

Product Specification Sheet

**Alpha Defensin 6 (HDEFA6) Antibodies**

|                  |  |                     |
|------------------|--|---------------------|
| Cat. # HDEFA61-P | Human HDEFA6 Control Peptide                 | <b>SIZE:</b> 100 ug |
| Cat. # HDEFA61-S | Rabbit Anti-Human HDEFA6 antiserum           | <b>SIZE:</b> 100 ul |
| Cat. # HDEFA61-A | Rabbit Anti-Human HDEFA6 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. 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  $\alpha$  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 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**

|                        |   |
|------------------------|---|
| <b>Antigen</b>         | Human alpha 6 defensins (HDEFA6) is synthesized from 100/101 precursor. A 16-aa peptide (designated <b>HDEFA61-P; control peptides</b> ) sequence near the C-terminus of human mature alpha defensin-6 (1) conjugated to KLH; |
| <b>Ab Host/type</b>    | Rabbit, Polyclonal antiserum # HDEFA61-S and IgG, purified over antigen-agarose (Cat # HDEFA61-A)   |
| <b>2-Ab</b>            | Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available).   |
| <b>-ve control IgG</b> | Cat # 20009-1, Rabbit (non-immune) Serum 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 -200C 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 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 **HDEFA61-P** control peptides is specific for human alpha defensin-6. No significant homology exists with other alpha-defensins. The HDEFA61-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 (1993) FEBS Lett. 315, 187-192; 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

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

HDEFA61-S-A-P 71121A

**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)