

PEPT1 (H-235): sc-20653

BACKGROUND

In mammalian small intestine, the proton-coupled peptide transporter (PEPT) is responsible for the absorption of small peptides arising from digestion of dietary proteins. PEPT1, a hydrogen ion/peptide cotransporter, transports dipeptides and tripeptides, but not free amino acids or peptides with more than three amino acid residues. Its driving force for uphill transport requires proton binding and the presence of an inside-negative membrane potential. PEPT1 is 708 amino acid protein that contains 12 putative membrane-spanning domains. PEPT1 is expressed in Caco-2 cells. PEPT1 seems to play important roles in nutritional and pharmacological therapies. The mammalian kidney expresses a proton-coupled peptide transporter, PEPT2, that is responsible for the absorption of small peptides, as well as β -lactam antibiotics and other peptide-like drugs, from the tubular filtrate. The gene which encodes PEPT1 maps to human chromosome 13q32.3.

CHROMOSOMAL LOCATION

Genetic locus: SLC15A1 (human) mapping to 13q32.3; Slc15a1 (mouse) mapping to 14 E5.

SOURCE

PEPT1 (H-235) is a rabbit polyclonal antibody raised against amino acids 366-600 of PEPT1 of human origin.

PRODUCT

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

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.

APPLICATIONS

PEPT1 (H-235) is recommended for detection of PEPT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), immunoprecipitation [1-2 μ g per 100-500 μ 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).

Suitable for use as control antibody for PEPT1 siRNA (h): sc-36207, PEPT1 siRNA (m): sc-156081, PEPT1 shRNA Plasmid (h): sc-36207-SH, PEPT1 shRNA Plasmid (m): sc-156081-SH, PEPT1 shRNA (h) Lentiviral Particles: sc-36207-V and PEPT1 shRNA (m) Lentiviral Particles: sc-156081-V.

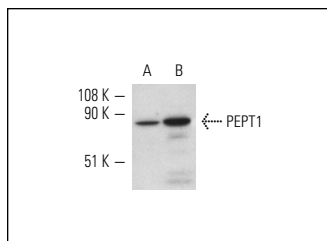
Molecular Weight of PEPT1: 75 kDa.

Positive Controls: Caki-1 cell lysate: sc-2224 or KNRK whole cell lysate: sc-2214.

RESEARCH USE

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

DATA



PEPT1 (H-235): sc-20653. Western blot analysis of PEPT1 expression in Caki-1 (A) and KNRK (B) whole cell lysates.

SELECT PRODUCT CITATIONS

- Hironaka, T., et al. 2009. Quantitative evaluation of PEPT1 contribution to oral absorption of cephalexin in rats. *Pharm. Res.* 26: 40-50.
- Joly, F., et al. 2009. Morphological adaptation with preserved proliferation/transporter content in the colon of patients with short bowel syndrome. *Am. J. Physiol. Gastrointest. Liver Physiol.* 297: G116-G123.
- Xu, L., et al. 2010. Functional role of the intracellular loop linking transmembrane domains 6 and 7 of the human dipeptide transporter hPEPT1. *J. Membr. Biol.* 238: 43-49.
- Chen, H.Q., et al. 2010. *Lactobacillus plantarum* consumption increases PepT1-mediated amino acid absorption by enhancing protein kinase C activity in spontaneously colitic mice. *J. Nutr.* 140: 2201-2206.
- Chen, H.Q., et al. 2010. *Lactobacillus plantarum* ameliorates colonic epithelial barrier dysfunction by modulating the apical junctional complex and PepT1 in IL-10 knockout mice. *Am. J. Physiol. Gastrointest. Liver Physiol.* 299: G1287-G1297.
- Liu, J., et al. 2012. Functional Cftr in crypt epithelium of organotypic enteroid cultures from murine small intestine. *Am. J. Physiol., Cell Physiol.* 302: C1492-C1503.

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