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## Product Data Sheet

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Product Name: BD 2 Human  
 Cat. No.: GP20076  
 Batch No.: 1

### Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.

Synonyms BD-2; hBD-2; Defensin beta 2; Skin-antimicrobial peptide 1; SAP1; DEFB4; DEFB102; DEFB2; DEFB4P; Beta-defensin 2.

Amino Acid Sequence GIGDPVTCLK SGAICHPVFC PRRYKQIGTC GLPGTKCCKK P.

Solubility It is recommended to reconstitute the lyophilized Beta Defensin-2 in sterile 18MΩ-cm H<sub>2</sub>O not less than 100μg/ml, which can then be further diluted to other aqueous solutions.

Formulation The Human BD-2 was lyophilized from a 0.2μm filtered concentrated (1mg/ml) solution containing 20mM PB pH-7.4 and 130mM NaCl.

### Introduction

The Defensin family are highly similar in their protein sequence and are microbicidal & cytotoxic peptides made by neutrophils. Beta Defensin-1 is an antimicrobial peptide having the resistance of epithelial surfaces to microbial colonization. Beta Defensin-1 has close proximity to Defensin Alpha-1 and has been implicated in the pathogenesis of cystic fibrosis. Skin of patients having atopic dermatitis patients and mycosis fungoides (non-lesional and lesional) show lower human Beta Defensin-1 mRNA expression and higher human Beta Defensin-2 and human Beta Defensin-3 mRNA expression. Beta Defensin is highly expressed by epithelial cells. Beta-defensin 1 may play a role in the pathogenesis of severe sepsis. Variation in human Beta Defensin-1 contributes to asthma diagnosis, with apparent gender-specific effects. Human Beta Defensin-3 is a dimer, while Human BD-1 and Human BD-2 are monomeric. The expression of Human BD1 is correlated with induction profiles in gingival keratinocytes. The level of expression of human DEFB1 mRNA is lower than that of human BD3 and human BD-2 in reconstructed epidermis. Human BD1 is down-regulated in human prostatic and renal

**Caution: Product has not been fully validated for medical applications. For research use only.**

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carcinomas.

### Biological Activity

Determined by the ability to chemoattract human dendritic immature cells at a concentration of 10-100ng/ml.

### Stability

Lyophilized Beta Defensin-2 Recombinant although stable at room temperature for 3 weeks, should be stored desiccated below  $-18^{\circ}\text{C}$ . Upon reconstitution BD-2 should be stored at  $4^{\circ}\text{C}$  between 2-7 days and for future use below  $-18^{\circ}\text{C}$ . Please prevent freeze-thaw cycles.

### Background

Beta Defensin-2 Human Recombinant produced in E.Coli is a single, non-glycosylated polypeptide chain containing 41 amino acids and having a molecular mass of 4.3 kDa. The BD-2 is purified by proprietary chromatographic techniques.

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