



## "The Natural Preservatives" - Nisin & Natamycin

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### INTRODUCTION

Nisin is a short peptide produced by *Lactococcus lactis* and exhibited broad antimicrobial activity against microbiota. Nisin is frequently used as a food preservative because it is heat stable and tolerates low pH. Nisin, a polycyclic antibacterial peptide of 34 amino acid residues, affects the integrity of the cell membrane by creating short-lived pores, causing the rapid outflow of cellular components (such as amino acids). Nisin is "generally recognised as safe" for use as a preservative in human foods, according to the US Food and Drug Administration. No evident effects were noted for doses below 83.25 mg/kg in humans and below 66.7 mg/kg in mice. About 250 g of nisin are found in one gramme of food in the United States and other nations.

Because it is stable at pH 2 and can be autoclaved at 121 °C without losing any of its characteristics, it is more soluble and stable for industrial uses as the acidity of the medium increases. Nisin can be used in a variety of industries in addition to the food business, including the chemical, cosmetic, and medical-pharmaceutical industries. NISIN is well-known and crucial for extending the shelf life of dairy products, cheese, baked goods, meat, coconut water, and other foods. It is very resistant to acidic environments and processing temperatures that are frequently encountered.

Whereas, Natamycin a biopreservative peptide derived from *Streptomyces natalensis*. On a variety of food products such yoghurt, khoa, sausages, juices, wines, etc., it efficiently serves as an antifungal preservative. It has also been utilised as a biological preservative and is categorised as a generally acknowledged as a safe component for a variety of food applications.

The world's largest producer of Nisin and Natamycin, Shandong Freda Biotechnology Co., Ltd., is committed to the research, development, production, and marketing of natural cosmetic ingredients (pullulan, -PGA), as well as Nisin and Natamycin. Freda Nisin & Natamycin has been certified by FSSAI

INDIA and is well-proven for preserving dairy products, meat products, bakery products, coconut water, etc. Nisin extends the self-life and keep the food items fresh naturally even at minimum concentration. The great heat stability of nisin up to 100 °C add to its biopreservative potential.