

BD-1, Human

Cat. No.: Z02754-1

Size: 1.0 mg

Synonyms: beta-Defensin 1 (BD-1), Human;

Description:

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.

Amino Acid Sequence:

00001 GNFLTGLGHR SDHYNCVSSG GQCLYSACPI FTKIQGTCYR

00041 GKAKCKK

Source: *E. coli*

Species: Human

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.

Molecular Weight: Approximately 5.1 kDa, a single non-glycosylated polypeptide chain containing 47 amino acids.

Formulation: Lyophilized from a 0.2 μ m filtered concentrated solution in 20 mM PBS, pH 7.4, 130 mM NaCl.

Appearance: Sterile Filtered White lyophilized (freeze-dried) powder.

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 ≤ -20 °C. Further dilutions should be made in appropriate buffered solutions.

Purity: > 98 % by SDS-PAGE and HPLC analyses.

Endotoxin Level: Less than 1 EU/ μ g of rHuBD-1, 47a.a. as determined by LAL method.

Storage: This lyophilized preparation is stable at 2-8 °C, but should be kept at -20 °C for long term storage, preferably desiccated. Upon reconstitution, the preparation is stable for up to one week at 2-8 °C. For maximal stability, apportion the reconstituted preparation into working aliquots and store at -20 °C to -70 °C. Avoid repeated freeze/thaw cycles.