

HPLC-PHARMACEUTICAL ANALYSIS OF LANTIBIOTIC NISIN IN THE INDUSTRIAL SAMPLES INCLUDING EXPIRED SAMPLE

ARTUR MARTYNOV, OKSANA KNYSH

References:

1. Shin, J. M.; Gwak, J. W.; Kamarajan, P.; et al. Biomedical Applications of Nisin. *Journal of Applied Microbiology* **2016**, 120 (6), 1449–1465. <https://doi.org/10.1111/jam.13033>.
2. Rollema, H. S.; Metzger, J. W.; Both, P.; et al. Structure and Biological Activity of Chemically Modified Nisin A Species. *European Journal of Biochemistry* **1996**, 241 (3), 716–722. <https://doi.org/10.1111/j.1432-1033.1996.00716.x>.
3. O'Sullivan, J. N.; O'Connor, P. M.; Rea, M. C.; et al. Nisin J, a Novel Natural Nisin Variant, Is Produced by *Staphylococcus Capitis* Sourced from the Human Skin Microbiota. *J Bacteriol* **2020**, 202 (3). <https://doi.org/10.1128/JB.00639-19>.
4. Hatzioanou, D.; Gherghisan-Filip, C.; Saalbach, G.; et al. Discovery of a Novel Lantibiotic Nisin O from *Blautia Obeum* A2-162, Isolated from the Human Gastrointestinal Tract. *Microbiology* **2017**, 163 (9), 1292.
5. Meade, E.; Slaterry, M. A.; Garvey, M. Bacteriocins, Potent Antimicrobial Peptides and the Fight against Multi Drug Resistant Species: Resistance Is Futile? *Antibiotics* **2020**, 9 (1). <https://doi.org/10.3390/antibiotics9010032>.
6. Zheng, Y.; Du, Y.; Qiu, Z.; et al. Nisin Variants Generated by Protein Engineering and Their Properties. *Bioengineering* **2022**, 9 (6), 251.
7. Mathur, H.; Field, D.; Rea, M. C.; et al. Fighting Biofilms with Lantibiotics and Other Groups of Bacteriocins. *npj Biofilms and Microbiomes* **2018**, 4 (1), 1–13.
8. Fairuz Azmi, M.; Al Khateeb, A.; Anisah Froemming, G.; et al. Nisin as a Potential Anticancer Agent. **2021**, 1–9.
9. Van De Ven, F. J. M.; Van Den Hooven, H. W.; Konings, R. N. H.; et al. NMR Studies of Lantibiotics: The Structure of Nisin in Aqueous Solution. *European Journal of Biochemistry* **1991**, 202 (3), 1181–1188. <https://doi.org/10.1111/j.1432-1033.1991.tb16488.x>.
10. Hooven, H. W.; Spronk, C. A. E. M.; Kamp, M.; et al. Surface Location and Orientation of the Lantibiotic Nisin Bound to Membrane-Mimicking Micelles of Dodecylphosphocholine and of Sodium Dodecylsulphate. *European Journal of Biochemistry* **1996**, 235 (1–2), 394–403. <https://doi.org/10.1111/j.1432-1033.1996.00394.x>.
11. Zhang, Q.; Yu, Y.; Vélasquez, J. E.; et al. Evolution of Lanthipeptide Synthetases. *Proceedings of the national academy of sciences* **2012**, 109 (45), 18361–18366.
12. Field, D.; Cotter, P. D.; Ross, R. P.; et al. Bioengineering of the Model Lantibiotic Nisin. *Bioengineered* **2015**, 6 (4), 187–192.
13. Sergeev, N.; Glukhova, N.; Nazimov, I.; et al. Analytical Biotechnology of Recombinant Peptides and Proteins: II. A Confirmation of the Primary Structure of Fusion Protein Containing Human Proinsulin and Optimization of Its Proteolysis by Trypsin. *Russian Journal of Bioorganic Chemistry* **2000**, 26 (7), 461–465.
14. Chan, W. C.; Bycroft, B. W.; Lian, L. Y.; et al. Isolation and Characterisation of Two Degradation Products Derived from the Peptide Antibiotic Nisin. *FEBS Letters* **1989**, 252 (1–2), 29–36. [https://doi.org/10.1016/0014-5793\(89\)80884-1](https://doi.org/10.1016/0014-5793(89)80884-1).