
Product Data Sheet

Product Name: BD 4 Rat
 Cat. No.: GP20082
 Batch No.: 1

Product Data

Purity	>98%	Source	Escherichia Coli.
Physical Appearance	solid	Shipping Condition	Shipped at Room temp.
Synonyms	Beta-defensin 4; BD-4; BD-2; Defensin; beta 4; RBD-2; RBD-4; Defb4; Defb2; Defb3.		
Amino Acid Sequence	QSINNPITCL TKGGVCWGPC TGGFRQIGTC GLPRVRCCKK K.		
Solubility	It is recommended to reconstitute the lyophilized BD-4 in sterile 18M-cm H ₂ O not less than 100µg/ml, which can then be further diluted to other aqueous solutions.		
Formulation	BD-4 protein was lyophilized from a 0.2µm filtered concentrated solution in PBS, pH 7.4.		

Introduction

Defensins are cationic peptides with a large spectrum of antimicrobial activity that comprise an important arm of the innate immune system. The Alpha defensins are differentiated from the Beta-defensins by the pairing of their 3 disulfide bonds. 4 human Beta-defensins have been identified to date; BD-1, BD-2, BD-3 and BD-4. Beta-defensins are expressed on some leukocytes and at epithelial surfaces. In addition to their direct antimicrobial activities, they are chemoattractant towards immature dendritic cells and memory T cells. The beta-defensin proteins are expressed as the C-terminal portion of precursors and are released by proteolytic cleavage of a signal sequence and, in the case of BD-1 (36 a.a.), a propeptide region. 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.

Biological Activity

Measured by its antimicrobial activity against E. coli. The ED₅₀ for this effect is typically

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Tel: (909) 407-4943 Fax: (626) 353-8530 E-mail: tech@glpbio.com

Address: 10292 Central Ave. #205, Montclair, CA, USA

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5-50µg/ml.

Stability

Lyophilized BD-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18°C . Upon reconstitution BD-4 should be stored at 4°C between 2-7 days and for future use below -18°C . For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Background

BD-4 Rat Recombinant produced in E.coli is a single, non-glycosylated polypeptide chain containing 41 amino acids and having a molecular mass of 4.4kDa. The BD-4 is purified by proprietary chromatographic techniques.

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