

Identification of antihypertensive peptides from peptic digests of two microalgae, *Chlorella vulgaris* and *Spirulina platensis*.

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Abstract

The peptidic fractions that inhibited angiotensin I-converting enzyme (ACE) were separated from the peptic digests of 2 microalgae, *Chlorella vulgaris* and *Spirulina platensis*, by ion exchange chromatography and gel filtration. Oral administration of peptidic fractions into spontaneously hypertensive rats at 200 mg/kg of body weight resulted in marked antihypertensive effects. Further separation of the peptidic fractions by ODS high-performance liquid chromatography furnished the following active peptides: Ile-Val-Val-Glu (inhibitory against ACE with an IC₅₀ of 315.3 μM), Ala-Phe-Leu (63.8 μM), Phe-Ala-Leu (26.3 μM), Ala-Glu-Leu (57.1 μM), and Val-Val-Pro-Pro-Ala (79.5 μM) from *C. vulgaris*; Ile-Ala-Glu (34.7 μM), Phe-Ala-Leu, Ala-Glu-Leu, Ile-Ala-Pro-Gly (11.4 μM), and Val-Ala-Phe (35.8 μM) from *S. platensis*.