



Technical Data Sheet

Recombinant Human beta-Defensin 3 (rHu BD-3)

Human beta-Defensin 3

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 α -defensins are distinguished from the β -defensins by the pairing of their three disulfide bonds. To date, four human β -defensins have been identified; BD-1, BD-2, BD-3 and BD-4. β -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 β -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. β -defensins contain a six-cysteine motif that forms three intramolecular disulfide bonds. β -Defensins are 3-5 kDa peptides ranging in size from 33-47 amino acid residues.

Catalog Number:	RC220-14
Source:	<i>Escherichia coli</i> .
Molecular Weight:	Approximately 5.1 KDa, a single non-glycosylated polypeptide chain containing 45 amino acids.
Quantity:	5ug/20ug/1 mg
Purity:	>98% by SDS-PAGE and HPLC analyses.
Biological Activity:	Exhibits antimicrobial activity against gram-positive bacteria <i>S. aureus</i> and gram-negative <i>P. aeruginosa</i> and <i>E.coli</i> .
Physical Appearance:	Sterile Filtered White lyophilized (freeze-dried) powder.
Formulation:	Lyophilized from a 0.2 μ m filtered concentrated (1.0mg/ml) solution in 20mM PB, pH 7.4, 130mM NaCl.
AA Sequence:	GIINTLQKYYY CRVRGGRCV LSCLPKKEEQI GKCSTRGRKC CRRKK
Endotoxin:	Less than 1EU/ μ g of rHuBD-3 as determined by LAL method.
Reconstitution:	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. Stock solutions should be apportioned into working aliquots and stored at $\leq -20^{\circ}\text{C}$. Further dilutions should be made in appropriate buffered solutions.
Storage:	This lyophilized preparation is stable at 2-8 $^{\circ}\text{C}$, but should be kept at -20 $^{\circ}\text{C}$ for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 $^{\circ}\text{C}$. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 $^{\circ}\text{C}$ to -70 $^{\circ}\text{C}$. Avoid repeated



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Usage:

freeze/thaw cycles.

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