SANTA CRUZ BIOTECHNOLOGY, INC.

Hephaestin (L-20): sc-49969

SANTA CRUZ BIOTECHNOLOGY

The Power to Question

BACKGROUND

Hephaestin is a single-pass type I membrane protein that belongs to the multicopper oxidase family of proteins. Hephaestin, a copper-dependant ferroxidase protein, is crucial for iron exiting intestinal enterocytes into the circulation. It mediates the movement of iron across the basolateral membrane in conjunction with Ferroportin-1. This is an important link between iron and copper metabolism in mammalian systems, as copper deficiency leads to reduced Hephaestin and reduced iron absorption resulting in anemia. Hephaestin can bind six copper ions per monomer and is regulated by the homeobox transcription factor CDX2. Increased levels of iron leads to the an increase in CDX2 expression and thus Hephaestin. Hephaestin is primarily detected in the intestine, but is also expressed in colon, breast, bone trabecural cells and fibroblasts.

CHROMOSOMAL LOCATION

Genetic locus: HEPH (human) mapping to Xq12; Heph (mouse) mapping to X C3.

SOURCE

Hephaestin (L-20) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of Hephaestin of human origin.

PRODUCT

Each vial contains 200 µg IgG in 1.0 ml of PBS with < 0.1% sodium azide and 0.1% gelatin.

Blocking peptide available for competition studies, sc-49969 P, (100 µg 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.

APPLICATIONS

Hephaestin (L-20) is recommended for detection of Hephaestin of mouse, rat and human origin by Western Blotting (starting dilution 1:200, 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); may cross-react with Ceruloplasmin in mouse, rat and human.

Hephaestin (L-20) is also recommended for detection of Hephaestin in additional species, including equine, bovine and porcine.

Suitable for use as control antibody for Hephaestin siRNA (h): sc-60780, Hephaestin siRNA (m): sc-60781, Hephaestin shRNA Plasmid (h): sc-60780-SH, Hephaestin shRNA Plasmid (m): sc-60781-SH, Hephaestin shRNA (h) Lentiviral Particles: sc-60780-V and Hephaestin shRNA (m) Lentiviral Particles: sc-60781-V.

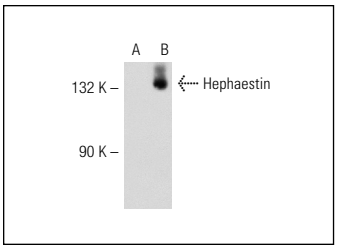
Molecular Weight of Hephaestin: 160 kDa.

Positive Controls: Hephaestin (m): 293T lysate: sc-120751, T84 whole cell lysate: sc-364797 or K-562 whole cell lysate: sc-2203.

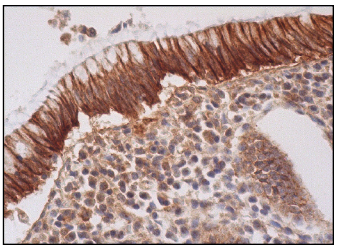
RECOMMENDED SECONDARY REAGENTS

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) Immunoprecipitation: use Protein A/G PLUS-Agarose: sc-2003 (0.5 ml agarose/2.0 ml). 3) 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. 4) Immunohistochemistry: use ImmunoCruz™: sc-2053 or ABC: sc-2023 goat IgG Staining Systems.

DATA



Hephaestin (L-20): sc-49969. Western blot analysis of Hephaestin expression in non-transfected: sc-117752 (**A**) and mouse Hephaestin transfected: sc-120751 (**B**) 293T whole cell lysates.



Hephaestin (L-20): sc-49969. Immunoperoxidase staining of formalin fixed, paraffin-embedded human appendix tissue showing membrane and cytoplasmic staining of glandular cells.

RESEARCH USE

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

PROTOCOLS

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