

## Product Specification Sheet

### Beta-Defensin 2 Antibodies

<input type="checkbox"/> Cat. # HBD21-P	Beta defensin-2 (HBD-2) Control Peptides	<b>SIZE:</b> 100 ug
<input type="checkbox"/> Cat. # HBD21-S	Rabbit Anti-HBD-2 antiserum	<b>SIZE:</b> 100 ul
<input type="checkbox"/> Cat. # HBD21-A	Rabbit Anti-HBD-2 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>	3 different <b>peptides</b> (14 aa from human BD-2, 14-aa from rat defensin-2, and 17 aa from mouse BD-2 (the mixture designated as designated HBD21-P; <b>control peptides</b> ) Epitope location ~ near the N-terminus of mature BD-2 conjugated to KLH
<b>Ab Host/type</b>	Rabbit, Polyclonal unpurified antiserum (#HBD21-S) and IgG, purified over antigen-agarose (Cat # HBD21-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:** Not tested

#### Specificity & Cross-reactivity

The beta-defensin-2 peptides selected for antibody production have no significant sequence homology with other defensins. Antibody HBD21 reacts with HBD-2 from mouse, rat, and human beta defensin-2. Antibody cross-reactivity in various other species has not been studied. The HBD21-P control peptide is available for antibody blocking to confirm specificity of antibodies. **Full length 41-aa HBD-2** (cat # HBD22-P) is also available to study HBD-2.

**General References:** Harder J (1997) Nature 387, 861; Diamond J. (2000) Infect. Immun. 68, 113; Morrison GM (1999) FEBS Lett. 442, 112; Liu L (1998) Gene 222, 237; Bartels J (1997) Nature 387, 861; Ganz T (1999) Science 286, 420; Yang D (1999) Science 286, 525.

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

Wang T-T, 2004, J. Immunol., 173: 2909 – 2912, IHC  
Fahlgren A, 2003, Clin. Exp. Immunol. 131:90-101, IHC  
Kao C-Y, 2004, J. Immunol., 173: 3482 – 3491,  
Wade KB, 2004, Microbes and Infection 6, 51-57, IHC  
Supp DM, 2004 Burns 30, 643-649, IHC  
Zariffard MR, 2004, Clin. Immunol. 111, 103-107, WB

\*This product is for In vitro research use only.

#### Related material available from ADI

Antibodies alpha and beta-defensins and MMP7

HBD21-S-A-P

71215S

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