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REVIEW

Potential nutraceuticals from the casein fraction of goat's milk

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Abstract

Goat is one of the major dairy and meat providers. In terms of structure, nutrient content, and medicinal properties, goat milk is somewhat different from other milk. The differences in composition are important in determining the technical suitability of goat milk and its products for health benefits. In recent years, there has been increasing attention to the identification and molecular composition of milk proteins and the interest in caprine milk. Casein, which accounts for almost 80% of all the proteins, is the most significant protein found in goat milk. It is a pioneer in the field of nutraceutical formulation and drug production by using the goat mammary gland as a bioreactor. In goat milk, the most prevalent proteins are αS-casein, β-casein, and κ-casein. The aim of this review is to highlight the importance of goat milk casein and also focus on recent findings on their medicinal importance that may be helpful for further research on dairy products with health beneficial properties for humans as a remarkable nutraceutical.

Practical applications

Goat milk casein is considered as a healthy nutrient as well as a therapeutic agent to control abnormal or disease conditions through some of its biologically active peptide residues. Casein fractions of goat milk have been shown to exhibit different biologic activities. Therefore, this study aims to observe the use of goat milk in various disorders and to know about the different products made from goat milk. It will be helpful in the field of medicine to be a new active constituent for the management of various disease conditions.

KEYWORDS
Goat milk, casein, nutraceutical, milk protein

1 | INTRODUCTION

Nutraceuticals provide consumers with numerous health benefits because of the active components present in the food. Many scientific studies elaborated health to be strongly linked to food intake, raising concerns about functional foods (Azhar & Salim, 2017). It is undeniable that goat milk is one of the outstanding sources of nutrients. In all ruminants, the presence of proteins in goat milk has been recognized for their nutritional and scientific importance. Due to the high amino acid content and greater digestibility, goat milk proteins are highly nutritious compared with other proteins (Almeida et al., 2016). Their primary function is to provide amino acids and nitrogen to young children and is an integral component of adult and senior citizen dietary proteins. When goat milk is given to infants, symptoms such as gastrointestinal disturbances, vomiting, colic, constipation, diarrhea, and respiratory issues are reduced. Because the composition of pasteurized goat milk is comparable with that of human milk, it is easily tolerated by newborns who have gastrointestinal or

