

HAMP gene

hepcidin antimicrobial peptide

Normal Function

The *HAMP* gene provides instructions for the production of a protein called hepcidin. Hepcidin, which is produced primarily in the liver, plays a major role in maintaining iron balance in the body. When blood iron levels are high, iron enters liver cells and triggers them to increase production of hepcidin. Hepcidin then circulates in the blood and stops iron absorption in the small intestine when the body's supply of iron is too high.

Hepcidin interacts primarily with other proteins in the small intestine, liver, and certain white blood cells to adjust iron absorption and storage. In this way, an appropriate balance of iron (iron homeostasis) is maintained and iron absorption is adjusted to reflect the body's needs.

Health Conditions Related to Genetic Changes

Hereditary hemochromatosis

At least 14 mutations in the *HAMP* gene can cause type 2 hemochromatosis, a form of hereditary hemochromatosis that begins during childhood or adolescence. Hereditary hemochromatosis is a disorder that causes the body to absorb too much iron from the diet. The excess iron accumulates in, and eventually damages, the body's tissues and organs.

Mutations in the *HAMP* gene result in the production of abnormal hepcidin with decreased function. This altered hepcidin cannot stop iron absorption, even when the body has sufficient supplies of iron. As a result, tissues and organs become overloaded with iron, especially the liver and the heart, leading to organ damage in hereditary hemochromatosis.

Other Names for This Gene

- HEPC
- HEPC_HUMAN
- Hepcidin
- HFE2B

- LEAP-1
- LEAP1
- Liver-expressed antimicrobial peptide
- PLTR
- Putative liver tumor regressor

Additional Information & Resources

Tests Listed in the Genetic Testing Registry

- Tests of HAMP ([https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=57817\[geneid\]](https://www.ncbi.nlm.nih.gov/gtr/all/tests/?term=57817[geneid]))

Scientific Articles on PubMed

- PubMed (<https://pubmed.ncbi.nlm.nih.gov/?term=%28%28HAMP%5BTIAB%5D%29+OR+%28hepcidin+antimicrobial+peptide%5BTIAB%5D%29+OR+%28hepcidin%5BTIAB%5D%29%29+OR+%28%28LEAP-1%5BTIAB%5D%29+OR+%28Liver-expressed+antimicrobial+peptide%5BTIAB%5D%29%29+AND+english%5Bla%5D+AND+human%5Bmh%5D+AND+%22last+1800+days%22%5Bdp%5D>)

Catalog of Genes and Diseases from OMIM

- HEPCIDIN ANTIMICROBIAL PEPTIDE; HAMP (<https://omim.org/entry/606464>)

Gene and Variant Databases

- NCBI Gene (<https://www.ncbi.nlm.nih.gov/gene/57817>)
- ClinVar ([https://www.ncbi.nlm.nih.gov/clinvar?term=HAMP\[gene\]](https://www.ncbi.nlm.nih.gov/clinvar?term=HAMP[gene]))

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Genomic Location

The *HAMP* gene is found on chromosome 19 (<https://medlineplus.gov/genetics/chromosome/19/>).

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