

## **AFLATOXIN DETOXIFICATION CAPABILITIES OF PROBIOTIC LACTIC ACID BACTERIA**

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**L**actic acid bacteria are wide microorganism group that has numerous different species inside. These microorganisms are mainly responsible for lactic acid production with their glucose metabolism used in food industry as starter and bio-preservative cultures. A group of lactic acid bacteria named as probiotics are natural part of gut microbiota due to the ability of surviving harsh conditions in digestive system and their high binding capabilities to the colon enterocytes. This superior microorganism group is used for functional food supplement in diet and plays key roles in gut health and sustains gut immune system. Humans get exposed to many carcinogens exogenous or endogenous in origin related with the diet, dietary habits, lifestyle or occupational hazards. Aflatoxin B<sub>1</sub> (AFB<sub>1</sub>) is the most carcinogenic mycotoxin whose main source is cereals and dairy products (as by-product AFM1). The gut is the last stop of these toxins before the circulation system. So inactivation of this genotoxins in gut is important to prevent many diseases. Nowadays *in vivo* and *in vitro* studies show that lactic acid bacteria and probiotics are able to remove and/or neutralize these aflatoxins effectively. The aim of this study is

to show recent developments in the detoxification of AFB<sub>1</sub> by probiotics, detoxification mechanism and its efficacy.

### **Biography**

Sebnem Kurhan graduated from Uludag University, Bursa, Turkey as Food Engineer in 2010 and attended Master's program in the Department of Food Engineering, Ankara University, Ankara, Turkey. In 2012 she received her Master's Degree. After a short experience in private sector, she has started to work as a Specialist and started her PhD in 2013 spring semester and got the degree in November 2017 Abant Izzet Baysal University, Bolu, Turkey. She studied on "DNA-bioprotective effects of industrially important lactic acid bacteria" in her thesis. She worked as a Researcher in 9 national projects, published 2 papers and made 3 oral, 4 poster presentations as author/presenter in different international congresses. She has been working as a Specialist in Novel Food Technologies Development, Application and Research Center in Abant Izzet Baysal University. Her experience focuses on food microbiology besides high performance liquid chromatography (HPLC), gas chromatography (GC), laser scanning confocal microscope and particle size analyzer.

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