# SANTA CRUZ BIOTECHNOLOGY, INC.

# Ferroportin-1 (B-4): sc-518125



## BACKGROUND

Ferroportin-1, also designated solute carrier family 40 member 1 or ironregulated transporter 1, is a multi-pass membrane protein that belongs to the SLC40A transporter protein family and localizes to the cell membrane on various cells, especially hepatocytes, endothelial cells and enterocytes. It plays a role in iron transfer between maternal and fetal circulation and acts as a mediator of iron efflux in the presence of ferroxidases, such as ceruloplasmin or hephaestin. The Ferroportin-1 protein may be involved in iron export from duodenal epithelial cells. Ferroportin-1 is expressed at highest levels in intestine, muscle, spleen and placenta. Mutations in the gene encoding for Ferroportin-1, SLC40A, cause hemochromatosis type 4 (HFE4), an autosomal dominant disorder characterized by excess storage of iron in reticuloendothelial cells and an increase in serum ferritin before elevation of the transferrin saturation.

## **CHROMOSOMAL LOCATION**

Genetic locus: SLC40A1 (human) mapping to 2q32.2.

## SOURCE

Ferroportin-1 (B-4) is a mouse monoclonal antibody specific for an epitope mapping between amino acids 391-413 near the C-terminus of Ferroportin-1 of human origin.

## PRODUCT

Each vial contains 200  $\mu g$  IgM kappa light chain in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Ferroportin-1 (B-4) is available conjugated to agarose (sc-518125 AC), 500  $\mu$ g/ 0.25 ml agarose in 1 ml, for IP; to HRP (sc-518125 HRP), 200  $\mu$ g/ml, for WB, IHC(P) and ELISA; to either phycoerythrin (sc-518125 PE), fluorescein (sc-518125 FITC), Alexa Fluor<sup>®</sup> 488 (sc-518125 AF488), Alexa Fluor<sup>®</sup> 546 (sc-518125 AF546), Alexa Fluor<sup>®</sup> 594 (sc-518125 AF594) or Alexa Fluor<sup>®</sup> 647 (sc-518125 AF647), 200  $\mu$ g/ml, for WB (RGB), IF, IHC(P) and FCM; and to either Alexa Fluor<sup>®</sup> 680 (sc-518125 AF680) or Alexa Fluor<sup>®</sup> 790 (sc-518125 AF790), 200  $\mu$ g/ml, for Near-Infrared (NIR) WB, IF and FCM.

### **APPLICATIONS**

Ferroportin-1 (B-4) is recommended for detection of Ferroportin of 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).

Ferroportin-1 (B-4) is also recommended for detection of Ferroportin in additional species, including bovine.

Suitable for use as control antibody for Ferroportin-1 siRNA (h): sc-60633, Ferroportin-1 shRNA Plasmid (h): sc-60633-SH and Ferroportin-1 shRNA (h) Lentiviral Particles: sc-60633-V.

Molecular Weight (predicted) of Ferroportin-1: 63 kDa.

Molecular Weight (observed) of Ferroportin-1: 53 kDa.

#### **RECOMMENDED SUPPORT REAGENTS**

To ensure optimal results, the following support reagents are recommended: 1) Western Blotting: use m-IgGκ BP-HRP: sc-516102 or m-IgGκ BP-HRP (Cruz Marker): sc-516102-CM (dilution range: 1:1000-1:10000), Cruz Marker<sup>™</sup> Molecular Weight Standards: sc-2035, UltraCruz<sup>®</sup> Blocking Reagent: sc-516214 and Western Blotting Luminol Reagent: sc-2048. 2) Immunoprecipitation: use Protein L-Agarose: sc-2336 (0.5 ml agarose/2.0 ml). 3) Immunofluorescence: use m-IgGκ BP-FITC: sc-516140 or m-IgGκ BP-PE: sc-516141 (dilution range: 1:50-1:200) with UltraCruz<sup>®</sup> Mounting Medium: sc-24941 or UltraCruz<sup>®</sup> Hard-set Mounting Medium: sc-359850.

#### DATA



Ferroportin-1 (B-4): sc-51812b. Western blot analysis of Ferroportin-1 expression in non-transfected 2931: sc-17752 (**A**), human Ferroportin-1 transfected 2931: sc-159223 (**B**), human Ferroportin-1 transfected 2937: sc-176722 (**C**) and HISM (**D**) whole cell lysates. Detection reagent used: m-IgGk BP-HRP (Cruz Marker): sc-516102-CM.

## SELECT PRODUCT CITATIONS

- Galla, R., et al. 2021. Ovotransferrin supplementation improves the iron absorption: an *in vitro* gastro-intestinal model. Biomedicines 9: 1543.
- Admasu, T.D., et al. 2023. Selective ablation of primary and paracrine senescent cells by targeting iron dyshomeostasis. Cell Rep. 42: 112058.
- Yue, F., et al. 2023. Metformin alleviates hepatic iron overload and ferroptosis through AMPK-ferroportin pathway in HFD-induced NAFLD. iScience 26: 108560.

#### **STORAGE**

Store at 4° C, \*\*DO NOT FREEZE\*\*. Stable for one year from the date of shipment. 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.

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