

Product Specification Sheet

**Beta-Defensin 4 (MBD-4) Antibodies**

Cat. # MBD41-P	MBD-4 Control Peptide	<b>SIZE:</b> 100 ug
Cat. # MBD41-S	Rabbit Anti-MBD-4 antiserum	<b>SIZE:</b> 100 ul
Cat. # MBD41-A	Rabbit Anti-MBD-4 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.

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>	MBD-4 is synthesized from 63 aa precursor. An 11 aa peptide from MBD-4 (designated <b>MBD41-P; control peptides</b> ) sequence near the N-terminus of <b>mature</b> defensin-4 (1) conjugated to KLH
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum (#H1R11-S) and IgG, purified over antigen-agarose (Cat # H1R11-A)
<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  
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:** see refs 2.

**Specificity & Cross-reactivity**

The MBD41-P control peptides is specific mouse defensin-4. No significant homology exists with human beta-defensins-4 or other defensins. The MBD41-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:**

Jia HP et al (1999) gene accession # AF155882; Harder et al (1997) Nature 387, 861; Ganz T (1999) Science 286, 420; Yang D et al (1999) Science 286, 525.

(2) Citations of ADI's Antibodies (see web site for updated list)

Nardo AD2003, J. Immunol.,170: 2274 – 2278, IHC  
DORSCHNER RA, 2003, Pediatr. Res., 53: 566 – 572, IHC

\*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 proteins)**

MBD41-S-A-P

71216S