

Product Specification Sheet

Recombinant Human Beta-Defensin 2 (HBD-2) Protein

<input type="checkbox"/> Cat. # HBD25-R-10	Recombinant, purified, Human beta-Defensin 2 full length protein (41 aa)	SIZE	<input type="checkbox"/> 10 ug
<input type="checkbox"/> Cat. # HBD25-R-100	Recombinant, purified, Human beta-Defensin 2 full length protein (41 aa)	SIZE	<input type="checkbox"/> 100 ug
<input type="checkbox"/> Cat. # HBD25-R-1000	Recombinant, purified, Human beta-Defensin 2 full length protein (41 aa)	SIZE	<input type="checkbox"/> 1000 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

Human defensin-2 (hBD-2; 41 aa): Mol wt. 4.3 kDa

GIGDPVTCLK SGAICHPVFC PRRYKQIGTC
GLPGTKCCKK P

HBD-2 was expressed in E. coli, refolded, purified to >98% purity. Endotoxin content is insignificant (<0.1 ng/ug (1.0 EU/ug).

Form & Storage

Recombinant HBD-2 protein is provided in solution containing 10 mM acetic acid or lyophilized. It has no additives or preservatives.

Lyophilized products should be reconstituted in 10 mM acetic acid at 0.1-1.0 mg/ml. The solution should be diluted into other appropriate buffers and or pH adjusted before usage. The solution can be stored at 4oC for 1 week or frozen at –20oC or below for long term storage. Lyophilized vials should be stored frozen until usage. It is not recommended to store diluted working solutions (<100 ng/ml). Avoid repeated freeze and thaw.

Biological Activity

The HBD-2 recombinant protein activity was determined by its ability to chemoattract immature dendritic cells using a concentration of 1.0-10.0 ng/ml.

General References:

Harder J et al (1997) Nature 387, 861; Diamond J. et al (2000) Infect. Immun. 68, 113-119; Morrison GM et al (1999) FEBS lett. 442, 112-116; Liu L et al (1998) Gene 222, 237-244; Bartels J 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

Catalog#	ProdDescription
HBD21-A	Anti-Human beta-Defensin 2 (BD-2/hBD-2), IgG #1, aff pure
HBD21-P	Human beta-Defensin 2 (BD-2/hBD-2) control/blocking peptide #1
HBD21-S	Anti-Human beta-Defensin 2 (BD-2/hBD-2) antiserum #1
HBD23-A	Anti-Human beta-Defensin 2 (BD-2/hBD-2, full length protein), IgG #4, aff pure
HBD24-P	Human beta-Defensin 2 (BD-2/hBD-2) full length synthetic peptide (41 aa, linear, no-disulfides); note: replaces HBD22-P.
HBD31-A	Anti-human beta-Defensin 3 (BD-3) IgG #1 aff pure
HBD31-P	Human beta-Defensin 3 (BD-3) control/blocking peptide #1
HBD31-S	Anti-Human beta-Defensin 3 (BD-3/hBD-3) antiserum #1
HBD32-A	Anti-Human beta-Defensin 3 (BD-3/hBD-3, full length protein), IgG, aff pure
HBD37-R-1000	Recombinant (E.Coli), purified, Human beta-Defensin 3 (BD-3/hBD-3, full length peptide (45 aa), biologically active
HBD38-R-100	Purified synthetic Human beta-Defensin 3 (BD-3/hBD-3) full length peptide (45 aa)
HBD38-R-25	Purified synthetic Human beta-Defensin 3 (BD-3/hBD-3) full length peptide (45 aa)
HBD45-R-20	Recombinant (E. coli), purified, Human beta-Defensin 4 (BD-4/hBD-4) full length protein (50 aa), biologically active
HBD45-R-5	Recombinant (E. coli), purified, Human beta-Defensin 4 (BD-4/hBD-4) full length protein (50 aa), biologically active
HBD46-R-25	Purified synthetic Human beta-Defensin 4 (BD-4/hBD-4) full length peptide (37 aa)