Recombinant Human BD-3 (N-His)

Information

Gene ID	55894
Accession #	P81534
Alternate Names	DEFB103A, DEFB103B, DEFB3, HBD-3, hBD-3, Beta-defensin 3, BD-3, BD3, DEFB-3, Defensin beta 103A
Source	E. coli
Protein sequence	MGHHHHHHHHGSSLEVLFQGPGIINTLQKYYCRVRGGRCAVLSCLPKEEQIGKCSTRGRKCCRRKK
Tag	N-His
M.Wt	Approximately 7.5 kDa
Appearance	Solution protein.
Stability & Storage	Avoid repeated freeze-thaw cycles. It is recommended that the protein be aliquoted for optimal storage. -3 years from date of receipt, -20 to -70°C as supplied.
Concentration	1 mg/mL
Formulation	Supplied as a 0.2 μm filtered solution in PBS, pH7.4.
Reconstitution	We recommend that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. This solution can be diluted into other aqueous buffers.
Biological Activity	Fully biologically active as determined by anti-microbial activity against E. coli. The ED_{50} for this effect is 3.3 μg/ml.
Shipping Condition	Shipping with dry ice.
Handling	Centrifuge the vial prior to opening.
Usage	For Research Use Only! Not to be used in humans.

Quality Control

Purity	> 95 % by SDS-PAGE.
Endotoxin	Less than 0.1 EU/μg as determined by LAL method.

Description

Defensins (α and β) are cationic peptides with antimicrobial activity against Gram-negative and Gram-positive bacteria, fungi, and enveloped viruses. They are 2–6 kDa proteins that play an important role in the innate immune system. Based on the size and pattern of disulfide bonds, mammalian defensins are divided into three classes: α, β, and θ. β-defensins contain a six-cysteine motif that forms three intramolecular disulfide bonds. Four human β-defensins have been identified, and they are expressed in some leukocytes and on epithelial surfaces. Because β-defensins are cationic peptides, they can interact with the membranes of invading microorganisms, which are negatively charged due to lipopolysaccharide (LPS) and lipoteichoic acid (LTA) in the cell membrane. In particular, they have a higher affinity for binding sites compared with Ca^{2+} and Mg^{2+} ions. In addition, they affect membrane stability.

Reference:

1. Lioi AB, Reyes Rodriguez AL, Funderburg NT, et al. 2012. J Leukoc Biol, 92: 1083-91.

2. Wang K, Wang JH, Baskaran H, et al. 2012. Head Neck Oncol, 4: 41.

3. Lee JK, Park YJ, Kum KY, et al. 2013. Int Endod J, 46(5):406-12.

APExBIO Technology
www.apexbt.com
7505 Fannin street, Suite 410, Houston, TX 77054.
Tel: +1-832-696-8203 | Fax: +1-832-641-3177 | Email: info@apexbt.com