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Impact of *in vitro* fermentation, enzymatic hydrolysis, and digestion on the degradation of β-casomorphin-7 in milk using *Lacticaseibacillus casei* and *Limosilactobacillus fermentum*

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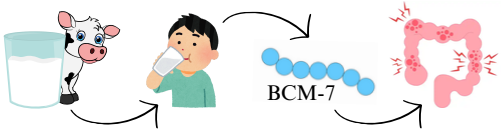
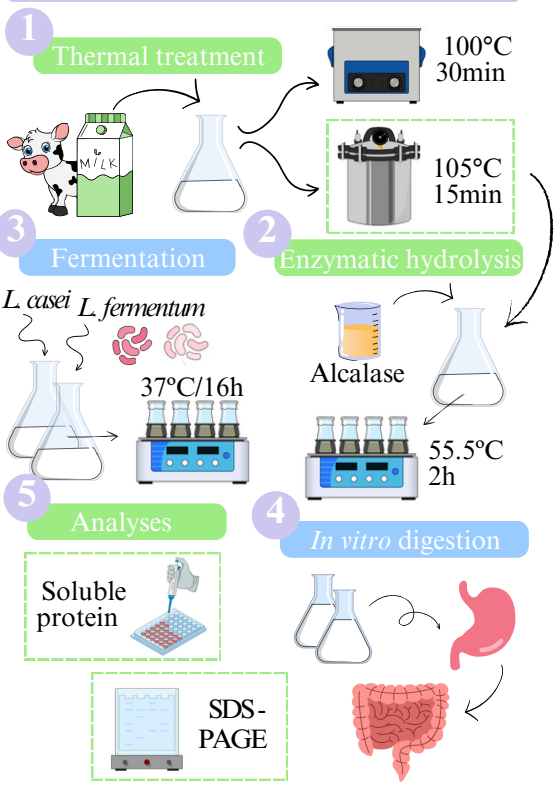
INTRODUCTION & AIM



This study aimed to minimize the formation of BCM-7, an opioid peptide produced from β-casein.

METHODS



RESULTS

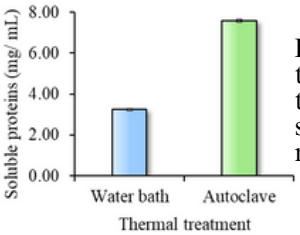


Fig. 1. Effect of thermal treatment on the concentration of soluble proteins in milk.

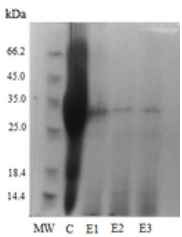


Fig. 2. SDS-PAGE profile of milk hydrolyzed and fermented by *L. casei* (E1), *L. fermentum* (E2), or coculture (E3). MW: marker; C: control.

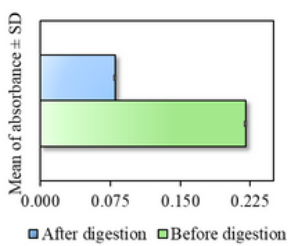


Fig. 2. Mean ± SD of absorbance values obtained from ELISA tests for BCM-7 detection in milk fermented by *L. fermentum*.

- Autoclave method was chosen.
- SDS-PAGE evidenced the degradation of milk proteins, including β-casein.
- The ELISA showed that *L. fermentum* was more efficient in reducing BCM-7.

CONCLUSION

The fermentation combined with enzymatic hydrolysis proved effective in reducing the formation of BCM-7.

Conflicts of Interest
The authors declare no conflicts of interest.

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CAPES
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REFERENCES

1. Vasconcelos, M.L.; Oliveira, L.M.F.S.; Hill, J.P.; Vidal, A.M.C. Difficulties in Establishing the Adverse Effects of β-Casomorphin-7 Released from β-Casein Variants—A Review. Foods 2023, 12, 1–20.