

Author's Accepted Manuscript

Considering the potential of *Lactobacillus rhamnosus* for producing Angiotensin I-Converting Enzyme (ACE) inhibitory peptides in fermented camel milk (Indian breed)

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PII: S2212-4292(17)30758-7
DOI: <https://doi.org/10.1016/j.fbio.2018.03.004>
Reference: FBIO285

To appear in: *Food Bioscience*

Received date: 16 October 2017
Revised date: 8 February 2018
Accepted date: 2 March 2018

Cite this article as: Divyang Solanki and Subrota Hati, Considering the potential of *Lactobacillus rhamnosus* for producing Angiotensin I-Converting Enzyme (ACE) inhibitory peptides in fermented camel milk (Indian breed), *Food Bioscience*, <https://doi.org/10.1016/j.fbio.2018.03.004>

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**Considering the potential of *Lactobacillus rhamnosus* for producing Angiotensin I-
Converting Enzyme (ACE) inhibitory peptides in fermented camel milk (Indian breed)**

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Abstract

In this study, fermented camel milk was prepared using proteolytic *Lactobacillus rhamnosus* MTCC 5945 (NS4), which was analyzed for X-prolyl-dipeptidyl aminopeptidase activity and Angiotensin I-Converting Enzyme (ACE) inhibitory activity. The growth conditions (inoculation rate and incubation time) for the production of peptides were optimized using OPA method. Fractionated 3 kDa, 5 kDa and 10 kDa permeate and retentate samples were further analyzed for ACE-inhibitory activity under the optimized growth conditions. Furthermore, 3 kDa and 10 kDa permeate with highest ACE-inhibitory activities and highest percentage of peptides production were subjected to liquid chromatography mass spectrometry and peptide identification using MASCOT software. Novel peptides were identified from fermented camel milk using homology sequence searching in BlastP (NCBI), and Protein information resource database (PIR). The novelty (ACE-inhibitory activity or Antihypertensive activity) of peptides was also confirmed using novelty search in the database of antihypertensive peptides (AHTPDB).

Keywords: *Camelus dromedarius*, ACE-inhibitory activity, PepX activity, Camel milk

1. Introduction

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