

ATP13A4 (N-18): sc-102340

BACKGROUND

ATP13A4 (ATPase type 13A4) is a 1,196 amino acid multi-pass membrane protein that belongs to the P-type family of cation transport ATPases. Expressed in pancreas, liver, placenta, heart and skeletal muscle, with lower levels of expression in kidney, lung and brain, ATP13A4 functions to catalyze the decomposition of ATP to ADP and phosphate, a reaction that is H₂O-dependent and may drive intracellular transport processes. Chromosomal aberrations in the gene encoding ATP13A4 are associated with language impairment disorders, suggesting that ATP13A4 may be involved in language development. Four isoforms of ATP13A4 exist due to alternative splicing events. The gene encoding ATP13A4 maps to human chromosome 3, which houses over 1,100 genes, including a chemokine receptor (CKR) gene cluster and a variety of human cancer-related gene loci.

REFERENCES

- Müller, S., et al. 2000. Molecular cytogenetic dissection of human chromosomes 3 and 21 evolution. *Proc. Natl. Acad. Sci. USA* 97: 206-211.
- Online Mendelian Inheritance in Man, OMIM™. 2002. Johns Hopkins University, Baltimore, MD. MIM Number: 609556. World Wide Web URL: <http://www.ncbi.nlm.nih.gov/omim/>
- Braga, E.A., et al. 2003. New tumor suppressor genes in hot spots of human chromosome 3: new methods of identification. *Mol. Biol.* 37: 194-211.
- Tsend-Ayush, E., et al. 2004. Plasticity of human chromosome 3 during primate evolution. *Genomics* 83: 193-202.
- Schultheis, P.J., et al. 2004. Characterization of the P5 subfamily of P-type transport ATPases in mice. *Biochem. Biophys. Res. Commun.* 323: 731-738.
- Kwasnicka-Crawford, D.A., et al. 2005. Characterization of a novel cation transporter ATPase gene (ATP13A4) interrupted by 3q25-q29 inversion in an individual with language delay. *Genomics* 86: 182-194.
- Yue, Y., et al. 2005. Genomic structure and paralogous regions of the inversion breakpoint occurring between human chromosome 3p12.3 and orangutan chromosome 2. *Cytogenet. Genome Res.* 108: 98-105.
- Muzny, D.M., et al. 2006. The DNA sequence, annotation and analysis of human chromosome 3. *Nature* 440: 1194-1198.

CHROMOSOMAL LOCATION

Genetic locus: ATP13A4 (human) mapping to 3q29; Atp13a4 (mouse) mapping to 16 B2.

SOURCE

ATP13A4 (N-18) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of ATP13A4 of human origin.

PRODUCT

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

Blocking peptide available for competition studies, sc-102340 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

ATP13A4 (N-18) is recommended for detection of ATP13A4 of mouse and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg 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).

ATP13A4 (N-18) is also recommended for detection of ATP13A4 in additional species, including equine and porcine.

Suitable for use as control antibody for ATP13A4 siRNA (h): sc-78058, ATP13A4 siRNA (m): sc-141341, ATP13A4 shRNA Plasmid (h): sc-78058-SH, ATP13A4 shRNA Plasmid (m): sc-141341-SH, ATP13A4 shRNA (h) Lentiviral Particles: sc-78058-V and ATP13A4 shRNA (m) Lentiviral Particles: sc-141341-V.

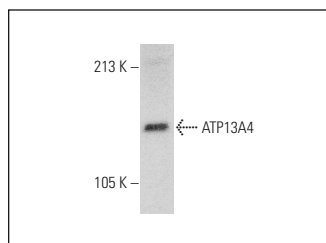
Molecular Weight of ATP13A4: 134 kDa.

Positive Controls: Sol8 cell lysate: sc-2249.

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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.

DATA



ATP13A4 (N-18): sc-102340. Western blot analysis of ATP13A4 expression in Sol8 whole cell lysate.

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.