PRODUCT INFORMATION

Defensin HNP-2 (human) (trifluoroacetate salt)

Item No. 24571

Formal Name: 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-glutaminylglycyl-L-arginyl-L-leucyl-L-tryptophyl-L-alanyl-L-phenylalanyl-L-cysteinyl-L-cysteine cyclic (1→29),(3→18), (8→28)-*tris*(disulfide), trifluoroacetate salt

Synonyms: DEFA2 Protein, α-Defensin 2, Human Neutrophil Peptide 2, Neutrophil Defensin 2

MF: $C_{147}H_{217}N_{43}O_{37}S_6 \bullet XCF_3COOH$

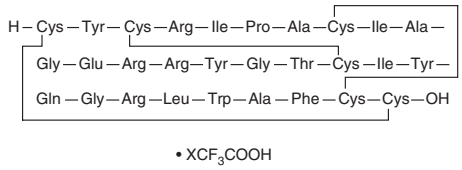
FW: 3,371.0

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-2 (human) (trifluoroacetate salt) is supplied as a lyophilized powder. A stock solution may be made by dissolving the defensin HNP-2 (human) (trifluoroacetate salt) in water. The solubility of defensin HNP-2 (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-2 is a peptide with antimicrobial properties that is secreted by human polymorphonuclear leukocytes (PMNs).[1] It induces 26.2 and 43.5% lysis of mammalian cells at concentrations of 25 and 100 µg/ml, respectively.[2] It also completely inhibits secretion of the exotoxin superantigen TSS toxin-1 (TSST-1) from *S. aureus* at a concentration of 5 ng/ml and inhibits infection of McCoy cells by *C. trachomatis* elementary bodies (EBs).[3,4] Defensin HNP-2 binds to recombinant HIV-1 envelope glycoprotein gp120 and human CD4 (K_ds = 8 and 15.8 nM, respectively).[5] It also induces permeabilization of large unilamellar vesicles (LUVs) formed from 1-palmitoyl-2-oleoyl-*sn*-glycero-3-PG (POPG; Item No. 15105).[6]

References

1. Lehrer, R.I. Primate defensins. *Nat. Rev. Microbiol.* **2(9)**, 727-738 (2004).
2. Lichtenstein, A., Ganz, T., Selsted, M.E., *et al. In vitro* tumor cell cytolysis mediated by peptide defensins of human and rabbit granulocytes. *Blood* **68(6)**, 1407-1410 (1986).
3. Merriman, J.A., Nemeth, K.A., and Schlievert, P.M. Novel antimicrobial peptides that inhibit gram positive bacterial exotoxin synthesis. *PLoS One* **9(4)**, (2014).
4. Yasin, B., Harwig, S.S.L., Lehrer, R.I., *et al.* Susceptibility of *Chlamydia trachomatis* to protegrins and defensins. *Infect. Immun.* **64(3)**, 709-713 (1996).
5. Wang, W., Owen, S.M., Rudolph, D.L., *et al.* Activity of α- and θ-defensins against primary isolates of HIV-1. *J. Immunol.* **173(1)**, 515-520 (2004).
6. Wimley, W.C., Selsted, M.E., and White, S.H. Interactions between human defensins and lipid bilayers: Evidence for formation of multimeric pores. *Protein Sci.* **3(9)**, 1362-1373 (1994).

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