

Identification of angiotensin I-converting enzyme inhibitory peptide derived from the peptic digest of soybean protein

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Abstract

Peptidic fractions which inhibit angiotensin I-converting enzyme (ACE) were separated from peptic digests of soybean by ion exchange chromatography and gel filtration. Further separation of the peptidic fractions by ODS HPLC afforded active peptides, the amino acid sequences of which were identified by Edman's procedure as: Ile-Asp (inhibitory against ACE with an IC₅₀ of 153 μ M), Tyr-Leu-Ala-Gly-Asn-Gln (14 μ M), Phe-Phe-Leu (37 μ M), Ile-Tyr-Leu-Leu (42 μ M), and Val-Met-Asp-Lys-Pro-Gln-Gly (39 μ M). The antihypertensive activity of the soybean peptides was also investigated. Peptide fractions (2.0 g/kg body weight, oral administration) markedly lowered the blood pressure of spontaneously hypertensive rats (SHRs).