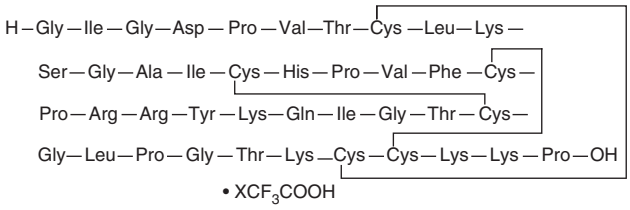
PRODUCT INFORMATION

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-glutaminyl-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→37),(15→30),(20→38)-*tris*(disulfide), trifluoroacetate salt



Synonym: hBD-2
MF: $C_{188}H_{305}N_{55}O_{50}S_6$
FW: 4,328.2
Purity: ≥95%
Supplied as: A lyophilized powder
Storage: -20°C
Stability: ≥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 µg/ml) stimulates gene expression and production of IL-6, IL-10, CXCL10, CCL2, MIP-3α, and RANTES by keratinocytes.[3] It also stimulates calcium mobilization, migration, and proliferation of keratinocytes when used at concentrations of 30, 10, and 40 µg/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 µg/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

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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).

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