

ATP8A2 (N-19): sc-83990

BACKGROUND

The family of P-type adenosine triphosphates (ATPases), which are phosphorylated in their intermediate state, are involved in the active transport of charged substrates across biological membranes. Members of this family are ubiquitous integral membrane proteins and can be divided into five major groups consisting of several subfamilies each. The P-type ATPase Type IV family members are characterized as phospholipid pumps and are then divided into six classes determined by sequence similarity. ATP8A2 (ATPase class I type 8A member) is a 1,148 amino acid protein that is strongly expressed in brain, testis and heart. ATP8A2 is a multi-pass transmembrane protein that uses ATP to maintain ion gradients across the cell membrane and may possess some aminophospholipid translocase activity. There are two named isoforms of ATP8A2 which are a result of alternative splicing events.

REFERENCES

- Sun, X.L., Li, D., Fang, J., Noyes, I., Casto, B., Theil, K., Shuler, C. and Milo, G.E. 1999. Changes in levels of normal ML-1 gene transcripts associated with the conversion of human nontumorigenic to tumorigenic phenotypes. *Gene Expr.* 8: 129-139.
- Halleck, M.S., Lawler J.F., J.R., Blackshaw, S., Gao, L., Nagarajan, P., Hacker, C., Pyle, S., Newman, J.T., Nakanishi, Y., Ando, H., Weinstock, D., Williamson, P. and Schlegel, R.A. 1999. Differential expression of putative transbilayer amphipath transporters. *Physiol. Genomics* 1: 139-150.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 605870. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Flamant, S., Pescher, P., Lemercier, B., Clément-Ziza, M., Képès, F., Fellous, M., Milon, G., Marchal, G. and Besmond, C. 2003. Characterization of a putative type IV aminophospholipid transporter P-type ATPase. *Mamm. Genome* 14: 21-30.
- Dhar, M.S., Yuan, J.S., Elliott, S.B. and Sommardahl, C. 2006. A type IV P-type ATPase affects Insulin-mediated glucose uptake in adipose tissue and skeletal muscle in mice. *J. Nutr. Biochem.* 17: 811-820.
- Kubala, M. 2006. ATP-binding to P-type ATPases as revealed by biochemical, spectroscopic, and crystallographic experiments. *Proteins* 64: 1-12.
- Møller, A.B., Asp, T., Holm, P.B. and Palmgren, M.G. 2008. Phylogenetic analysis of P5 P-type ATPases, a eukaryotic lineage of secretory pathway pumps. *Mol. Phylogenet. Evol.* 46: 619-634.
- Niggli, V. and Sigel, E. 2008. Anticipating antiport in P-type ATPases. *Trends Biochem. Sci.* 33: 156-160.

CHROMOSOMAL LOCATION

Genetic locus: ATP8A2 (human) mapping to 13q12.13; Atp8a2 (mouse) mapping to 14 D1.

SOURCE

ATP8A2 (N-19) is an affinity purified rabbit polyclonal antibody raised against a peptide mapping within an N-terminal cytoplasmic domain of ATP8A2 of human origin.

PRODUCT

Each vial contains 100 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-83990 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ATP8A2 (N-19) is recommended for detection of ATP8A2 of mouse, rat and 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).

ATP8A2 (N-19) is also recommended for detection of ATP8A2 in additional species, including equine, canine and bovine.

Suitable for use as control antibody for ATP8A2 siRNA (h): sc-105108, ATP8A2 siRNA (m): sc-141364, ATP8A2 shRNA Plasmid (h): sc-105108-SH, ATP8A2 shRNA Plasmid (m): sc-141364-SH, ATP8A2 shRNA (h) Lentiviral Particles: sc-105108-V and ATP8A2 shRNA (m) Lentiviral Particles: sc-141364-V.

Molecular Weight of ATP8A2: 129 kDa.

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) 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.

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 or our catalog for detailed protocols and support products.