



Beta Defensin-4, rat recombinant (rrBD-4)

Catalog No: 97415
Lot No: XXXXX
Source: *E. coli*
Synonyms: Beta-defensin 4, BD-4, BD-2, Defensin, beta 4, RBD-2, RBD-4, Defb4, Defb2, Defb3

Background

Defensins are cationic peptides with a large spectrum of antimicrobial activity that comprise an important arm of the innate immune system. The alpha defensins are differentiated from the Beta-defensins by the pairing of their 3 disulfide bonds. 4 human Beta-defensins have been identified to date; BD-1, BD-2, BD-3 and BD-4. Beta-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 beta-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. Beta-defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Beta-Defensins are 3-5 kDa peptides ranging in size from 33-47 amino acid residues.

Description

BD-4 rat recombinant produced in *E. coli* is a single, non-glycosylated polypeptide chain containing 41 amino acids and having a molecular mass of 4.4 kDa. BD-4 is purified by proprietary chromatographic techniques.

Physical Appearance

Sterile filtered white lyophilized (freeze-dried) powder.

Formulation

BD-4 protein was lyophilized from a 0.2 µm filtered concentrated solution in PBS, pH 7.4.

Solubility

It is recommended to reconstitute the lyophilized Beta Defensin-4 in sterile 18 MΩ-cm H₂O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability

Lyophilized BD-4, although stable at room temperature for 3 weeks, should be stored desiccated below -18°C. Upon reconstitution BD-4 should be stored at 4°C between 2-7 days and for future use below -18°C. For long term storage it is recommended to add a carrier protein (0.1% HSA or BSA). Please prevent freeze-thaw cycles.

Purity

Greater than 97.0% as determined by SDS-PAGE.

Amino Acid Sequence

QSINNPITCL TKGGVCWGPC TGGFRQIGTC GLPRVRCKK K

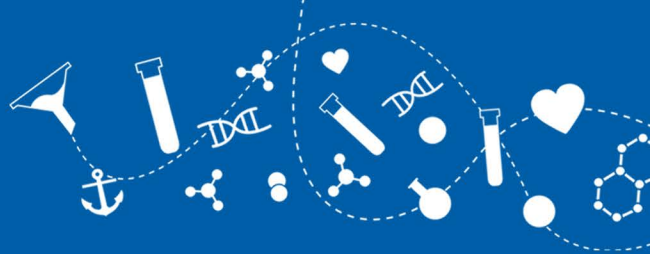
Activity

Measured by its antimicrobial activity against *E. coli*. The ED50 for this effect is typically 5 - 50 µg/ml.

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