

Product Specification Sheet

Alpha Defensin 5 (HDEFA5) Antibodies

Cat. # HDEFA51-P	HDEFA5 Control Peptide	SIZE: 100 ug
Cat. # HDEFA51-S	Rabbit Anti-HDEFA5 antiserum	SIZE: 100 ul
Cat. # HDEFA51-A	Rabbit Anti-HDEFA5 IgG (affinity pure)	SIZE: 100 ug

Defensins are a large family of broad-spectrum antimicrobial peptides, identified originally in leukocytes of rabbits and humans. Defensins, cationic/polar peptides (30-35 aa; 3-4 kDa), are distinguished by a conserved tri-disulfides and a largely β -Sheet structure. Defensins, expressed at the cell surface, have been hypothesized to function as a biochemical barrier against microbial infection by inhibiting colonization of the epithelium by wide range of pathogenic microorganisms. In leukocytes, these peptides are stored in cytoplasmic granules and are released into phagolysosomes where they contribute to the killing of engulfed microorganisms. The genes encoding human α and β -defensins are clustered in a contiguous segment of chromosome 8p23. Defensins are classified into two families designated α - and β - based on distinctive, although similar, tri-disulfide linkages in the peptides. β -defensins are slightly larger and differ in the position and arrangement of 3 disulfides. In humans, six α -defensin (**cryptidins**), **HD 1-6** (HD1-4 are also known as **HNP1-4** for Human Neutrophil Peptides), and two β -defensins, **HBD-1 and HBD-2**, have been identified.

α -defensins are encoded by genes designated DEFA1-6, whereas human β -defensins are encoded by the DEFB1 and DEFB2 genes. HD1-4 are expressed in neutrophils, whereas HD5 and HD6 are expressed in epithelial cells of the intestinal and reproductive tract. HD1-3/HNP1-3 make up about 30% of the neutrophils total granule protein. The HNPs are 29 to 30 amino acids long and are identical in sequence except at the N-terminal amino acid. **DEFA1** and **DEFA3** differ from each other only by their terminal ala and asp, respectively. **DEFA2** is identical to both except that it has 29 instead of 30 amino acids.

Source of Antigen and Antibodies

Antigen	Human alpha 5 defensins (HDEFA5 or HNP-5) is synthesized from 94 precursor (mature peptide 65-94). A 17-aa peptide (designated HDEFA51-P ; control peptides) sequence near the C-terminus of human mature alpha defensin-5 (1) was selected for antibody production.
Ab Host/type	Rabbit Polyclonal, unpurified antiserum (cat # HDEFA51-S, and Cat # HDEFA51-A purified over the antigen column
2-ab	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available
-ve control	# 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 in Buffer: 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 1 mg/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 20°C and powder at 4°C or -20°C..

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

Stability: 6-12 months at -20°C or below.

Shipping: 4°C for solutions and room temp for powder

Recommended Usage

Western Blotting (1:1K-5K for neat serum and 1-10 ug/ml for affinity pure antibody using ECL technique).

ELISA: Control peptide can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (1:10-50K for neat serum and 0.5-1 ug/ml for affinity pure).

Histochemistry & Immunofluorescence: Not tested

Specificity & Cross-reactivity

The **HDEFA51-P** control peptides is specific for human alpha defensin-5. No significant homology exists with other alpha-defensins. The HDEFA51-P control peptide is available for antibody blocking to confirm specificity of antibodies. Antibody cross-reactivity in various species has not been studied.

General References: Jones DE et al (1992) J. Biol. Chem. 267, 23216-23225; Wilson CL et al (1999) Science 286, 113-117; Mallow EB et al (1996) J. Biol. Chem. 271, 4038-4045; Ganz T and Lehrer RI (1998) Current Opinion Biol. 10, 41-44;.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies alpha and beta-defensins and MMP7

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HDEFA51-S-A-P

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