

SUPER 'NISIN' BACTERIOCINS – DERIVATIVES WITH ENHANCED ANTIMICROBIAL ACTIVITY

VALUE PROPOSITION

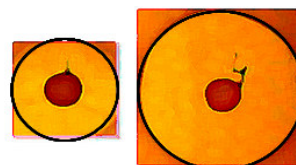
Derivatives of Nisin are far superior to the current commercial Nisin A in antimicrobial activity. They are effective not only against a broader number of gram +ve bacteria but some gram –ve bacteria also. The derivatives have the added benefit of being effective at non-acidic pH, thereby allowing this ingredient to be applied in a greater range of food products.

THE TECHNOLOGY

Nisin (nisin A) is an antimicrobial peptide which is used as a natural food biopreservative in over 50 countries. Nisin and nisin-producing food-grade lactococci are extensively used in food and nisin is the only such peptide to have been added to the European food additive list (E234). It has also been approved by the US Food and Drug Agency (FDA) and World Health Organisation. In addition to food-related applications, nisin also has been, or has the potential to be, employed for veterinary and clinical applications. However, the availability of enhanced forms of nisin could result in the replacement of nisin A and make a number of other potential applications a reality.

Despite the success of nisin, its application is limited in some instances as a consequence of its relative inactivity against particular target species and strains and/or its poor activity at non-acidic pHs.

Food-grade derivatives of nisin, and producers thereof, have been generated which display greatly enhanced antimicrobial activity against problematic pathogenic and spoilage microbes and which are active at non-acidic pHs. In addition to representing an obvious improvement over existing nisin-based preservatives and antimicrobials, the enhanced activity and expanded range of these compounds means that they can be also be applied in situations where heretofore nisin has not been considered a viable alternative.



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Variant

DEVELOPMENT OBJECTIVES

- Demonstrate safety of variants
- Demonstrate shelf-life extension properties
- Develop food grade applications
- Scale-up manufacturing

FIELDS OF APPLICATION

- Food biopreservative
- Medical devices
- Veterinary

PARTNERS



FUNDING



CONTACT

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