Human Hepcidin Antibody
Recombinant Monoclonal Rabbit IgG Clone # 1033F
Catalog Number: MAB83071

DESCRIPTION
Species Reactivity Human
Specificity Detect human Hepcidin in direct ELISAs.
Source Recombinant Monoclonal Rabbit IgG Clone # 1033F
Purification Protein A or G purified from cell culture supernatant
Immunogen Synthetic peptide containing human Hepcidin
Accession # P81172
Formulation Lyophilized from a 0.2 μm filtered solution in PBS with Trehalose. See Certificate of Analysis for details.

*Small pack size (SP) is supplied either lyophilized or as a 0.2 μm filtered solution in PBS.

APPLICATIONS
Please Note: Optimal dilutions should be determined by each laboratory for each application. General Protocols are available in the Technical Information section on our website.

ELISA
This antibody functions as an ELISA detection antibody when paired with Rabbit Anti-Human Hepcidin Monoclonal Antibody (Catalog # MAB8307).
This product is intended for assay development on various assay platforms requiring antibody pairs. We recommend the Human Hepcidin DuoSet ELISA Kit (Catalog # DY8307-05) for convenient development of a sandwich ELISA or the Human Hepcidin Quantikine ELISA Kit (Catalog # DHP250) for a complete optimized ELISA.

DATA
ELISA
Human Hepcidin ELISA Standard Curve. Recombinant Human Hepcidin protein was serially diluted 2-fold and captured by Rabbit Anti-Human Hepcidin Monoclonal Antibody (Catalog # MAB8307) coated on a Clear Polystyrene Microplate (Catalog # DY990). Rabbit Anti-Human Hepcidin Monoclonal Antibody (Catalog # MAB83071) was biotinylated and incubated with the protein captured on the plate. Detection of the standard curve was achieved by incubating Streptavidin-HRP (Catalog # DY998) followed by Substrate Solution (Catalog # DY999) and stopping the enzymatic reaction with Stop Solution (Catalog # DY994).

PREPARATION AND STORAGE
Reconstitution Reconstitute at 0.5 mg/mL in sterile PBS.
Shipping The product is shipped at ambient temperature. Upon receipt, store it immediately at the temperature recommended below.
*Small pack size (SP) is shipped with polar packs. Upon receipt, store it immediately at -20 to -70 °C
Stability & Storage Use a manual defrost freezer and avoid repeated freeze-thaw cycles.
● 12 months from date of receipt, -20 to -70 °C as supplied.
● 1 month, 2 to 8 °C under sterile conditions after reconstitution.
● 6 months, -20 to -70 °C under sterile conditions after reconstitution.

BACKGROUND
Hepcidin, also known as Liver Expressed Antimicrobial Protein 1 (LEAP-1), is a peptide hormone that is involved in the regulation of iron metabolism (1, 2). It is synthesized as a preprohormone that is cleaved intracellularly and secreted as a mature 25 amino acid peptide (1, 3, 4). Hepcidin contains eight cysteine residues that form four disulfide bonds which appear to be important for stability in biological fluids (5). It is predominantly expressed, processed, and secreted by hepatocytes (2, 6). Hepcidin expression is positively regulated by inflammation via IL-6/JAK2/STAT3 signaling, endoplasmic reticulum stress, and BMP-6 (7-11). BMP-6-dependent Hepcidin induction involves RGM-C/Hemojuvelin, which acts as a co-receptor for BMP-6 (11-13). Conversely, Hepcidin expression is negatively regulated by MMP-15/MT2-MMP and multiple erythropoietic stimuli, including anemia, hypoxia, and Erythropoietin (14-18). MMP-15 downregulates Hepcidin expression by interacting with and cleaving RGM-C (19). Hepcidin was originally identified in human blood and urine as an antimicrobial peptide (1, 3). It has since been shown to regulate iron metabolism. Hepcidin binds the cellular iron exporter Ferroportin, and this interaction results in Ubiquitin-mediated degradation of both Hepcidin and Ferroportin (20-22). Degradation of Ferroportin results in reduced iron release from macrophages, hepatocytes, and duodenal enterocytes, suggesting that Hepcidin may be an effector of inflammatory hypoferremia (20).