

Product Specification Sheet

Pro-hepcidin (Pro-HEPC) Antibodies

Cat. # HEPC14-S	Rabbit Anti-Human Pro-HEPC antiserum # 1	SIZE: 100 ul
Cat. # HEPC14-A	Rabbit Anti-human Pro-HEPC IgG # 1 (aff pure)	SIZE: 100 ug
Cat. # HEPC14-P	Human Pro-HEPC Control/blocking peptide	SIZE: 100 ug

Hepcidin (Hepc, hepatic bactericidal protein) or LEAP (liver expressed antimicrobial peptide) is small, cysteine-rich peptide, antimicrobial peptide similar to defensins and thionins. Hepcidin (unprocessed, proprotein in mouse 83 aa, rat/human 84 aa) are almost exclusively produced in liver. Human hepcidin is produced from 84-aa precursor, including a putative 24-aa signal peptide. The signal peptide is cleaved to produce pro-HEPC, which is further processed to generate the mature secreted form of hepcidin (C-terminal 20, 22 or 25-aa HEPC). In humans, 20-aa and 25-aa appears to be the major HEPC secreted peptides with antimicrobial activities. The three secreted HEPC alternatively spliced HEPC peptides differ at the N-terminus.

The link between hepcidins and iron metabolism is that hepcidin expression is abolished in mice exhibiting iron-overload due to the targeted disruption of **USF2 (upstream stimulatory factor 2)** gene resembling the situation in hfe^{-/-} mice. The human gene is located at chromosome 19, in close proximity with Usf2 gene. Hepcidin levels are increased in iron loading and in beta-2 microglobulin knockout mice. Hepcidins are devoid of IRE. Like other antimicrobial peptides, hepcidin is up-regulated by lipopolysaccharides (LPS).

Source of Antigen and Antibodies

Antigen	11-aa peptide from human Pro-HEPC (designated HEPC14-P or control peptide or blocking peptide) conjugated to KLH; epitope location ~ N-terminus (after the signal peptide)
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#HEPC14-S) and IgG, purified over antigen-agarose (Cat # HEPC14-A)
2-Ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
-ve control IgG	# 20009-1, Rabbit (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

Form & Storage of Antibodies/Peptide Control

Antiserum (unpurified)
100ul solution lyophilized powder
Supplied 0.05% azide, **Reconstitute** powder in 100 ul PBS

Affinity pure IgG
100 ug/100ul solution lyophilized powder
Supplied in **Buffer:** PBS+0.1% BSA
Reconstitute powder in PBS at 1mg/ml

Control/blocking peptide

100 ug/100 ul solution lyophilized powder
Supplied in Buffer: PBS pH 7.5,
Reconstitute powder in PBS at 1 mg/ml.

Storage

Short-term: unopened, undiluted liquid vials at -20OC and powder at 4oC or -20oC..

Long-term: at -20C or below in suitable aliquots after reconstitution. Do not freeze and thaw and store working, diluted solutions.

Stability: 6-12 months at -20oC or below.

Shipping: 4oC for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for antiserum and 1-10 ug/ml for aff. pure IgG using Chemiluminescence technique).

ELISA (1:100K; using 50-100 ng control peptide/well).

Histochemistry & Immunofluorescence: Not tested

Specificity & Cross-reactivity

The human HEPC14-P sequences is 63% conserved in mouse/rat pro-HEPC. This sequence is removed from the mature 20-25 secreted forms of HEPC. So antibodies will not react with the secreted forms of HEPC. Antibody cross-reactivity in various species has not been studied. Full length, human 25-aa (cat # HEPC61-P) and 20-aa HEPC (cat # HEPC71-P) and mouse 25-aa HEPC (cat # HEPC-81) are also available for various studies. Control peptide, because of its low mol. Wt (<3 kDa), is not suitable for Western. It should be used for ELISA or antibody blocking experiments (use 5-10 ug control peptide per 1 ug of aff pure IgG or 1 ul antiserum) to confirm antibody specificity (see detailed protocol at the web site).

General References: (1). Pigeon C et al (2001) JBC 276, 7811-7819; Park CH et al (2001) JBC 276, 7806-7810, Krause A et al (2000) FEBS Lett. 480, 147-150; Fleming RE and Sly WS (2001) PNAS 99, 8160-8162; Nicolas G et al (2002) PNAS 99, 4596-4601

2. Citations of for ADI Antibodies (see updated list at the web site)

Duvigneau JC, 2007, Laboratory Investigation in press, ,
Dalladio G, 2003, British J. Haematol. 122, 996-1000, WB,
Peyssonnaud C, 2007, J. Clin. Invest., Jul 2007; 117: 1926, IHC
Sow FB, 2007, J. Leukoc. Biol., Oct 2007; 82: 934 - 945. , WB,
Peyssonnaud C, 2006, Blood, May 2006; 107: 3727 - 3732, WB, IF
Huang Y-S, 2006, Pediatr. Res., May 2006; 59: 662 - 666. , IHC

*This product is for in vitro research use only.

Some New Antibodies from ADI...

IRP1-2, HFE, Frataxin, Hepcidin, Hephaestin, NRAMPs, USF2, Ferritin, and B2-M ELISA, Tfr1-2, ceruloplasmin
HEPC14-S-A-P 71214A