10320 Camino Santa Fe, Suite G
San Diego, CA 92121
Tel: 858.875.1900 Fax: 858.875.1999

BD-1

Catalog # PVGS1040

Product Information

Primary Accession	P60022
Species	Human
Sequence	Gly22-Lys68
Purity	> 98% as analyzed by SDS-PAGE > 98% as analyzed by HPLC
Endotoxin Level	
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 □m 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.

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.

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 Ca2+ 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).

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.