

Product Specification Sheet

Beta-Defensin 3 Antibodies

Cat. # MBD31-P	Mouse / Human Defensin-3 Control Peptides	SIZE: 100 ug
Cat. # MBD31-S	Rabbit Anti-Mouse / Human defensin-3 antiserum	SIZE: 100 ul
Cat. # MBD31-A	Rabbit Anti-Mouse / Human defensin-3 IgG (aff 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.

Source of Antigen and Antibodies

Antigen	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 MBD31-P ; control peptides)
Ab Host/type	Rabbit polyclonal, Un purified antiserum Cat # MBD31-S , and affinity purified Cat # MBD31-A using control (mixture of mouse and human defensin-3)-Peptide Sepharose.
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	MBD31-S-A-P	71216S
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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)