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Screening of lactic acid bacteria for antifungal activity against fungi

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Many chemical preservatives that target fungi growth in food have been approved and used for many years. Recently the consumers are looking and demanding for products without chemical preservatives and still maintain good shelf life and safe. The growth of spoilage fungi have been a global concern because of the economy loses and the health hazard of the mycotoxins produced by the spoilage fungi. A total of 22 lactic acid bacteria isolated from Tarhana and Lactic acid bacteria were screened for antifungal activity using dual agar overlay method and well method against *Alternaria alternata, Aspergillus parasiticus, Aspergillus oryzae, Penicillium griseofulvum, Penicillium chrysogenum, Penicillium notatu, Penicillium citrinum, Penicillium roquefort, Aspergillus fumigatus.* Ten isolates showed inhibition activity after 72 h incubation at 30°C. Supernatant of 10 isolates with strong antifungal activity was evaluated by well method and they inhibited the growth of the fungi at 30°C for 72 h. F2, 1 supernatant reduced the mass growth of *Penicillium griseofulvum, Penicillium chrysogenum, Aspergillus fumigatus and Aspergillus parasiticus* when incubated for 6 days at 30°C. The isolates were identified using rapid ID 32 Strep as *Enterococcus durans* F2.1. F2.1 isolates studied inhibited the growth of the mycelia and conidia germination of the fungi which indicate the possibility of using LAB isolates as bio preservative.

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