SANTA CRUZ BIOTECHNOLOGY, INC.

PEPT1 (E-3): sc-373742

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

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 (E-3) is a mouse monoclonal antibody raised against amino acids 366-600 of PEPT1 of human origin.

PRODUCT

Each vial contains 200 µg IgG_1 kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

PEPT1 (E-3) is available conjugated to agarose (sc-373742 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-373742 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-373742 PE), fluorescein (sc-373742 FITC), Alexa Fluor® 488 (sc-373742 AF488), Alexa Fluor® 546 (sc-373742 AF546), Alexa Fluor® 594 (sc-373742 AF594) or Alexa Fluor® 647 (sc-373742 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-373742 AF680) or Alexa Fluor® 790 (sc-373742 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

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APPLICATIONS

PEPT1 (E-3) is recommended for detection of PEPT1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, 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).

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.

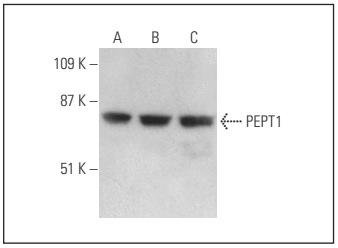
Molecular Weight of PEPT1: 75 kDa.

Positive Controls: SUP-T1 whole cell lysate: sc-364796, KNRK whole cell lysate: sc-2214 or CCRF-CEM cell lysate: sc-2225.

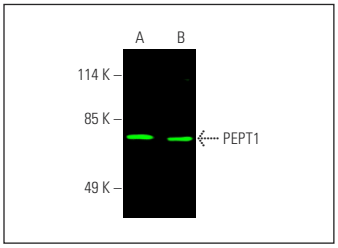
STORAGE

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

DATA



PEPT1 (E-3) HRP: sc-373742 HRP. Direct western blot analysis of PEPT1 expression in KNRK (**A**), CCRF-CEM (**B**) and SUP-T1 (**C**) whole cell lysates.



PEPT1 (E-3): sc-373742. Near-infrared western blot analysis of PEPT1 expression in MOLT-4 (**A**) and CCRF-CEM (**B**) whole cell lysates. Blocked with UltraCruz® Blocking Reagent: sc-516214. Detection reagent used: m-IgGκ BP-CFL 680: sc-516180.

SELECT PRODUCT CITATIONS

1. Ogaki, S., et al. 2015. A cost-effective system for differentiation of intestinal epithelium from human induced pluripotent stem cells. Sci. Rep. 5: 17297.
2. Arakawa, H., et al. 2016. Interaction of peptide transporter 1 with D-Glucose and l-glutamic acid; possible involvement of taste receptors. J. Pharm. Sci. 105: 339-342.
3. Yotsumoto, K., et al. 2017. 5-fluorouracil treatment alters the expression of intestinal transporters in rats. Biopharm. Drug Dispos. 38: 509-516.
4. Karimian Pour, N. and Piquette-Miller, M. 2018. Endotoxin modulates the expression of renal drug transporters in HIV-1 transgenic rats. J. Pharm. Pharm. Sci. 21: 117s-129s.
5. Kasendra, M., et al. 2020. Duodenum intestine-chip for preclinical drug assessment in a human relevant model. Elife 9: e50135.
6. Zhao, W., et al. 2021. Maternal heat stress alters expression of genes associated with nutrient transport activity and metabolism in female 7 from mid-gestating pigs. Int. J. Mol. Sci. 22: 4147.
7. Pasquariello, R., et al. 2021. New stable cell lines derived from the proximal and distal intestine of rainbow trout *(Oncorhynchus mykiss)* retain several properties observed *in vivo*. Cells 10: 1555.
8. Hoffmann, P., et al. 2021. Caco-2/HT29-MTX co-cultured cells as a model for studying physiological properties and toxin-induced effects on intestinal cells. PLoS ONE 16: e0257824.
9. Koehler, S., et al. 2021. Changes in porcine nutrient transport physiology in response to *Ascaris suum* infection. Parasit. Vectors 14: 533.

RESEARCH USE

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