

PRODUCT INFORMATION



Defensin HNP-1 (human) (trifluoroacetate salt)

Item No. 24572

CAS Registry No.: 148093-65-6

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

Synonyms: DEFA1 Protein, α -Defensin 1, Human Neutrophil Peptide 1, Neutrophil Defensin 1

MF: C₁₅₀H₂₂₂N₄₄O₃₈S₆ • XCF₃COOH

FW: 3,442.1

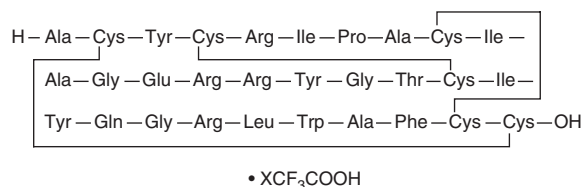
Purity: ≥95%

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

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

Description

Defensin HNP-1 is a peptide secreted by polymorphonuclear leukocytes (PMNs) that has antimicrobial properties.¹ It induces lysis of mammalian cells when used at concentrations of 25 and 100 μ g/ml, respectively.² It also completely inhibits secretion of the exotoxin superantigen TSS toxin-1 (TSST-1) from *S. aureus* when used at a concentration of 50 ng/ml and inhibits anthrax lethal toxin (IC₅₀ = 148 nM).^{3,4} HNP-1 binds to recombinant HIV-1 envelope glycoprotein (gp120) and human CD4 (K_ds = 23.2 and 12.9 nM, respectively).⁵ It induces lysis and leakage from liposomes composed of dipalmitoyl phosphatidylcholine (DPPC; Item No. 10009473) and dioleoyl phosphatidylserine (DOPS).⁶ *In vivo*, HNP-1 (5 μ g) increases interferon α (IFN- α) production by human plasmacytoid dendritic cells (pDCs) injected into nude mice.⁷

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. Merriman, J.A., Nemeth, K.A., and Schlievert, P.M. *PLoS One* **9**(4), (2014).
4. Wei, G., Pazgier, M., De Leeuw, E., et al. *J. Biol. Chem.* **285**(21), 16275-16285 (2010).
5. Wang, W., Owen, S.M., Rudolph, D.L., et al. *J. Immunol.* **173**(1), 515-520 (2004).
6. Fujii, G., Selsted, M.E., and Eisenberg, D. *Protein Sci.* **2**(8), 1301-1312 (1993).

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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