

# STUDY ON THE REDUCTION OF B-CASOMORPHIN-7 IN A1 MILK THROUGH THE USE OF LACTIC ACID BACTERIA *LACTICASEIBACILLUS CASEI* AND *LIMOSILACTOBACILLUS FERMENTUM*

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Beta-casomorphin-7 (BCM-7), released from  $\beta$ -casein A1 during digestion, has been identified as a potential risk factor for health issues, including chronic inflammation, gastrointestinal discomfort, and possible influences on neurological conditions. Reducing its release in dairy products has become a priority in the development of safer functional foods. This study investigated the impact of whole milk fermented with *Lacticaseibacillus casei* LBC 237 and *Limosilactobacillus fermentum* 433 on BCM-7 release. Fermentations were conducted separately at 37°C for 16 hours, followed by centrifugation and simulated digestion in the gastric and intestinal phases. ELISA tests indicated an initial absorbance of 0.196 and 0.210 in the fermented samples for *L. casei* and *L. fermentum*, respectively; these values dropped to 0.070 and 0.075 after digestion. Although in vitro digestion reduced the concentration of BCM-7 in fermented milk samples, fermentation with *L. casei* and *L. fermentum* did not demonstrate an additional significant reduction in the concentration of this peptide compared to non-fermented samples. The results suggest that fermentation conditions were insufficient for effective BCM-7 degradation. The study continues to explore the use of additional enzymes to improve BCM-7 degradation in dairy products.

**Keywords:** Lactic fermentation. *L. casei*. *L. fermentum*.  $\beta$ -casomorphin-7.