

Recombinant Human BD-1

Catalog No: #70901

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Description

Product Name	Recombinant Human BD-1
Brief Description	Recombinant Protein
Host Species	E.coli
Purification	> 98 % by SDS-PAGE and HPLC analyses.
Target Name	rHu BD-1
Other Names	Defensin beta1
Accession No.	accession:P60022 GenelD:1672
Uniprot	P60022
GeneID	1672;
Calculated MW	Approximately 5.1 kDa, a singl
SDS-PAGE MW	Sterile Filtered White lyophil
Target Sequence	GNFLTGLGHR SDHYNCVSSG GQCLYSACPI FTKIQGTCYR GKAKCCK
Formulation	Lyophilized from a 0.2 µm filtered concentrated solution in 20 mM PB, pH 7.4, 130 mM NaCl.
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.

Background

Defensins (alpha and beta) are cationic peptides with antimicrobial activity against Gram-negative and Gram-positive bacteria, fungi, and enveloped viruses. They are 2-6 kDa proteins and take important roles in innate immune system. On the basis of their size and pattern of disulfide bonding, mammalian defensins are classified into alpha, beta and theta categories. β -Defensins contain a six-cysteine motif that forms three intra-molecular disulfide bonds. Four human β -defensins have been identified and they are expressed on some leukocytes and at epithelial surfaces. Because β -defensins is cationic peptides, they can therefore interact with the membrane of invading microbes, which are negative due to lipopolysaccharides (LPS) and lipoteichoic acid (LTA) found in the cell membrane. Especially, they have higher affinity to the binding site compared to Ca^{2+} and Mg^{2+} ions. Furthermore, they can affect the stability of the membrane. 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. 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. Variation in human β -defensins 1 contributes to asthma diagnosis, with apparent gender-specific effects. Human BD1 is down-regulated in human prostatic and renal carcinomas.

References

1. Ryan LK, Dai J, Yin Z, et al. 2011. J Leukoc Biol, 90: 343-56.
2. Vatta S, Boniotto M, Bevilacqua E, et al. 2000. Hum Mutat, 15: 582-3.
3. Lee SH, Lim HH, Lee HM, et al. 2000. Acta Otolaryngol, 120: 58-61.
4. Wang YS, Wang GQ, Wen YJ, et al. 2007. Clin Cancer Res, 13: 6779-87.

Note: This product is for in vitro research use only