

Title: Use of Nisin as a Natural Preservative in Food Industry

Name: Afrooz Bakhshi

Islamic Azad University, Science and Research Branch, Iran

Considering the side effects of chemical preservatives and the notice of food producers to natural preservatives, the evaluation of antimicrobial effects of natural preservatives in experimental and food models seems to be necessary. The use of natural compounds such as essential oils and natural preservatives such as bacteriosins, has substantially increased. Bacteriocins are bactericidal proteins mostly produced by LAB (comprising lactococcus, streptococcus, lactobacillus and pediococcus), that are of particular interest in food industry. The natural function of bacteriocins acting as growth regulators, molecules of communication, or the provision of ecological benefits, can be done through the prevention of competitive bacteria. Nisin is the only bacteriosin with WHO approval that has been widely used in the food industry. Nisin is a penta cyclic peptid with a low molecular weight that is produced by lactococcus bacteria. Regarding its antimicrobial effects and low toxicity on human beings, it is utilized as a GRAS substance in addition to food preservative. Unlike many antibiotics, such as penicillin, it is a primary metabolite. Nisin affects gram-positive bacteria and has a limited effect on gram-negtive bacterias, yeasts or fungi. Increasing the sensitivity of gram-negative bacterias to nisin can be done using substances like EDTA and some organic acids (Hardle's technology). This method would destroy the LPS membrane and therefore the bacteria does not resist membrane penetration. Nisin is mainly used to control the bacterial purtrefaction of low pH foods and foods that have been heated.

Biography

Afrooz Bakhshi has completed her Masters at the age of 26 years from Islamic Azad University in Food Technology, Tehran, Iran. She has been a Quality Control Administrator in food science industry for the last 6 years and mainly worked at cake and chocolate manufacturer companies in Tehran, Iran. Currently, she is working in “Mahanara Tejarat CO.” as a FDA-Registered Technical Manager in Tehran. She has 3 poster presentations is national conferences.

Presenting author details
Full name: Afrooz Bakhshi
Contact number: +989124114753
Linked In account: https://www.linkedin.com/in/afrooz-bakhshi-4367a5133/
Category: Poster presentation