ALPHA DIAGNOSTIC INTERNATIONAL

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Product Specification Sheet

Human Beta-Defensin 3 (HBD-3) Protein

□ Cat. # HBD38-R-25	Purified, Human beta-Defensin 3 full length protein (45 aa)	**SIZE**	□ 25 ug
□ Cat. # HBD38-R-100	Purified Human beta-Defensin 3 full length protein (45 aa)	**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

HBD-3 was synthesized and purified by HPLC.

HBD-3

Sequence Gly-Ile-Ile-Asn-Thr-Leu-Gln-Lys-Tyr-Tyr-Cys-Arg-Val-Arg-Gly-Gly-Arg-Cys-Ala-Val-Leu-Ser-Cys-Leu-Pro-Lys-Glu-Glu-Gln-Ile-Gly-Lys-Cys-Ser-Thr-Arg-Gly-Arg-Lys-Cys-Cys-Arg-Arg-Lys-Lys-OH

MW 5156.3

Formula C216H371N75O59S6

Disulfide Bridge Disulfide bridges Cys11- Cys40, Cys18-Cys33, and Cys23- Cys41

Purity: >95%

Form & Storage

HBD-3 protein is provided in PBS in solution or in powder from. Reconstitute powder in distilled water at 100 ug/ml or more. Other buffers can be used to make working stock solution. It has no additives or preservatives. 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 ug/ml). Avoid repeated freeze and thaw.

Biological Activity

no tested..

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

Human Beta-Defensin 1, -2, -3 and Np-1 ELISA kits

Antibodies alpha and beta-defensins and MMP7

Study distribution of proteins in pre-**made Kidney blots** from 7 defined regions of rat kidney

Recycle blots in Just 5-10 min. (use the same strip for various proteins) New formulation will strip antibodies in just a few minutes at room temp. (no boiling or pungent mercaptoethanol).

HBD38--R-25-100 120531A

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