

Product Specification Sheet

**Alpha Defensin 4 (HDEFA4/NP-4) Antibodies**

Cat. # HDEFA41-P	HDEFA4/NP-4 Control/blocking Peptide	<b>SIZE:</b> 100 ug
Cat. # HDEFA41-S	Rabbit Anti-HDEFA4/NP-4 antiserum	<b>SIZE:</b> 100 ul
Cat. # HDEFA41-A	Rabbit Anti-HDEFA4/NP-4 IgG (affinity pure)	<b>SIZE:</b> 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  $\beta$ -Sheet structure. The genes encoding human  $\alpha$  and  $\beta$  -defensins are clustered in a contiguous segment of chromosome 8p23. Defensins are classified into two families designated  $\alpha$  - and  $\beta$  -based on distinctive, although similar, tri-disulfide linkages in the peptides.  $\beta$ -defensins are slightly larger and differ in the position and arrangement of 3 disulfides. In humans, six  $\alpha$  -defensin (**cryptidins**), **HD 1-6** (HD1-4 are also known as **HNP1-4** for Human Neutrophil Peptides), and two  $\beta$  -defensins, **HBD-1** and **HBD-2**, have been identified.

$\alpha$ -defensins are encoded by genes designated DEFA1-6, whereas human  $\beta$ -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**

<b>Antigen</b>	Human alpha 4 defensins (HDEFA4 or HNP-4) is synthesized from 97 precursor (mature peptide 64-96). A 17-aa peptide (designated <b>HDEFA41-P; control peptides</b> ) Epitope location ~ near the C-terminus of human mature alpha defensin-4 (1) conjugated to KLH
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum ( <b>#HDEFA41-S</b> ) and IgG, purified over antigen-agarose (Cat # <b>HDEFA41-A</b> )
<b>2-Ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).
<b>-ve control IgG</b>	# 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

Study distribution of proteins in pre-made **Kidney blots** from 7 defined regions of rat kidney

HDEFA41-S-A-P 70827A

**India Contact:**

**Life Technologies (India) Pvt. Ltd.**

306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi - 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444  
Email: [customerservice@lifetechindia.com](mailto:customerservice@lifetechindia.com) Website: [www.lifetechindia.com](http://www.lifetechindia.com)