

Evaluation of antimicrobial activity from native wine yeast against food industry pathogenic microorganisms

Acuña-Fontecilla, A., Silva-Moreno, E., Ganga, M.A., Godoy, L.

Abstract

Currently, there is a worldwide trend toward the food consumption without the use of preservatives. For this reason, biocontrols have emerged as a natural option to replace preservatives. We identify and select native wine yeasts with antimicrobial activity (AA) that work against pathogenic bacteria of food importance. We evaluated the antimicrobial capacity of 103 yeast against *Salmonella typhimurium*, *Listeria monocytogenes*, and *Escherichia coli*, by measuring the growth inhibition. AA was qualitatively determined by measuring the inhibition zone diameter accompanied by death zone of target cells. Results revealed that nine yeast strains showed AA against the three pathogens, being mainly of the genera *Pichia*, *Candida*, and *Saccharomyces*. To determine the type of AA, the viability was assessed by the method of SYTOX Green®. The results suggest that yeast exhibit AA bactericidal type. Thus, the use of yeasts arises as a natural and safe for the biocontrol of bacterial growth alternative.