

## Recombinant Human Beta Defensin-4 (rh BD-4)

**Synonyms:** HBD-4, DEFB-4, HBD4, DEFB104B,

**Introduction:** 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. There are 4 human Beta Defensins having 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:** Recombinant Human Beta Defensin-4 produced in E.Coli is a single, non-glycosylated polypeptide chain containing 50 amino acids and having a molecular mass of 6 kDa. The BD-4 is purified by proprietary chromatographic techniques.

**Source:** *Escherichia Coli*

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

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

**Solubility:** It is recommended to reconstitute the lyophilized rh BD-4 in sterile H<sub>2</sub>O not less than 100 µg/ml, which can then be further diluted to other aqueous solutions.

**Stability:** Lyophilized rh BD-4 although stable at room temperature for 3 weeks, should be stored desiccated below -18° C. Upon reconstitution rh 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 98.0% as determined by:

- (a) Analysis by RP-HPLC.
- (b) Analysis by SDS-PAGE.

**Amino Acid Sequence:** EFELDRICGY GTARCRKKCR SQEYRIGRCP NTYACCLRKW DESLLNRTKP

**Biological Activity:** Determined by its ability to chemoattract human monocytes using a concentration range of 0.1 - 50 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°	11344060
<i>medium</i>	20 µg	Cat.N°	11344064

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Gladiolenweg 2; 26169 Friesoythe; Germany  
 phone:+49-(0)4491-400997, fax:+49-(0)4491-400998, [info@immunotools.com](mailto:info@immunotools.com)  
[www.immunotools.com](http://www.immunotools.com)