SANTA CRUZ BIOTECHNOLOGY, INC.

HCP1 (B-4): sc-393460

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 post-translationally 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.

CHROMOSOMAL LOCATION

Genetic locus: SLC46A1 (human) mapping to 17q11.2; Slc46a1 (mouse) mapping to 11 B5.

SOURCE

HCP1 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 432-459 at the C-terminus of HCP1 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.

HCP1 (B-4) is available conjugated to agarose (sc-393460 AC), 500 µg/0.25 ml agarose in 1 ml, for IP; to HRP (sc-393460 HRP), 200 µg/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-393460 PE), fluorescein (sc-393460 FITC), Alexa Fluor® 488 (sc-393460 AF488), Alexa Fluor® 546 (sc-393460 AF546), Alexa Fluor® 594 (sc-393460 AF594) or Alexa Fluor® 647 (sc-393460 AF647), 200 µg/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor® 680 (sc-393460 AF680) or Alexa Fluor® 790 (sc-393460 AF790), 200 µg/ml, for Near-Infrared (NIR) WB, IF and FCM.

Blocking peptide available for competition studies, sc-393460 P, (100 µg peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% stabilizer protein).

STORAGE

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

APPLICATIONS

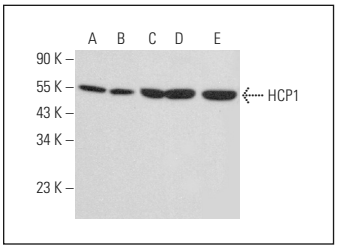
HCP1 (B-4) is recommended for detection of HCP1 of mouse, rat and human origin by Western Blotting (starting dilution 1:100, dilution range 1:100-1:1000), immunoprecipitation [1-2 µg per 100-500 µg of total protein (1 ml of cell lysate)], immunofluorescence (starting dilution 1:50, dilution range 1:50-1:500), immunohistochemistry (including paraffin-embedded sections) (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 HCP1 siRNA (h): sc-72314, HCP1 siRNA (m): sc-72315, HCP1 shRNA Plasmid (h): sc-72314-SH, HCP1 shRNA Plasmid (m): sc-72315-SH, HCP1 shRNA (h) Lentiviral Particles: sc-72314-V and HCP1 shRNA (m) Lentiviral Particles: sc-72315-V.

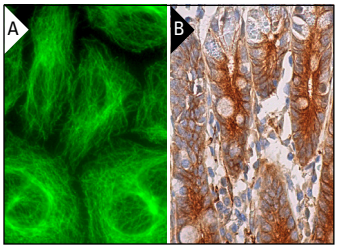
Molecular Weight of HCP1: 54 kDa.

Positive Controls: A549 cell lysate: sc-2413, NIH/3T3 whole cell lysate: sc-2210 or PC-12 cell lysate: sc-2250.

DATA



HCP1 (B-4): sc-393460. Western blot analysis of HCP1 expression in NIH/3T3 (**A**), A549 (**B**), PC-12 (**C**), AtT-20/D16V-F2 (**D**) and Y79 (**E**) whole cell lysates.



HCP1 (B-4): sc-393460. Immunofluorescence staining of methanol-fixed HeLa cells showing membrane localization (**A**). Immunoperoxidase staining of formalin fixed, paraffin-embedded human duodenum tissue showing membrane and cytoplasmic staining of glandular cells (**B**).

SELECT PRODUCT CITATIONS

1. Rafikova, O., et al. 2020. Early progression of pulmonary hypertension in the monocrotaline model in males is associated with increased lung permeability. Biol. Sex Differ. 11: 11.
2. Seiwert, N., et al. 2020. Heme oxygenase 1 protects human colonocytes against Ros formation, oxidative DNA damage and cytotoxicity induced by heme iron, but not inorganic iron. Cell Death Dis. 11: 787.

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.