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**Product Data Sheet**

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Product Name: NP213 TFA

Cat. No.: GC60271

**Chemical Properties**

Cas. No.

Formula C<sub>44</sub>H<sub>85</sub>F<sub>3</sub>N<sub>28</sub>O<sub>9</sub>

M.Wt 1207.32

Solubility H<sub>2</sub>O : 100 mg/mL (82.83 mM; Need ultrasonic); DMSO : 100 mg/mL (82.83 mM; Need ultrasonic) Storage Store at -20°C, protect from light, stored under nitrogen

General tips For obtaining a higher solubility , please warm the tube at 37 °C and shake it in the ultrasonic bath for a while. Stock solution can be stored below -20°C for several months.

Shipping Condition Evaluation sample solution : ship with blue ice All other available size: ship with RT , or blue ice upon request.

Structure **Background**

NP213 TFA is a rapidly acting, novel, first-in-class synthetic antimicrobial peptide (AMP), has anti-fungal activities. NP213 TFA targets the fungal cytoplasmic membrane and plays its role via membrane perturbation and disruption. NP213 TFA is effective and well-tolerated in resolving nail fungal infections[1][2].

NP213 (500-1000 µg/mL; 18 hours) increases the number of PI-stained *T. rubrum* NCPF0118 cells in samples. This result suggests that NP213 is fungicidal and the mechanisms of action involved membrane permeabilization[1]. NP213 is against *T. rubrum* NCPF0118, shows different MIC values against *T. rubrum* NCPF0118, and the MICs vary depending on the source of the keratin. The MIC values are 16-32 mg/L, 125 mg/L, and 250 mg/L for NP213 in 1640 media containing human nail Keratin, human skin Keratin and Lamb's wool Keratin, respectively[1]. NP213 TFA (2-3 hours; 0-8 µg/ml) has great activity against clinically relevant yeast, including *Candida* spp, *Cryptococcus* spp and *Trichosporon* spp. For all 122 yeast isolates, with the median MIC<sub>100</sub> values of 1-2 µg/ml[3]. Cell Cytotoxicity Assay[3] Cell Line: Clinically relevant yeast isolates

**Caution: Product has not been fully validated for medical applications. For research use only.**

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NP213 TFA (25 mg/kg) is well tolerated in mice. In Murine models of acute disseminated candidiasis, NP213 is tolerated and efficacious and exhibits a half-life of approximately 4.5 h[3].

[1]. Mercer DK, et al. Improved Methods for Assessing Therapeutic Potential of Antifungal Agents against Dermatophytes and Their Application in the Development of NP213, a Novel Onychomycosis Therapy Candidate. *Antimicrob Agents Chemother.* 2019 Apr 25;63(5). pii: e02117-18. [2]. Neelabh, et al. Sequential and Structural Aspects of Antifungal Peptides from Animals, Bacteria and Fungi Based on Bioinformatics Tools. *Probiotics Antimicrob Proteins.* 2016 Jun;8(2):85-101. [3]. Novamycin®/NP339 Technology Summary

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