

PAT3 (E-12): sc-132768

BACKGROUND

The proton-coupled amino acid transporter family consists of four family members, namely PAT1, PAT2, PAT3 and PAT4, all of which mediate the 1:1 symport of protons and small neutral amino acids and derivatives across both intracellular and plasma membranes. Substrates for the PAT family members include L- and D-Proline, Glycine and L-Alanine, 3-Amino-1-propanesulfonic acid, L-Azetidine-2-carboxylic acid and *cis*-4-Hydroxy-D-proline. PAT1 expression is high in intestine and brain where it localizes to the brush border membrane, thereby allowing PAT1 to serve as a novel route for oral drug delivery. PAT2 shows high expression in spinal cord and brain, while PAT3 expression is found in testis. PAT4 is a multi-pass membrane protein that is expressed as two alternatively spliced isoforms. All four PAT family members contain three conserved histidine residues with His-55 found to be essential for catalytic activity of PAT1.

REFERENCES

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6. Metzner, L. and Brandsch, M. 2006. Influence of a proton gradient on the transport kinetics of the H⁺/amino acid cotransporter PAT1 in Caco-2 cells. *Eur. J. Pharm. Biopharm.* 63: 360-364.
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CHROMOSOMAL LOCATION

Genetic locus: Slc36a3 (mouse) mapping to 11 B1.3.

STORAGE

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

SOURCE

PAT3 (E-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within a cytoplasmic domain of PAT3 of mouse 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-132768 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

APPLICATIONS

PAT3 (E-12) is recommended for detection of PAT3 of mouse and rat 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); non cross-reactive with other PAT family members.

Suitable for use as control antibody for PAT3 siRNA (m): sc-152033, PAT3 shRNA Plasmid (m): sc-152033-SH and PAT3 shRNA (m) Lentiviral Particles: sc-152033-V.

Molecular Weight of PAT3: 52 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.

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.