10320 Camino Santa Fe, Suite G
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BD-3

Catalog # PVGS1074

Specification

BD-3 - Product Information

Primary Accession P81534

Species
Human

Sequence
Gly23-Lys67

Purity
> 98% as analyzed by SDS-PAGE
> 98% as analyzed by HPLC

Endotoxin Level
< 1 EU/ µg of protein by LAL method

Biological Activity
Fully biologically active when compared to standard. The ED₅₀ as determined by anti-microbial activity against E.coli is less than 30.0 µg/ml, corresponding to a specific activity of > 33.3 IU/mg.

Expression System
E. coli

Theoretical Molecular Weight
5.2 kDa

Formulation **Lyophilized from a 0.2 µm filtered solution in 20 mM PBS, pH 7.4, 130 mM NaCl.**

Reconstitution
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.

Storage & Stability
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.

BD-3 - Additional Information

Gene ID 414325;55894

Other Names
Beta-defensin 103, Beta-defensin 3, BD-3, DEFB-3, HBD3, hBD-3, Defensin, beta 103, Defensin-like protein, DEFB103A, BD3, DEFB103, DEFB3

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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 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 intra-molecular disulfide bonds. β-Defensins are 3-5 kDa peptides ranging in size from 33-47 amino acid residues.

BD-3 - Protein Information

Name DEFB103A

Synonyms BD3, DEFB103, DEFB3

Function
Exhibits antimicrobial activity against Gram-positive bacteria S.aureus and S.pyogenes, Gram-negative bacteria P.aeruginosa and E.coli and the yeast C.albicans. Kills multiresistant S.aureus and vancomycin-resistant E.faecium. No significant hemolytic activity was observed.

Cellular Location
Secreted.

Tissue Location
Highly expressed in skin and tonsils, and to a lesser extent in trachea, uterus, kidney, thymus, adenoid, pharynx and tongue. Low expression in salivary gland, bone marrow, colon, stomach, polyp and larynx. No expression in small intestine

BD-3 - Protocols

Provided below are standard protocols that you may find useful for product applications.

- Western Blot
- Blocking Peptides
- Dot Blot
- Immunohistochemistry
- Immunofluorescence
- Immunoprecipitation
- Flow Cytomety
- Cell Culture

BD-3 - Images