

Pharmacological Study

Antihypertensive peptides from curd

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**Abstract**

Introduction: Curd (*Dadhi*) peptides reduce hypertension by inhibiting angiotensin converting enzyme (ACE) and serum cholesterol. Peptides vary with bacterial species and milk type used during fermentation. **Aim:** To isolate and assay the antihypertensive peptides, before and after digestion, in two commercially available curd brands in Sri Lanka. **Materials and Methods:** Whey (*Dadhi Mastu*) separated by high-speed centrifugation was isolated using reverse-phase-high-performance liquid chromatography (HPLC). Eluted fractions were analyzed for ACE inhibitory activity using modified Cushman and Cheung method. Curd samples were subjected to enzymatic digestion with pepsin, trypsin, and carboxypeptidase-A at their optimum pH and temperature. Peptides isolated using reverse-phase-HPLC was assayed for ACE inhibitory activity. **Results:** Whey peptides of both brands gave similar patterns (seven major and five minor peaks) in HPLC elution profile. Smaller peptides concentration was higher in brand 1 and penta-octapeptides in brand 2. Pentapeptide had the highest ACE inhibitory activity (brand 2-90% and brand 1-73%). After digestion, di and tri peptides with similar inhibitory patterns were obtained in both which were higher than before digestion. Thirteen fractions were obtained, where nine fractions showed more than 70% inhibition in both brands with 96% ACE inhibition for a di-peptide. **Conclusion:** Curd has ACE inhibitory peptides and activity increases after digestion.

Key words: Angiotensin-converting enzyme, curd, High-Performance Liquid Chromatography, peptides, whey