, c, OSCP, d, F₆, e, f, g and AL6 subunits). ATP5H encodes the d subunit of the F₀ complex. ATP5H produces ATP from ADP in the presence of a proton gradient across the membrane, which is generated by electron transport complexes of the respiratory chain. Localizing to mitochondrial inner membrane, ATP5H exists as two alternatively spliced isoforms and is encoded by a gene that maps to human chromosome 17q25.1. ATP5H also has three pseudogenes, which are located on chromosomes 9, 12 and 15.

REFERENCES

1. Toda, S., et al. 2002. Repeated cocaine administration alters the expression of genes in corticolimbic circuitry after a 3-week withdrawal: a DNA microarray study. *J. Neurochem.* 82: 1290-1299.
2. Rosenberg, M.J., et al. 2002. Mutant deoxynucleotide carrier is associated with congenital microcephaly. *Nat. Genet.* 32: 175-179.
3. Jervis, K.M., et al. 2003. Effects of caloric restriction on gene expression along the epididymis of the Brown Norway rat during aging. *Exp. Gerontol.* 38: 549-560.
4. Noh, H.S., et al. 2004. A cDNA microarray analysis of gene expression profiles in rat hippocampus following a ketogenic diet. *Brain Res. Mol. Brain Res.* 129: 80-87.
5. Skov, V., et al. 2007. Reduced expression of nuclear-encoded genes involved in mitochondrial oxidative metabolism in skeletal muscle of Insulin-resistant women with polycystic ovary syndrome. *Diabetes* 56: 2349-2355.
6. Martinvalet, D., et al. 2008. Granzyme A cleaves a mitochondrial complex I protein to initiate caspase-independent cell death. *Cell* 133: 681-692.
7. Yusenko, M.V., et al. 2010. Analysis of differentially expressed mitochondrial proteins in chromophobe renal cell carcinomas and renal oncocytomas by 2-D gel electrophoresis. *Int. J. Biol. Sci.* 6: 213-224.
8. Sansanwal, P., et al. 2010. Mitochondrial autophagy promotes cellular injury in nephropathic cystinosis. *J. Am. Soc. Nephrol.* 21: 272-283.
9. Zhang, Q., et al. 2010. Differentially expressed proteins during fat accumulation in bovine skeletal muscle. *Meat Sci.* 86: 814-820.

CHROMOSOMAL LOCATION

Genetic locus: ATP5H (human) mapping to 17q25.1.

SOURCE

ATP5H (S-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the N-terminus of ATP5H of human origin.

RESEARCH USE

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

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-136571 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ATP5H (S-12) is recommended for detection of ATP5H isoforms 1 and 2 of human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

ATP5H (S-12) is also recommended for detection of ATP5H isoforms 1 and 2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ATP5H siRNA (h): sc-93691, ATP5H shRNA Plasmid (h): sc-93691-SH and ATP5H shRNA (h) Lentiviral Particles: sc-93691-V.

Molecular Weight of ATP5H isoforms 1/2: 18/16 kDa.

RECOMMENDED SECONDARY REAGENTS

To ensure optimal results, the following support (secondary) reagents are recommended: 1) Western Blotting: use donkey anti-goat IgG-HRP: sc-2020 (dilution range: 1:2000-1:100,000) or Cruz Marker™ compatible donkey anti-goat IgG-HRP: sc-2033 (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) Immunofluorescence: use donkey anti-goat IgG-FITC: sc-2024 (dilution range: 1:100-1:400) or donkey anti-goat IgG-TR: sc-2783 (dilution range: 1:100-1:400) with UltraCruz™ Mounting Medium: sc-24941.

STORAGE

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

PROTOCOLS

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