

β -Defensin-1 (human) (trifluoroacetate salt)

Chemical Properties

CAS No. :

Formula:

Molecular Weight:

Storage: Keep away from moisture
Powder: -20°C for 3 years | In solvent: -80°C for 1 year
Actual storage temperature shall be subject to the COA.

Biological Description

Description	β -Defensin-1 is a peptide with antimicrobial properties that protects the skin and mucosal membranes of the respiratory, genitourinary, and gastrointestinal tracts.1It inhibits the growth of <i>B. adolescentis</i> , <i>L. acidophilus</i> , <i>B. breve</i> , <i>B. vulgatus</i> , <i>L. fermentum</i> , <i>B. longum</i> , and <i>S. thermophilus</i> in an antimicrobial radial diffusion assay.2 β -Defensin-1 also inhibits the growth of periodontopathogenic and cariogenic bacteria, including <i>P. gingivalis</i> and <i>S. salivarius</i> , and of susceptible <i>M. tuberculosis</i> H37Rv but not of resistant <i>M. tuberculosis</i> RM22 when used at a concentration of 128 μ g/ml.3,4It blocks human and mouse Kv1.3 voltage-gated potassium channels (IC50s = 11.8 and 13.2 μ M, respectively).5Overexpression of β -defensin-1 in the human oral squamous cell carcinoma (OSCC) cell lines HSC-3, UM-1, and SCC-9 increases migration and invasion but not proliferation.6
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Solubility Information

Solubility	H2O: 1 mg/mL, Sonication is recommended. (< 1 mg/ml refers to the product slightly soluble or insoluble)
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Reference

- Lehrer, R.I. Primate defensins *Nat. Rev. Microbiol.* 2(9)727-738(2004)
- Schroeder, B.O., Ehmann, D., Precht, J.C., et al. Paneth cell α -defensin 6 (HD-6) is an antimicrobial peptide *Mucosal Immunol.* 8(3)661-671(2015)
- Ouhara, K., Komatsuzawa, H., Yamada, S., et al. Susceptibilities of periodontopathogenic and cariogenic bacteria to antibacterial peptides, β -defensins and LL37, produced by human epithelial cells *J. Antimicrob. Chemother.* 55(6) 888-896(2005)
- Fattorini, L., Gennaro, R., Zanetti, M., et al. In vitro activity of protegrin-1 and beta-defensin-1, alone and in combination with isoniazid, against *Mycobacterium tuberculosis* *Peptides* 25(7)1075-1077(2004)
- Feng, J., Xie, Z., Yang, W., et al. Human beta-defensin 1, a new animal toxin-like blocker of potassium channel *Toxicon* 113(2016)
- Han, Q., Wang, R., Sun, C., et al. Human beta-defensin-1 suppresses tumor migration and invasion and is an independent predictor for survival of oral squamous cell carcinoma patients *PLoS One* 9(3)e91867(2014)

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