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## Certificate of Analysis

### Recombinant Human BD-4

**Catalog#** 300-65

**Lot #** 1107435

**Expiration Date:** December 2012

**Source:** *E.coli*

**Sequence:** EFELDRICGY GTARCRKKCR SQEYRIGRCP  
NTYACCLRKW DESLLNRTKP

**Synonyms:** Beta-defensin 104, BEFB4

**Description:** Defensins (alpha and beta) are cationic peptides with a broad spectrum of antimicrobial activity that comprise an important arm of the innate immune system. The  $\alpha$ -defensins are distinguished from the  $\beta$ -defensins by the pairing of their three disulfide bonds. To date, four human  $\beta$ -defensins have been identified; BD-1, BD-2, BD-3 and BD-4. The  $\beta$ -defensin proteins are expressed as the C-terminal portion of precursors and are released by proteolytic cleavage of a signal sequence.  $\beta$ -defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds.  $\beta$ -defensins are 3-5 kDa peptides ranging in size from 33-47 amino acid residues. BD-4 is expressed in testis, stomach, uterus, neutrophils, thyroid, lung and kidney. In addition to its direct antimicrobial activities, BD-4 is chemoattractant towards human blood monocytes. Recombinant human BD-4 is a 6.0 kDa protein containing 50 amino acid residues.

**Purity:**  $\geq 98\%$  by SDS-PAGE gel and HPLC analyses.

**Endotoxin:** Endotoxin level is  $< 0.1$  ng / $\mu$ g of BD-4 ( $< 1$  EU/ $\mu$ g).

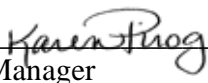
**Formulation:** Sterile filtered through a 0.2 micron filter. Lyophilized from 10mM Acetic Acid.

**Reconstitution:** Centrifuge the vial prior to opening. Reconstitute in 10mM Acetic Acid to a concentration of 0.1-1.0 mg/ml. *Do not vortex.* This solution can be stored at 2-8°C for up to 1 week. For extended storage, it is recommended to further dilute in a buffer containing a carrier protein (example 0.1% BSA) and store in working aliquots at -20°C to -80°C.

**Storage/Stability:** The lyophilized protein is stable at room temperature for up to 1 month. Working aliquots stored with a carrier protein are stable for at least 3 months at -20°C to -80°C. Avoid repeated freeze/thaw cycles.

**Biological activity:** Determined by its ability to chemoattract human monocytes using a concentration range of 0.1-100.0 ng/ml.

**Country of Origin:** USA

  
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QC Manager

**Usage:** For Research Use Only. Not for use in diagnostic or therapeutic procedures.