

PRODUCT INFORMATION



Defensin HNP-3 (human) (trifluoroacetate salt)

Item No. 24575

Formal Name: L- α -aspartyl-L-cysteinyl-L-tyrosyl-L-cysteinyl-L-arginyl-L-isoleucyl-L-prolyl-L-alanyl-L-cysteinyl-L-isoleucyl-L-alanylglycyl-L- α -glutamyl-L-arginyl-L-arginyl-L-tyrosylglycyl-L-threonyl-L-cysteinyl-L-isoleucyl-L-tyrosyl-L-glutaminyglycyl-L-arginyl-L-leucyl-L-tryptophyl-L-alanyl-L-phenylalanyl-L-cysteinyl-L-cysteine, cyclic (2 \rightarrow 30),(4 \rightarrow 19),(9 \rightarrow 29)-tris(disulfide), trifluoroacetate salt

Synonyms: DEFA3 Protein, α -Defensin 3, Human Neutrophil Peptide 3, Neutrophil Defensin 3

MF: C₁₅₁H₂₂₂N₄₄O₄₀S₆ • XCF₃COOH

FW: 3,486.0

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

Defensin HNP-3 (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the defensin HNP-3 (human) in water. The solubility of defensin HNP-3 (human) (trifluoroacetate salt) in water is approximately 1 mg/ml. We do not recommend storing the aqueous solution for more than one day.

Description

Defensin HNP-3 is a peptide secreted by human polymorphonuclear leukocytes (PMNs) that has antimicrobial properties.¹ It induces lysis of mammalian cells when used at a concentration of 25 μ g/mL.² It also inhibits growth of *E. faecalis* (ED₅₀ = 100 nM) and clinical isolates of *P. aeruginosa* (MIC₉₀ = 4 μ M).^{3,4} HNP-3 binds to recombinant HIV-1 envelope glycoprotein (gp120) and human CD4 (K_{d,s} = 52.8 and 34.9 nM, respectively).⁵ It also binds to recombinant, immobilized human surfactant protein D (SP-D; K_d = 55.7 nM) and inhibits focus formation in Madin-Darby canine kidney (MDCK) cells infected with influenza A virus (IAV).⁶

References

1. Lehrer, R.I. *Nat. Rev. Microbiol.* **2**(9), 727-738 (2004).
2. Lichtenstein, A., Ganz, T., Selsted, M.E., et al. *Blood* **68**(6), 1407-1410 (1986).
3. Miyoshi, S.-i., Koyama, K., Mizuno, T., et al. *J. Health Sci.* **56**(5), 618-622 (2010).
4. Wang, H., Dong, B., and Lou, L. *Mol. Biol. Rep.* **38**(4), 2673-2678 (2011).
5. Wang, W., Owen, S.M., Rudolph, D.L., et al. *J. Immunol.* **173**(1), 515-520 (2004).
6. Doss, M., White, M.R., Teclé, T., et al. *J. Immunol.* **182**(12), 7878-7887 (2009).

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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