

Recombinant Human Beta Defensin-1 (rh BD-1)

Synonyms: Defensin beta 1 (DEFB1), HBD1, HBP1

Introduction: The Defensin family are highly similar in their protein sequence and are microbicidal & cytotoxic peptides made by neutrophils. Beta Defensin-1 is an antimicrobial peptide having the resistance of epithelial surfaces to microbial colonization. Beta Defensin-1 has close proximity to Defensin Alpha-1 and has been implicated in the pathogenesis of cystic fibrosis. Skin of patients having atopic dermatitis, patients and mycosis fungoides (non-lesional and lesional) show lower human Beta Defensin-1 mRNA expression and higher human Beta Defensin-2 and human Beta Defensin-3 mRNA expression. Beta Defensin is highly expressed by epithelial cells. Beta-Defensin-1 may play a role in the pathogenesis of severe sepsis. Variation in human Beta Defensin-1 contributes to asthma diagnosis with apparent gender-specific effects. Human Beta Defensin-3 is a dimer, while human BD-1 and human BD-2 are monomeric. The expression of human BD1 is correlated with induction profiles in gingival keratinocytes. The level of expression of human DEFB1 mRNA is lower than that of human BD-3 and human BD-2 in reconstructed epidermis. Human BD-1 is down-regulated in human prostatic and renal carcinomas.

Description: Recombinant human Beta Defensin-1 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 47 amino acids and having a molecular mass of 5 kDa. The BD-1 is purified by proprietary chromatographic techniques.

Source: Escherichia Coli

Physical Appearance: Sterile filtered white lyophilized (freeze-dried) powder.

Formulation: Lyophilized from a solution containing 20mM PBS pH-7.4 and 130mM sodium chloride. The samples of 1µg contain Trehalose 5% (w/vol) for better recovery

Solubility: It is recommended to reconstitute the lyophilized rh BD-1 in sterile water not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

Stability: Lyophilized rh BD-1 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh BD-1 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 98.0% as determined by RP-HPLC and by SDS-PAGE.

Amino Acid Sequence: GNFLTGLGHR SDHYNCVSSG GQCLYSACPI FTKIQGTCYR GKAKCCK

Biological Activity: Determined by its ability to chemoattract CD34+ dendritic cells using a concentration range of 100 – 1000 ng/ml.

This material is offered for **research use only**. Not for use in human. For in vitro use only. ImmunoTools will not be held responsible for patent infringement or other violations that may occur with the use of our products.

<i>small</i>	5 µg	Cat.N°	11344030
<i>medium</i>	20 µg	Cat.N°	11344034

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