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Research Article

Proteolysis of Milk and Casein Fractions by *Streblus asper* (Kesinai) Extract

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Abstract

Whole milk (12.5% total solids) and casein fractions (1% w/v) were reacted with *Streblus asper* (Kesinai) leaf extract, Maxiren and Rennilase, separately. Their electrophoretic profiles were determined and compared. Close similarity in electrophoretic profile of milk coagulum and whey were observed for milk treated with *Streblus asper* extract and Maxiren. Rennilase hydrolysed more milk casein, resulting in comparatively higher amount of macro peptide bands in the whey fraction. Lower molecular weight macro peptides were formed by *Streblus asper* extract compared with Maxiren, when α-casein was used as substrate. Excessive proteolysis of α-casein was observed when Rennilase was used. However, no obvious difference between the electrophoretic profile of *Streblus asper* extract and Maxiren treated β-casein was observed. Rennilase on the other hand, hydrolysed β-casein excessively. Higher molecular weight macro peptides were obtained when κ-casein was reacted with *Streblus asper* extract compared with Maxiren. Whereas Rennilase, resulted in excessive hydrolysis of κ-casein. Casein loss studies showed that casein protein retained in coagulum after proteolysis was 1.2, 2.3 and 3.1 per cent for Rennilase, *Streblus asper* extract and Maxiren, respectively. Proteolytic activity at 5 per cent enzyme concentration was found to increase in the following order: Maxiren, *Streblus asper* and Rennilase.

Introduction

yield, high fat loss, soft texture, acid and bitter flavors