

عنوان مقاله:

The probiotic safety assessment for incidence of virulence in lactic acid bacteria isolated from different regions of Iran

محل انتشار:

بیست دومین کنگره میکروب شناسی ایران (مجازی) (سال: 1400)

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خلاصه مقاله:

Background and Aim : A large variety of bacteria are intentionally added to the food supply. These include starter cultures for the production of fermented foods and probiotics in food and dietary supplements. Since these bacteria are typically viable when consumed, considerable characterization is required to ensure the absence of undesirable properties. **Methods :** In this study, ۲۴۴ strains from different sources of traditional dairy products such as, yogurt, yogurt drink, milk, and butter were collected from different regions of Iran. ۲۰ out of ۲۴۴ LAB isolates were selected due to their primary probiotic properties (resistance to low pH, bile tolerance, and tolerance to pepsin and trypsin) and identified by phenotypic and ۱۶S rRNA gene sequence analysis. The ۲۰ isolated species were assessed for the incidence of virulence determinant genes (gelE, efaAfm, efaAfs, ace, espfs, cylM, cylA and cylB), and phenotypic action of gelatinase. **Results :** The incidence of virulence genes was determined by polymerase chain reaction and *Enterococcus faecalis* ATCC ۱۱۷۰۰ was used as positive control. The dominant bacterial genera isolated were *Lactobacillus*, *Lactocaseibacillus*, and *Bifidobacterium*. Also, the results of this study showed no virulence genes for all ۲۰ isolated species. Also, the phenotypic study of gelatinase proved the deficiency of gelE gene in all strains. **Conclusion :** The results of this study showed that candidate isolates as probiotics are safe in terms of pathogenic potential. However, for further assessment, it is recommended that whole-genome sequencing of each strain be performed.

کلمات کلیدی:

Probiotic, Virulence, Lactic Acid Bacteria, fermented food, ۱۶S rRNA

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