

# Characterization and Production of Novel ACE-Inhibitory Bioactive Peptides derived from Fermented Goat Milk using Potent *Lactobacillus* cultures †

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**Abstract:** Lactic Acid Bacteria (LAB) is an important friendly bacterium that exists in all fermented milk products. Fermented goat milk has multiple therapeutic and nutritional effects. Goat milk has a lot of health benefits like antihypertensive, antioxidant, and antimicrobial activity. But there is scanty information on ACE-inhibitory activity of fermented Surti goat milk (Indian breed). The present study was formulated to isolate and purify the ACE-inhibitory peptides from fermented goat milk (*Capra aegagrus hircus*) with a specific amino acid sequence ACE-inhibitory activity (*in vitro*). This method is based on the reaction of hydrolysis of N-Hippuryl-His-Leu (HHL) into Hippuric Acid (HA), and His-Leu (HL) catalyzed by the ACE. The activity of ACE was measured in terms of HA produced over time. The Relative Proteolytic Activity was determined according to the method of Vasiljevic and Jelen (2002). The peptide profile change was determined by integrating the area under peaks obtained in the beginning and at the end and expressed as % *rpa*. Fermented goat milk was used for the peptide separation through RP-HPLC analysis. In this phase, the main objective was to separate, purify, and characterize the peptides from surti goat milk. From the study, it has been concluded that fermented goat milk could be the best source of ACE-inhibitory peptides.

**Keywords:** lactic acid bacteria; bioactive peptide; *Capra aegagrus hircus*.

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## Conflicts of Interest

The authors declare no conflict of interest.