ALPHA DIAGNOSTIC INTERNATIONAL

Life Technologies™ Your Molecular & Cell Technology Partner

Product Specification Sheet

Recombinant Human Beta-Defensin 1 (HBD-1) Protein

Cat. # HBD17-R-10 Recombinant, purified, Human beta-Defensin 1 full length protein (36 aa)

FORM	Soln	Lyophilized	
SIZE	10 ug	100 ug	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-1 (hBD-1; 36 aa): Mol wt. 3.9 kDa

DHYNCVSSGG QCLYSACPIF TKIQGTCYRG KAKCCK

HBD-1 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-1 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-1 recombinant protein activity was determined by its ability to chemo attract human peripheral blood dendritic cells using a concentration range of 100.0-1000.0 ng/ml.

General References:

(1) Huttner Km et al (1997) FEBS Lett. 413, 45-69; Liu L et al (1997) Genomics 43, 316-320; McCray PB et al (1997) Am, J. Respir. Cell. Mol. Biol. 16, 343-349; Bensch KW et al (1995) FEBS Lett. 368, 331-335; 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

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).

HBD17-R 40123S

India Contact:
Life Technologies (India) Pvt. Ltd.
306, Aggarwal City Mall, Opposite M2K Pitampura, Delhi – 110034 (INDIA). Ph: +91-11-42208000, 42208111, 42208222, Mobile: +91-9810521400, Fax: +91-11-42208444
Email: customerservice@lifetechindia.com Website: www.lifetechindia.com