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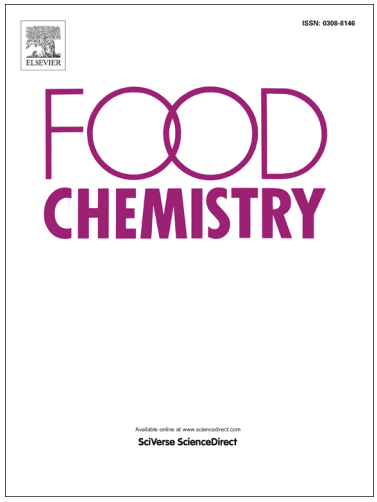

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Andrea Milagros Reyes Jara, Constanza Silvina Liggieri, Mariela Anahí Bruno

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ACCEPTED MANUSCRIPT

Preparation of soy protein hydrolysates with antioxidant activity by using peptidases from latex of *Maclura pomifera* fruits

Andrea Milagros Reyes Jara[a], Constanza Silvina Liggieri[b], and Mariela Anahí Bruno[b]*

Andrea Milagros Reyes Jara. E-mail: areyesjara@quimica.unlp.edu.ar

Constanza Silvina Liggieri. E-mail: cliggieri@biol.unlp.edu.ar

Corresponding autor: Mariela Anahí Bruno. E-mail brunomariela@biol.unlp.edu.ar

[a] *Instituto de Fisiología Vegetal (INFIVE), Universidad Nacional de La Plata (UNLP), CONICET, 113 and 61, 1900, La Plata, Argentina.* Tel. (54 221) 423 0121 ext. 57.

[b] *CIPROVE-Centro Asociado CICPBA, Departamento de Ciencias Biológicas, Facultad de Ciencias Exactas, UNLP, Calle 47 y 115 S/N, B1900AJL, La Plata, Argentina.*

Abstract

A partially purified proteolytic extract prepared from *Maclura pomifera* latex was employed in hydrolyzing a soybean-protein isolate (4.2 mg/mL). The hydrolysis-product formation, monitored by tricine–sodium-dodecyl-sulfate–polyacrylamyde-gel electrophoresis and reverse-phase high-performance liquid chromatography, indicated that after 10 min of reaction the main soybean proteins disappeared. The maximum degree of hydrolysis was 36.2% after a 180-min digestion. The 90-min hydrolysate presented an IC_{50} of 31.6 ± 0.2 µg/mL, and a trolox equivalent antioxidant capacity of 157.6 and 176.9 µmoles TE per g of peptide determined by two different methods. Analysis by matrix-assisted–laser-desorption-ionization–time-of-flight mass spectrometry (MALDI-TOF MS), followed by the application of bioinformatics tools, enabled the deduction of fourteen theoretical peptide sequences containing antioxidant amino acids

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