

Antimicrobial Effect of Natamycin against Food Spoilage Fungi and Yeast Contaminated Fermented Foods

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Abstract : Food antimicrobials are compounds that are incorporated into food matrixes in order to cause death or delay the growth of spoilage or pathogenic microorganisms. As a result, microbiological deterioration is prevented throughout storage and food distribution. In this study, the effect of natural antimycotic natamycin (C₃₃H₄₇N₁₃, with a molecular mass of 665.725), a GRAS (Generally Recognized As Safe) commercial compound produced by different strains of *Streptomyces* sp., was tested against various fermented food contamination fungi and yeast species. At the concentration of 100 µg/ml, natamycin exhibited stronger antifungal activity against fungi than yeast species tested. The exposure time of natamycin for complete inhibition of the species tested were found to be between 100-180 min at 300-750 µg/ml concentration. SEM observations of fungal species demonstrated that natamycin distorted and damaged the conidia and hyphae by inhibiting spore germination and mycelial growth. Natamycin can be considered as a potential candidate in hurdle food treatments for preventing fungal and yeast invasion and resulting deterioration of fermented products.

Keywords : natamycin, antifungal, fermented food, food spoilage fungi

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