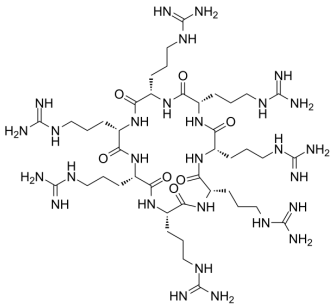
NP213

Cat. No.:	HY-126810
CAS No.:	942577-31-3
Molecular Formula:	$C_{42}H_{84}N_{28}O_7$
Molecular Weight:	1093.3
Sequence Shortening:	Cyclo-RRRRRRR
Target:	Fungal
Pathway:	Anti-infection
Storage:	Please store the product under the recommended conditions in the Certificate of Analysis.



BIOLOGICAL ACTIVITY

Description	NP213 is a rapidly acting, novel, first-in-class synthetic antimicrobial peptide (AMP), has anti-fungal activities. NP213 targets the fungal cytoplasmic membrane and plays it role via membrane perturbation and disruption. NP213 is effective and well-tolerated in resolving nail fungal infections[1][2].
IC_{50} & Target	IC50: fungal[1]
In Vitro	NP213 (500-1000 μg/mL; 18 hours) increases the number of PI-stained T. rubrum NCPF0118 cells in samples. This results 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 varies 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 (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_{100} values of 1-2 μg/ml[3]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.
In Vivo	NP213 (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]. MCE has not independently confirmed the accuracy of these methods. They are for reference only.

REFERENCES

[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

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

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