

Product Specification Sheet

**Human Alpha Defensin 1 (HDEFA1/NP-1) Antibodies**

Cat. # HDEFA12-A Goat Anti-HDEFA1/NP-1 IgG (affinity pure)

**SIZE:** 100 ug

**Defensins** are a large family of broad-spectrum antimicrobial peptides, identified originally in leukocytes of Goats 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.

**FUNCTION:** Defensins 1/2 have antibiotic, fungicide and antiviral activities.

**SUBUNIT:** Dimer.

**SUBCELLULAR LOCATION:** Secreted.

**SIMILARITY:** Belongs to the alpha-defensin family.

**Protein name** Neutrophil defensin 1 [Precursor]

**Synonyms** HNP-1, HP-1, HP1, Defensin, alpha 1, Contains HP 1-56, Neutrophil defensin 2, (HNP-2), (HP-2), (HP2), DEF1, DEFA2, MRS

**Gene name** Name: DEFA1

**Source of Antigen and Antibodies**

<b>Antigen</b>	Recombinant purified Human alpha 1 defensin (HDEFA1 or HNP-1) protein accession #P59665, refs 1) cat #HDEFA15-R-10
<b>Ab Host/type</b>	Goat, Polyclonal IgG, purified over antigen-agarose (Cat # <b>HDEFA41-A</b> )
<b>2-Ab</b>	<b>Rabbit Anti-goat IgG-HRP conjugate</b> Cat # 30220 (AP, biotin, FITC conjugates also available)
<b>-ve control IgG</b>	# 20011-1, Goat (non-immune) IgG, purified, suitable for ELISA, Western, IHC as -ve control

**Form & Storage of Antibodies/Peptide Control**

**Affinity pure IgG**

100 ug/100ul solution lyophilized powder  
Supplied in **Buffer:** PBS

**Reconstitute powder** in PBS at 1mg/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** (1-5 ug/ml for affinity pure antibody using ECL technique) native or denatured proteins

**ELISA:** Control proteins can be used to coat ELISA plates at 1 ug/ml and detected with antibodies (0.5-1 ug/ml for affinity pure).

**Histochemistry & Immunofluorescence:** Not tested

**Specificity & Cross-reactivity**

**HDEFA41-A** reacts with human HDEFA1 or HNP-1. Antibody cross-reactivity in various species has not been studied. The HDEFA15-R-10 control protein is also for ELISA or Western as control.

**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

**Human BD-1, BD-3, BD-3, and NP-1 ELISA kits**

HDEFA12-A

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