

PRODUCT INFORMATION



β -Defensin-2 (human) (trifluoroacetate salt)

Item No. 24577

Formal Name: glycyl-L-isoleucylglycyl-L- α -aspartyl-L-prolyl-L-valyl-L-threonyl-L-cysteinyl-L-leucyl-L-lysyl-L-serylglycyl-L-alanyl-L-isoleucyl-L-cysteinyl-L-histidyl-L-prolyl-L-valyl-L-phenylalanyl-L-cysteinyl-L-prolyl-L-arginyl-L-arginyl-L-tyrosyl-L-lysyl-L-glutamyl-L-isoleucylglycyl-L-threonyl-L-cysteinylglycyl-L-leucyl-L-prolylglycyl-L-threonyl-L-lysyl-L-cysteinyl-L-cysteinyl-L-lysyl-L-lysyl-L-proline, cyclic (8 \rightarrow 37),(15 \rightarrow 30),(20 \rightarrow 38)-tris(disulfide), trifluoroacetate salt

Synonym: hBD-2

MF: C₁₈₈H₃₀₅N₅₅O₅₀S₆

FW: 4,328.2

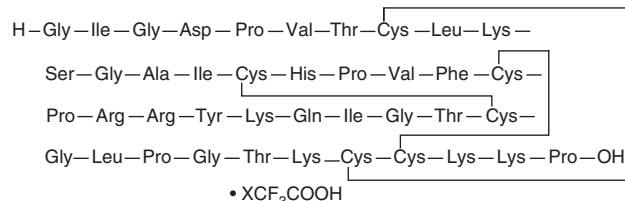
Purity: \geq 95%

Supplied as: A lyophilized powder

Storage: -20°C

Stability: \geq 4 years

Information represents the product specifications. Batch specific analytical results are provided on each certificate of analysis.



Laboratory Procedures

β -Defensin-2 (human) is supplied as a lyophilized powder. A stock solution may be made by dissolving the β -defensin-2 (human) in water. The solubility of β -defensin-2 (human) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

β -Defensin-2 is a peptide with antimicrobial properties that protects the skin and mucosal membranes of the respiratory, genitourinary, and gastrointestinal tracts.¹ It inhibits the growth of periodontopathogenic and cariogenic bacteria, including *P. gingivalis* and *S. salivarius*.² β -Defensin-2 (30 μ g/ml) stimulates gene expression and production of IL-6, IL-10, CXCL10, CCL2, MIP-3 α , and RANTES by keratinocytes.³ It also stimulates calcium mobilization, migration, and proliferation of keratinocytes when used at concentrations of 30, 10, and 40 μ g/ml, respectively. β -Defensin-2 induces IL-31 production by human peripheral blood-derived mast cells *in vitro* when used at a concentration of 10 μ g/ml and by rat mast cells *in vivo* following a 500 ng intradermal dose.⁴ Expression of β -defensin-2 is increased in psoriatic skin and chronic wounds.^{5,6}

References

1. Lehrer, R.I. *Nat. Rev. Microbiol.* **2**(9), 727-738 (2004).
2. Ouhara, K., Komatsuzawa, H., Yamada, S., et al. *J. Antimicrob. Chemother.* **55**(6), 888-896 (2005).
3. Niyonsaba, F., Ushio, H., Nakano, N., et al. *J. Invest. Dermatol.* **127**(3), 594-604 (2007).
4. Niyonsaba, F., Ushio, H., Hara, M., et al. *J. Immunol.* **184**(7), 3526-3534 (2010).
5. Huh, W.-K., Oono, T., Shirafuji, Y., et al. *J. Mol. Med. (Berl.)* **80**(10), 678-684 (2002).
6. Butmarc, J., Yufit, T., Carson, P., et al. *Wound Repair Regen.* **12**(4), 439-443 (2004).

WARNING

THIS PRODUCT IS FOR RESEARCH ONLY - NOT FOR HUMAN OR VETERINARY DIAGNOSTIC OR THERAPEUTIC USE.

SAFETY DATA

This material should be considered hazardous until further information becomes available. Do not ingest, inhale, get in eyes, on skin, or on clothing. Wash thoroughly after handling. Before use, the user must review the complete Safety Data Sheet, which has been sent via email to your institution.

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