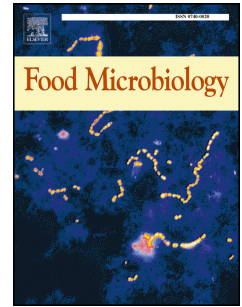


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Greek functional Feta cheese: Enhancing quality and safety using a *Lactobacillus plantarum* strain with probiotic potential

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1 Running title: Probiotic Feta with enhanced quality and safety

2 **Greek functional Feta cheese: enhancing quality and safety using a *Lactobacillus***
3 ***plantarum* strain with probiotic potential**

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15 **ABSTRACT**

16 The aim of the study was to investigate the performance of *Lactobacillus plantarum* T571
17 with probiotic potential as a co-starter culture in Feta cheese production and in its long-term
18 storage. For this reason, Feta cheese was manufactured without (control) or with the probiotic
19 T571 strain (probiotic) and then monitored during storage at 4 and 12°C, respectively. The
20 products were also inoculated with *Listeria monocytogenes* (3-strain cocktail). Results
21 showed that lactic acid bacteria exceeded 6 log CFU/g during storage in all trials. The
22 probiotic samples displayed higher acidity ($\approx 1.5\%$ lactic acid) and lower pH (≈ 4.2).
23 Coliforms and *L. monocytogenes*, were inactivated in shorter time in probiotic samples, in
24 comparison with the control ones. Pulsed field gel electrophoresis verified the presence of the
25 probiotic strain in the cheese, until the end of storage at both temperatures, whilst the survival
26 and distribution of the pathogenic strains depended on the trial. The sensory evaluation

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