

عنوان مقاله:

Antimicrobial Activity , Antibiotic susceptibility and Aflatoxin B1 Reducion potential of Lactobacillus spp Isolate From
Traditional Dairy Products against food-borne pathogens

محل انتشار:

دومین کنگره بین المللی و بیست و پنجمین کنگره ملی علوم و صنایع غذائی ایران (سال: 1397)

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خلاصه مقاله:

Microorganisms plays very important role in food industry. One of the most important groups of acid producing bacteria in food industry is the lactic acid bacteria. Genus Lactobacillus contains over 110 species, which are classified in three major groups: obligate homofermentative, facultative homofermentative and obligate heterofermentative. The Lactobacilli isolated from dairy products have shown a long history of safe use. The main aim of this study was Isolation, characterization of Lactobacillus spp isolated from the traditional dairy products and determination of probiotic potential, Antimicrobial activity against food-borne pathogens including salmonella, E. coli, shigella, Bacillus Cereus, staphylococcus aureus (ATCC and previously isolated in our division), antibiotic susceptibility and Aflatoxin B1 detoxification potential. A total of 40 traditional dairy products including household milk, cheese, yoghurt and curd were collected from local areas of Azerbaijan, Kurdistan, Kermanshah, Ilam in Iran. Isolation was done by using serial dilution method. Serial dilutions of dairy samples were prepared and then sample from different dilutions were spread over the solidified MRS medium for isolation. Plates incubated under anaerobic condition at 37°C for 24-48 hrs. After incubation isolated colonies were restreaked on MRS agar plate and pure cultures were isolated. Three to four colonies of each culture were selected for further characterization. Identification of Lactobacillus isolates was performed by biochemical [Gram stain, catalase, fermentation of carbohydrates, hydrolysis of arginine, gas (CO₂) production from glucose and growth at different temperatures (15°C, 45°C)] and 16S rRNA gene sequencing methods and assessed for probiotic potential properties including acid and bile resistance, Adherence to HT-29 cells and antibiotic resistance. An agar well diffusion assay was used for detection of antimicrobial activity of lactobacillus isolates against food-borne pathogens. Etest, Disk diffusion and Broth microdilution used for Antibiotic susceptibility. The toxification of aflatoxin by lactobacillus spp isolate was quantified by Elisa method. Statistical analyses were performed with SPSS software (version 16.0, SPSS). One-way ANOVA (Analysis Of Variance) with post-hoc Tukey HSD (Honestly Significant Difference) was used for statistical analysis. Results were regarded as statistically significant at $p < 0.05$. We identified Six species of Lactobacillus (Casei, plantarum, acidophilus, delbrueckii, ... fermentum, brevis). All Isolate showed good probiotic potential and Lb

کلمات کلیدی:

Lactobacillus, Traditional Dairy Products, Probiotics, Antimicrobial Activity, Antibiotic susceptibility, Aflatoxin B1

لینک ثابت مقاله در پایگاه سیویلیکا:

