

BD-1
Catalog # PVGS1040**Specification**

BD-1 - Product Information

Primary Accession [P60022](#)
Species
Human

Sequence
Gly22-Lys68

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 biological activity determined by a chemotaxis bioassay using CD34⁺ dendritic cells is in a concentration range of 100.0-1000.0 ng/ml.

Expression System
E. coli

Theoretical Molecular Weight
5.1 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-1 - Additional Information

Gene ID 1672

Other Names
Beta-defensin 1, BD-1, hBD-1, Defensin, beta 1, DEFB1, BD1, HBD1

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-1 - Protein Information

Name DEFB1

Synonyms BD1, HBD1

Function

Has bactericidal activity. May act as a ligand for C-C chemokine receptor CCR6. Positively regulates the sperm motility and bactericidal activity in a CCR6-dependent manner. Binds to CCR6 and triggers Ca^{2+} mobilization in the sperm which is important for its motility (PubMed:25122636).

Cellular Location

Secreted. Membrane. Note=Associates with tumor cell membrane-derived microvesicles (PubMed:23938203)

Tissue Location

Blood plasma. Sperm. Highly expressed in the lower head and midpiece of sperm. Significantly reduced levels found in the sperms of asthenozoospermia and leukocytospermia patients (at protein level).

BD-1 - Protocols

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

- [Western Blot](#)
- [Blocking Peptides](#)
- [Dot Blot](#)
- [Immunohistochemistry](#)
- [Immunofluorescence](#)
- [Immunoprecipitation](#)
- [Flow Cytometry](#)
- [Cell Culture](#)

BD-1 - Images