SANTA CRUZ BIOTECHNOLOGY, INC.

hepcidin-2 siRNA (m): sc-145893

BACKGROUND

Hepcidin regulates iron-related signaling events, 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. hepcidin-2 (hepcidin antimicrobial peptide 2), also known as HEPC2, is an 83 amino acid secreted protein belonging to the hepcidin family. Highly expressed in liver and pancreas with lower levels in heart, hepcidin-2 may act as a signaling molecule involved in the maintenance of iron homeostasis. The gene encoding hepcidin-2 is located on mouse chromosome 7.

REFERENCES

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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 β-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 hypoferremia 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/EBPα. Blood 111: 5727-5733.

CHROMOSOMAL LOCATION

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

PRODUCT

hepcidin-2 siRNA (m) is a target-specific 19-25 nt siRNA designed to knock down gene expression. Each vial contains 3.3 nmol of lyophilized siRNA, sufficient for a 10 µM solution once resuspended using protocol below. Suitable for 50-100 transfections. Also see hepcidin-2 shRNA Plasmid (m): sc-145893-SH and hepcidin-2 shRNA (m) Lentiviral Particles: sc-145893-V as alternate gene silencing products.

STORAGE AND RESUSPENSION

Store lyophilized siRNA duplex at -20° C with desiccant. Stable for at least one year from the date of shipment. Once resuspended, store at -20° C, avoid contact with RNAses and repeated freeze thaw cycles.

Resuspend lyophilized siRNA duplex in 330 µl of the RNAse-free water provided. Resuspension of the siRNA duplex in 330 µl of RNAse-free water makes a 10 µM solution in a 10 µM Tris-HCl, pH 8.0, 20 mM NaCl, 1 mM EDTA buffered solution.

APPLICATIONS

hepcidin-2 siRNA (m) is recommended for the inhibition of hepcidin-2 expression in mouse cells.

SUPPORT REAGENTS

For optimal siRNA transfection efficiency, Santa Cruz Biotechnology's siRNA Transfection Reagent: sc-29528 (0.3 ml), siRNA Transfection Medium: sc-36868 (20 ml) and siRNA Dilution Buffer: sc-29527 (1.5 ml) are recommended. Control siRNAs or Fluorescein Conjugated Control siRNAs are available as 10 µM in 66 µl. Each contain a scrambled sequence that will not lead to the specific degradation of any known cellular mRNA. Fluorescein Conjugated Control siRNAs include: sc-36869, sc-44239, sc-44240 and sc-44241. Control siRNAs include: sc-37007, sc-44230, sc-44231, sc-44232, sc-44233, sc-44234, sc-44235, sc-44236, sc-44237 and sc-44238.

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.