

Product Specification Sheet

Alpha Defensin 4 (HDEFA4/NP-4) Antibodies

Cat. # HDEFA41-P	HDEFA4/NP-4 Control/blocking Peptide	SIZE: 100 ug
Cat. # HDEFA41-S	Rabbit Anti-HDEFA4/NP-4 antiserum	SIZE: 100 ul
Cat. # HDEFA41-A	Rabbit Anti-HDEFA4/NP-4 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. 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 neutrophil's 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 4 defensins (HDEFA4 or HNP-4) is synthesized from 97 precursor (mature peptide 64-96). A 17-aa peptide (designated HDEFA41-P; control peptides) Epitope location ~ near the C-terminus of human mature alpha defensin-4 (1) conjugated to KLH
Ab Host/type	Rabbit, Polyclonal unpurified antiserum (#HDEFA41-S) and IgG, purified over antigen-agarose (Cat # HDEFA41-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 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 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 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 **HDEFA41-P** control peptides is specific for human to human HDEFA4 or HNP-4. No significant homology exists with other alpha-defensins. The HDEFA41-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: Palfree RG (1993) Mol. Endocrinol. 7, 199-205; Singh A (1988) BBRC 155, 524-529; Wilde CG (1989) JBC 264, 11200-11203; Gabay JE (1989) PNAS 86, 5610-5614; ; Wilson CL (1999) Science 286, 113-117; Mallow EB (1996) JBC 271, 4038-4045; Ganz T (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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HDEFA41-S-A-P 70827A

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