



HCP1 (h): 293 Lysate: sc-111156

BACKGROUND

HCP1 (heme carrier protein 1), also known as proton-coupled Folate transporter (PCFT), is a multi-pass transmembrane protein that is expressed in the small intestine. It is predominantly found in the duodenum and the jejunum localizing to the apical brush border. HCP1 is required for normal Folate absorption in the intestine and is associated with Folate homeostasis. HCP1 mediates the transport of Folate and functions most optimally at a low extracellular pH of approximately 5.5. HCP1 functions independently of Na^+ and is insensitive to membrane potential. It exhibits high affinity for folic acid and low affinity for the PT523 antifolate. HCP1 is posttranslationally regulated by iron levels in the duodenum. During iron deficiency, HCP1 localizes to the apical membrane; however, iron excess causes HCP1 to localize in the cytoplasm. Sulfasalazine is a potent inhibitor of HCP1. Mutations in the gene encoding HCP1 can result in the autosomal recessive disorder hereditary Folate malabsorption (HFM).

REFERENCES

1. Rouault, T.A. 2005. The intestinal heme transporter revealed. *Cell* 122: 649-651.
2. Shayeghi, M., et al. 2005. Identification of an intestinal heme transporter. *Cell* 122: 789-801.
3. Qiu, A., et al. 2006. Identification of an intestinal Folate transporter and the molecular basis for hereditary Folate malabsorption. *Cell* 127: 917-928.
4. Latunde-Dada, G.O., et al. 2006. Haem carrier protein 1 (HCP1): Expression and functional studies in cultured cells. *FEBS Lett.* 580: 6865-6870.
5. Latunde-Dada, G.O., et al. 2006. Recent advances in mammalian haem transport. *Trends Biochem. Sci.* 31: 182-188.
6. Sharma, S., et al. 2007. Heme carrier protein 1 (HCP1) expression and functional analysis in the retina and retinal pigment epithelium. *Exp. Cell Res.* 313: 1251-1259.
7. Nakai, Y., et al. 2007. Functional characterization of human proton-coupled folate transporter/heme carrier protein 1 heterologously expressed in mammalian cells as a folate transporter. *J. Pharmacol. Exp. Ther.* 322: 469-476.
8. Qiu, A., et al. 2007. Rodent intestinal Folate transporters (SLC46A1): secondary structure, functional properties, response to dietary Folate restriction. *Am. J. Physiol. Cell Physiol.* 293: C1669-C1678.
9. Zhao, R., et al. 2007. The spectrum of mutations in the PCFT gene, coding for an intestinal Folate transporter, that are the basis for hereditary Folate malabsorption. *Blood* 110: 1147-1152.

CHROMOSOMAL LOCATION

Genetic locus: SLC46A1 (human) mapping to 17q11.2.

PRODUCT

HCP1 (h): 293 Lysate represents a lysate of human HCP1 transfected 293 cells and is provided as 100 μg protein in 200 μl SDS-PAGE buffer.

APPLICATIONS

HCP1 (h): 293 Lysate is suitable as a Western Blotting positive control for human reactive HCP1 antibodies. Recommended use: 10-20 μl per lane.

Control 293 Lysate: sc-110760 is available as a Western Blotting negative control lysate derived from non-transfected 293 cells.

STORAGE

Store at -20°C . Repeated freezing and thawing should be minimized. Sample vial should be boiled once prior to use. Non-hazardous. No MSDS required.

RESEARCH USE

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

PROTOCOLS

See our web site at www.scbt.com for detailed protocols and support products.