

# 3<sup>rd</sup> International Conference and Exhibition on **Food Processing & Technology**

July 21-23, 2014 Hampton Inn Tropicana, Las Vegas, USA

## **Detoxification of Ochratoxin A, by lactic acid bacteria**

**Merih Kivanc**

Anadolu University, Turkey

Ochratoxins are a group of mycotoxins produced as secondary metabolites by several fungi of the *Aspergillus* or *Penicillium*. Ochratoxin A is a toxic and potentially carcinogenic fungal toxin found in a variety of food commodities. There are many methods which are applied for mycotoxins detoxification. They can be classified as: physical, chemical and biological. Biological methods, for instance by using microorganisms to degrade mycotoxins, can be the solution. The bacteria of lactic fermentation can be used effectively to degrade mycotoxins. In this study, detoxification ability of ochratoxin A (OTA) of lactic acid bacteria, which were isolated from food samples, was investigated. The lactic acid bacteria which were activated in MRS Broth were incubated in OTA solution and then evaluated by thin layer chromatography and measured by HP-TLC. An optimization procedure was applied for the cultures over 70% of successful. Optimum detoxification conditions were determined for the lactic acid bacteria with highest detoxification ability. For this purpose, they were exposed to different cell concentrations, temperatures and incubation times. As a result of the optimization process, we were determined that lactic acid bacteria which was coded as DF3.4B, was the best detoxifying bacteria with 105 cfu/ml cell concentration, at 37°C and in 48 hour incubation period. These bacteria are applied to food samples. Optimum conditions for the removal of OTA were observed in food.

[mkivanc@anadolu.edu.tr](mailto:mkivanc@anadolu.edu.tr)