

Polycyclic aromatic hydrocarbon binding characteristics of *Lactobacillus rhamnosus* NRRL B-442

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Lactic acid bacteria are the co-habitant group of human intestinal microbiota. As intestinal tract is the last stop of genotoxins, before incorporating into the circulating system, these microorganisms play a key role. *Lactobacillus rhamnosus* NRRL B-442 is the most known probiotic which has a great potent to adhere intestinal mucosal cells. This study is aimed to reveal the decrease of sixteen polycyclic aromatic hydrocarbons (PAHs) content by *Lactobacillus rhamnosus* using HPLC (High-performance liquid chromatography) assay. At 0, 3, 6, 12 and 24 hour samples were centrifuged, supernatants collected and freezed at -24°C until extraction. Liquid-liquid extraction was applied and analyzed with HPLC-

DAD. During incubation, *L. rhamnosus* cells vitality was checked using plate count method. The research indicated, *L. rhamnosus* can keep alive and reduce efficiently PAHs from artificially contaminated PBS (Phosphate-buffered saline) time-dependently and the most mutagenic compound of PAHs, Benzo[a]pyrene was completely removed from the medium both 0h and 24h.

Biography

Sebnem Kurhan obtained her Bachelor's Degree at Uludag University, Turkey in Food Engineering and completed her Master of Science program in Department of Food Engineering, Ankara University, Turkey. After a short experience in private sector, she started to work as a specialist and she started her PhD at Abant Izzet Baysal University, Turkey during 2013. She works on "DNA-bioprotective effects of industrially important lactic acid bacteria" in her thesis. She has worked as a Researcher in 9 national projects and published 1 paper and gave 2 oral and 2 poster presentations as author 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. She is using actively high performance liquid chromatography (HPLC), gas chromatography, laser scanning confocal microscope, flow cytometer and particle size analyzer.

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