

Rev03  
Update: Dec,14,2021

**DATASHEET**

# BD-4, Human

Cat. No.: Z02757

## Product Introduction

<b>Species</b>	Human
<b>Protein Construction</b>	<b>BD-4 (Glu23-Pro72) Accession # Q8WTQ1</b>
<b>Purity</b>	> 98% as analyzed by SDS-PAGE > 98% as analyzed by HPLC
<b>Endotoxin Level</b>	< 1 EU/ $\mu$ g of protein by LAL method
<b>Biological Activity</b>	Fully biologically active when compared to standard. The biological activity determined by a chemotaxis bioassay using human monocytes is in a concentration range of 0.1-100.0 ng/ml.
<b>Expression System</b>	E. coli
<b>Theoretical Molecular Weight</b>	6.0 kDa
<b>Formulation</b>	Lyophilized from a 0.2 $\mu$ m filtered solution in 20 mM PBS, pH 7.4, 130 mM NaCl.
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in sterile distilled water or aqueous buffer containing 0.1% BSA to a concentration of 0.1-1.0 mg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at -70°C or -20°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. Avoid repeated freeze-thaw cycles.

## Background

**Target Background :** 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.

**Synonyms :** Beta-defensin 104; Beta-defensin 4; DEFB-4; hBD-4; Defensin, beta 104; DEFB104A; DEFB104; DEFB4

**For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.**