



**THIRD WAVE**  
BIOACTIVES™

# Nisin Preparation

**Powerful. Natural. Safe.**

Food formulators are continuously seeking new and effective ways to control the outgrowth of unwanted microorganisms in refrigerated foods and beverages. Yet, many time-tested solutions are more applicable in the modern market than ever before. Discovered in the 1920's, Nisin is a peptide produced by select strains of the bacterium *Lactococcus lactis*. As a highly-effective tool for suppressing the growth of Gram (+) bacteria (such as lactic acid bacteria, *Bacillus*, and *Listeria*), Nisin protects the safety, quality, and flavor of a wide variety of foods and beverages.

Its potent nature means that Nisin can be used at very low dosages (in the part-per-million range), leaving it undetectable within the natural flavor profile of a food or beverage. Additionally, Nisin is water-soluble, effective across a wide range of pH's, and is minimally-affected by most processing and storage temperatures used in the production and distribution of consumable goods today. This makes Nisin an ideal solution for meeting the needs of both the modern food and beverage manufacturer, as well as their label-conscious consumers.

## Third Wave Nisin Benefits

- ✓ Naturally produced
- ✓ Imparts no flavor or color
- ✓ Non-allergenic
- ✓ Heat stable
- ✓ GMO Free
- ✓ Effective at low dosages
- ✓ Halal and Kosher Pareve
- ✓ SGS FSSC 22,000 certified



## Clean-Label Control

Stable during most industry-standard heating cycles, Nisin can be added early in the production process and remains effective post-cook. As such, Nisin is perfectly suited for extending the shelf life of cooked foods, such as mashed potatoes, processed cheese, and refrigerated soups (Figure 1).

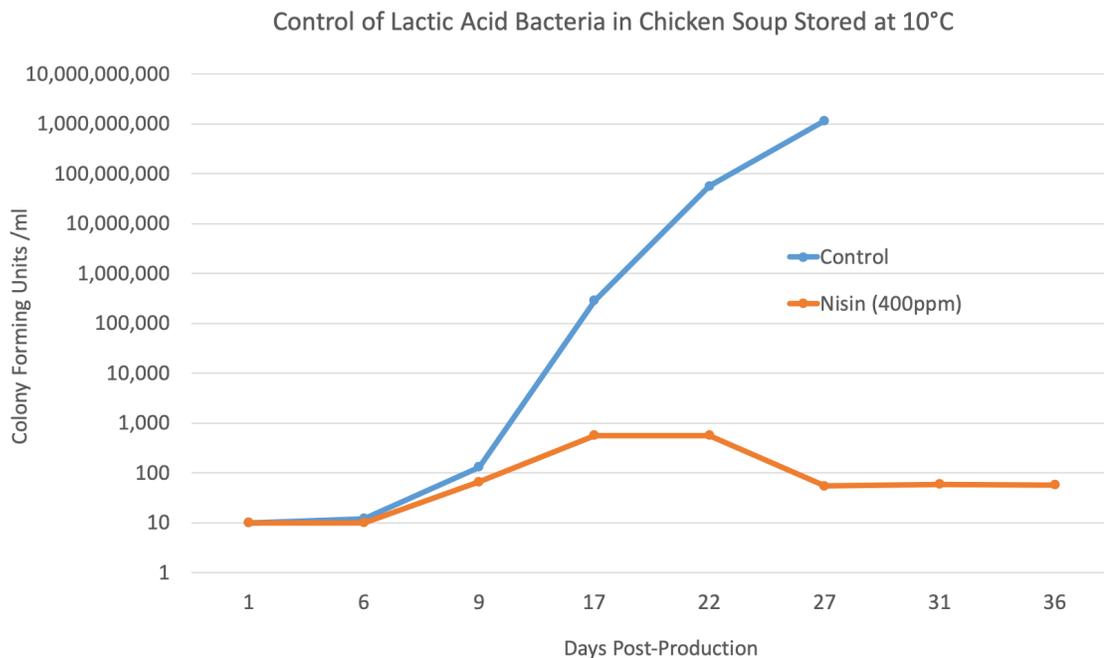


Figure 1: Nisin controls the outgrowth of Lactic Acid Bacteria in chicken soup when stored at refrigerated temperatures.



Manufactured under strict process controls and adherent to GFSI (Global Food Safety Initiative) standards, Nisin from Third Wave Bioactives meets or exceeds all global benchmarks established by the World Health Organization<sup>1</sup> and adopted by the U.S. Food and Drug Administration<sup>2</sup>. Additionally, our familiarity with Nisin's current regulatory landscape and the technical aspects of its use positions Third Wave Bioactives as an experienced, resourceful partner for developing natural, "clean-label" foods. To find out more about working with Third Wave, email [info@thirdwavebio.com](mailto:info@thirdwavebio.com) or call 414-255-0180.



1. [www.apps.who.int/food-additives-contaminants-jecfa-database/chemical.aspx?chemID=572#](http://www.apps.who.int/food-additives-contaminants-jecfa-database/chemical.aspx?chemID=572#)

2. [www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=184.1538](http://www.accessdata.fda.gov/scripts/cdrh/cfdocs/cfcfr/CFRSearch.cfm?fr=184.1538)