

Product Specification Sheet

**Beta-Defensin 3 Antibodies**

Cat. # MBD31-P	Mouse / Human Defensin-3 Control Peptides	<b>SIZE:</b> 100 ug
Cat. # MBD31-S	Rabbit Anti-Mouse / Human defensin-3 antiserum	<b>SIZE:</b> 100 ul
Cat. # MBD31-A	Rabbit Anti-Mouse / Human defensin-3 IgG (aff pure)	<b>SIZE:</b> 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  $\beta$ -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 to date. Rat (**RBD-1 and RBD-2**) and mouse (**MBD1-4**) homologues of the human beta-defensin have also been identified.

**Source of Antigen and Antibodies**

<b>Antigen</b>	Human beta-defensin-3 is produced from 67 aa peptide precursor (mature peptide 23-67 aa). Mouse beta-defensin-3 is produced from a 63 aa peptide precursor (mature peptide 23-63 aa). A 13 aa peptide mapping at the N-terminus of mature mouse defensin-3 and a 15-aa peptide mapping at the N-terminus of mature human defensin-3. The two peptide were mixed (designated <b>MBD31-P</b> ; control peptides)
<b>Ab Host/type</b>	Rabbit polyclonal, Un purified antiserum <b>Cat # MBD31-S</b> , and affinity purified <b>Cat # MBD31-A</b> using control (mixture of mouse and human defensin-3)-Peptide Sepharose.
<b>2-ab</b>	Cat # 20320, goat anti-rabbit IgG-HRP (AP, biotin, FITC conjugates also available)
<b>-ve control</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	MBD31-S-A-P	71216S
-------	----------	--------------------	-------------	--------

Alpha Diagnostic Intl Inc., 6203 Woodlake Center Dr, San Antonio, TX 78244, USA; **Email:** [service@4di.com](mailto:service@4di.com)

**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)

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 mouse and human defensin-3 peptides (MBD31-P) used for antibody (MBD31-S or MBD31-A) production are specific for mouse and human defensin-3. The resulting antibodies reacts with both mouse and human defensin-3 but not other beta-defensins. The MBD31-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 defensin-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

**Recycle blots in Just 5-10 min. (use the same strip for various defensin)**