

# ATP13A1 (D-17): sc-241855

## BACKGROUND

ATP13A1 (ATPase type 13A1), also known as probable cation-transporting ATPase 13A1 or ATP13A, is a 1,204 amino acid multi-pass membrane protein belonging to the cation transport ATPase (P-type) family and the type V sub-family. Highly conserved, ATP13A1 exists as three alternatively spliced isoforms. ATP13A1 participates in ATP, metal ion and nucleotide binding, ATPase activity, and hydrolase activity, such as acting on acid anhydrides and catalyzing transmembrane substance movement. ATP13A1 is encoded by a gene that maps to human chromosome 19p13.11. Chromosome 19 consists of approximately 63 million bases and makes up over 2% of human genomic DNA. Chromosome 19 contains the greatest gene density of the human chromosomes and is the genetic home for a number of immunoglobulin superfamily members, including killer cell and leukocyte Ig-like receptors, ICAMs, the CEACAM and PSG families, and Fc $\alpha$  receptors.

## REFERENCES

- 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.
- Grimwood, J., et al. 2004. The DNA sequence and biology of human chromosome 19. *Nature* 428: 529-535.
- 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.
- Wolfe, D.M., et al. 2006. Channeling studies in yeast: yeast as a model for channelopathies? *Neuromolecular Med.* 8: 279-306.
- Wenge, B., et al. 2008. Separation of membrane proteins by two-dimensional electrophoresis using cationic rehydrated strips. *Electrophoresis* 29: 1511-1517.
- Nath, A.K., et al. 2009. Proteomic-based detection of a protein cluster dysregulated during cardiovascular development identifies biomarkers of congenital heart defects. *PLoS ONE* 4: e4221.
- Chadi, S., et al. 2010. Brain transcriptional stability upon prion protein-encoding gene inactivation in zygotic or adult mouse. *BMC Genomics* 11: 448.

## CHROMOSOMAL LOCATION

Genetic locus: ATP13A1 (human) mapping to 19p13.11; Atp13a1 (mouse) mapping to 8 B3.3.

## SOURCE

ATP13A1 (D-17) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of ATP13A1 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.

Blocking peptide available for competition studies, sc-241855 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

ATP13A1 (D-17) is recommended for detection of ATP13A1 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) and solid phase ELISA (starting dilution 1:30, dilution range 1:30-1:3000).

ATP13A1 (D-17) is also recommended for detection of ATP13A1 in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for ATP13A1 siRNA (h): sc-97321, ATP13A1 siRNA (m): sc-141338, ATP13A1 shRNA Plasmid (h): sc-97321-SH, ATP13A1 shRNA Plasmid (m): sc-141338-SH, ATP13A1 shRNA (h) Lentiviral Particles: sc-97321-V and ATP13A1 shRNA (m) Lentiviral Particles: sc-141338-V.

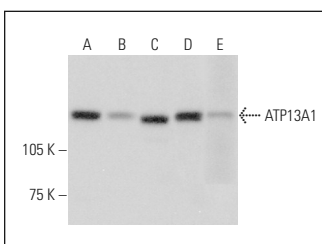
Molecular Weight of ATP13A1 isoforms a/b/c: 133/121/38 kDa.

Positive Controls: HeLa whole cell lysate: sc-2200, Hep G2 cell lysate: sc-2227 or mouse ovary extract: sc-2404.

## 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



ATP13A1 (D-17): sc-241855. Western blot analysis of ATP13A1 expression in HeLa (A), Hep G2 (B), MDA-MB-435S (C) and NIH/3T3 (D) whole cell lysates and mouse ovary tissue extract (E).

## 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.