

## Active Recombinant Human DEFB103A Protein

Cat. No. DEFB103A-541H Lot. No. (See product label)

### SPECIFICATION

**Product Overview** Recombinant Human DEFB103A Protein without tag was expressed in E. coli.

**Species** Human

**Source** E.coli

**Description**

Defensins (alpha and beta) are cationic peptides with antimicrobial activity against Gram-negative and Gram-positive bacteria, fungi, and enveloped viruses. They are 2-6 kDa proteins and take important roles in innate immune system. On the basis of their size and pattern of disulfide bonding, mammalian defensins are classified into alpha, beta and theta categories.  $\beta$ -Defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Four human  $\beta$ -defensins have been identified and they are expressed on some leukocytes and at epithelial surfaces. Because  $\beta$ -defensins is cationic peptides, they can therefore interact with the membrane of invading microbes, which are negative due to lipopolysaccharides (LPS) and lipoteichoic acid (LTA) found in the cell membrane. Especially, they have higher affinity to the binding site compared to  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$  ions. Furthermore, they can affect the stability of the membrane.

**Form** Sterile Filtered White lyophil

**Bio-activity**

Fully biologically active when compared to standard. The ED50 as determined by anti-microbial activity against E. coli. is less than 30  $\mu\text{g}/\text{mL}$ , corresponding to a specific activity of  $> 33.3 \text{ IU}/\text{mg}$ .

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<b>Molecular Mass</b>	Approximately 5.2 kDa
<b>AA Sequence</b>	GIINTLQKYYCRVRRGGRCVLSCLPKKEEQIGKCSTRGRKCCRKK
<b>Endotoxin</b>	Less than 1 EU/μg of rHuBD-3 as determined by LAL method.
<b>Purity</b>	> 98% by SDS-PAGE and HPLC analyses.
<b>Storage</b>	This lyophilized preparation is stable at 2-8 centigrade, but should be kept at -20 centigrade for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 centigrade. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 to -70 centigrade. Avoid repeated freeze thaw cycles.
<b>Storage Buffer</b>	Lyophilized from a 0.2 μm filtered concentrated solution in 20 mM PB, pH 7.4, 130 mM NaCl.
<b>Reconstitution</b>	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute in sterile distilled water or aqueous buffer containing 0.1 % BSA to a concentration of 0.1-1.0 mg/mL.

## GENE INFORMATION

<b>Gene Name</b>	DEFB103A defensin, beta 103A [ <i>Homo sapiens</i> (human) ]
<b>Official Symbol</b>	DEFB103A
<b>Synonyms</b>	DEFB103A; defensin, beta 103A; DEFB3, DEFB103, defensin, beta 3; beta-defensin 103; DEFB 3; HBD 3; HBD3; HBP 3; HBP3; beta-defensin 3; defensin, beta 3; defensin, beta 103; defensin-like protein; BD-3; DEFB3; HBP-3; hBD-3; DEFB-3; DEFB103;

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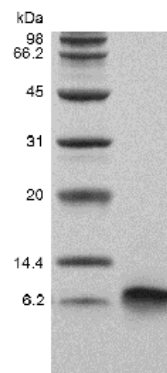
**Gene ID** 414325

**mRNA Refseq** NM\_001081551

**Protein Refseq** NP\_001075020

**UniProt ID** P81534

**SDS-PAGE**



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