Ferroportin

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Hepcidin is a hormone produced by the liver that plays a key role in regulating iron metabolism in the body. It is a small peptide that regulates iron absorption and distribution in the body by binding to and regulating the activity of ferroportin, a protein that exports iron from cells and tissues into the bloodstream.

Ferroportin is a protein that plays a key role in iron metabolism in the body. It is a transmembrane protein that is expressed on the surface of cells that store or release iron, such as enterocytes in the small intestine, hepatocytes in the liver, and macrophages in the spleen.

Ferroportin acts as an iron exporter, allowing iron to be transported out of cells and into the bloodstream for use by other cells in the body. It is regulated by the hormone hepcidin, which is produced by the liver in response to high levels of iron in the body. Hepcidin binds to ferroportin and causes it to be internalized and degraded, reducing the amount of iron that is released into the bloodstream.

Mutations in the gene that encodes ferroportin can cause a genetic disorder known as hereditary hemochromatosis, which is characterized by excessive absorption of iron from the diet and iron accumulation in various organs in the body. Treatment for hereditary hemochromatosis typically involves regular phlebotomy (blood removal) to reduce iron levels.

Ferroportin has also been implicated in a variety of diseases, including anemia of chronic disease, thalassemia, and other forms of iron overload. Researchers are studying the potential of modulating ferroportin activity as a therapeutic strategy for these conditions.