

عنوان مقاله:

بررسی اثر مهارى ایزوله های لاکتوباسیلوس فرمنتوم، لاکتوباسیلوس اسیدوفیلوس و لاکتوباسیلوس پاراکازئی جدا شده از ماست بر روی رشد و بیان ژنى انتروتوکسین A باکتری استافیلوکوکوس اورئوس

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خلاصه مقاله:

BACKGROUND: Staphylococcal foodborne intoxication is the most common cause of foodborne illnesses by Staphylococcus aureus strains and most are caused by the enterotoxins of S. aureus. Staphylococcal enterotoxin A (SEA) is the most frequently responsible for staphylococcal food poisoning outbreaks. From a food safety and human health point of view, lactic acid bacteria (LAB) may provide a promising strategy in the fight against S. aureus. **OBJECTIVES:** Increasing product shelf life, and enhancing the safety of food and human health using natural microflora are the aims of this study. **METHODS:** In this study we evaluate the inhibitory effects of three lactobacillus strains isolated from yoghurt, namely lactobacillus acidophilus, lactobacillus fermentum and lactobacillus paracasei, on the growth and enterotoxin production of Staphylococcus aureus by co-incubating each strain with enterotoxigenic S. aureus at two temperatures: 25 and 35°C. Expression of the SEA gene of S. aureus was assessed by real-time PCR. **RESULTS:** All the strains decreased the bacterial count at both temperatures compared to the control. This effect was greater at 25°C than at 35°C. The production of SEA, SEC and SEE was inhibited by all the isolates tested. Furthermore, expression of the sea gene was significantly suppressed in S. aureus co-cultured with the lactobacillus isolates and the greatest impact was on Lactobacillus acidophilus at 35 ° C. **CONCLUSIONS:** This research highlights the potential of lactic acid bacteria isolated from traditional foods for use as natural preservatives in foodstuffs and suggests a new approach for biocontrol of Staphylococcus aureus

کلمات کلیدی:

Gene expression, L. acidophilus, L. fermentum, L. paracasei, S. aureus

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