ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human/Mouse Beta-Defensin 3 (HBD-3) Antibodies

Cat. # HBD31-P	HBD-3 Control Peptide	**SIZE**: 100 ug
Cat. # HBD31-S	Rabbit Anti-HBD-3 antiserum	**SIZE**: 100 ul
Cat. # HBD31-A	Rabbit Anti-HBD-3 IgG (affinity pure)	**SIZE**: 100 ug

Antimicrobial peptides are a common mechanism of host defense utilized by a variety of species, from insects to humans. 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 to date. Rat (**RBD-1 and RBD-2**) and mouse (**MBD1-4**) homologues of the human beta-defensin have also been identified. Human BD-3 (HBD-3, mature peptide 23-67 aa) and mouse BD-3 (MBD-3) are synthesized from 67 and 63 aa precursors, respectively.

Source of Antigen and Antibodies

Antigen	13 aa peptide from mouse MBD-3 (MBD31-P) and 15-aa peptide from HBD-3, HBD31-P (the mixture designated **HBD31-P**; **control peptides**) were coupled to KLH. **Epitope location** ~ N-terminus of mature defensin-3 (1)
Ab Host/type	Rabbit, polyclonal Unnpurified Antiserum(**cat # HBD31-S**),and Aff pure IgG1 (**cat # HBD31-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 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 HBD31-P and MBD31-P control peptides are specific for human and mouse defensin-3. No significant homology exists with other beta-defensins. The HBD31-P control peptide is available for antibody blocking to confirm specificity of antibodies. It is not suitable for testing by Western due to small size. Antibody cross-reactivity in various species has not been studied. **Full length, 40-aa, oxidized** (**cat # MBD32-P**) and **non-oxidized** (**cat # MBD33-P**) **mouse beta defensin-3** are also available to study MBD-3.

General References:

(1) Bals R et al (1999) Infect. Immun. 67, 3542-3547;; Harder et al (1997) Nature 387, 861; Ganz T (1999) Science 286, 420; Yang D et al (1999) Science 286, 525.

*This product is for In vitro research use only.

Related material available from ADI

Antibodies alpha and beta-defensins and MMP7

HBD31-S-A-P 71226S

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