

PEPT1 (C-20): sc-19917

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.

REFERENCES

- Liang, R., et al. 1995. Human intestinal H⁺/peptide cotransporter. Cloning, functional expression, and chromosomal localization. *J. Biol. Chem.* 270: 6456-6463.
- Liu, W., et al. 1995. Molecular cloning of PEPT2, a new member of the H⁺/peptide cotransporter family, from human kidney. *Biochim. Biophys. Acta* 1235: 461-466.
- Adibi, S.A. 1997. The oligopeptide transporter (PEPT1) in human intestine: biology and function. *Gastroenterology* 113: 332-340.
- LocusLink Report (LocusID: 600544). <http://www.ncbi.nlm.nih.gov/LocusLink/>

CHROMOSOMAL LOCATION

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

SOURCE

PEPT1 (C-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping near the C-terminus 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.

Blocking peptide available for competition studies, sc-19917 P, (100 μ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

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 (C-20) 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), 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).

PEPT1 (C-20) is also recommended for detection of PEPT1 in additional species, including canine, bovine and porcine.

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.

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.

SELECT PRODUCT CITATIONS

- Buyse, M. 2001. PepT1-mediated epithelial transport of dipeptides and cephalixin is enhanced by luminal leptin in the small intestine. *J. Clin. Invest.* 108: 1483-1494.
- Laforenza, U., et al. 2010. Solute transporters and aquaporins are impaired in celiac disease. *Biol. Cell* 102: 457-467.

RESEARCH USE

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



Try **PEPT1 (E-3): sc-373742**, our highly recommended monoclonal alternative to PEPT1 (C-20).