

# hepcidin (K-12): sc-240553

## BACKGROUND

Hepcidin, also known as HAMP, HEPC, LEAP1 or HFE2B, is an 84 amino acid secreted protein that regulates iron-related signaling events. Highly expressed in liver with lower expression in heart, brain, lung, prostate and thyroid, hepcidin is thought to maintain iron homeostasis and, in conjunction with the HFE protein (a protein that is defective in hereditary hemochromatosis), may mediate both iron storage in macrophages and intestinal iron absorption. Additionally, hepcidin has strong antimicrobial activity against Gram-positive and Gram-negative bacteria, as well as certain yeast strains, suggesting that hepcidin may play a crucial role in staving off bacterial infections. Defects in the gene encoding hepcidin are the cause of hemochromatosis type 2B (also known as juvenile hemochromatosis), an early-onset autosomal recessive disorder that results in severe iron overload and is characterized by hepatic fibrosis, hypogonadotropic hypogonadism and cardiomyopathy.

## REFERENCES

1. Krause, A., et al. 2000. LEAP-1, a novel highly disulfide-bonded human peptide, exhibits antimicrobial activity. *FEBS Lett.* 480: 147-150.
2. Park, C.H., et al. 2001. Hepcidin, a urinary antimicrobial peptide synthesized in the liver. *J. Biol. Chem.* 276: 7806-7810.
3. Klüver, E., et al. 2002. Chemical synthesis of  $\beta$ -defensins and LEAP-1/hepcidin. *J. Pept. Res.* 59: 241-248.
4. Merryweather-Clarke, A.T., et al. 2003. Digenic inheritance of mutations in HAMP and HFE results in different types of haemochromatosis. *Hum. Mol. Genet.* 12: 2241-2247.
5. Roetto, A., et al. 2003. Mutant antimicrobial peptide hepcidin is associated with severe juvenile hemochromatosis. *Nat. Genet.* 33: 21-22.
6. Nemeth, E., et al. 2004. Hepcidin regulates cellular iron efflux by binding to ferroportin and inducing its internalization. *Science* 306: 2090-2093.
7. Robson, K.J., et al. 2004. Recent advances in understanding haemochromatosis: a transition state. *J. Med. Genet.* 41: 721-730.
8. Nemeth, E., et al. 2004. IL-6 mediates hypoferrremia of inflammation by inducing the synthesis of the iron regulatory hormone hepcidin. *J. Clin. Invest.* 113: 1271-1276.
9. Pinto, J.P., et al. 2008. Erythropoietin mediates hepcidin expression in hepatocytes through EPOR signalling and regulation of C/EBP $\alpha$ . *Blood* 111: 5727-5733.

## CHROMOSOMAL LOCATION

Genetic locus: Hamp/Hamp2 (mouse) mapping to 7 B1.

## SOURCE

hepcidin (K-12) is an affinity purified goat polyclonal antibody raised against a peptide mapping within an internal region of hepcidin of mouse origin.

## RESEARCH USE

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

## PRODUCT

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

Blocking peptide available for competition studies, sc-240553 P, (100  $\mu$ g peptide in 0.5 ml PBS containing < 0.1% sodium azide and 0.2% BSA).

## APPLICATIONS

hepcidin (K-12) is recommended for detection of hepcidin of mouse and rat origin and hepcidin-2 of mouse origin by Western Blotting (starting dilution 1:200, dilution range 1:100-1:1000), 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).

Molecular Weight of hepcidin: 9 kDa.

## 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) 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.

## STORAGE

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

## PROTOCOLS

See our web site at [www.scbt.com](http://www.scbt.com) or our catalog for detailed protocols and support products.