

Encapsulation of an Ethanolic Extract of *Euphorbia serpens* †

Paz Seputic F. ¹, Soro A.S. ², Vasile F. ³, Nuñez M.B. ^{1,*}

¹ Laboratorio de Farmacotecnia, ²Laboratorio de Química Analítica, ³Laboratorio de Tecnología de los Alimentos, Departamento de Ciencias Básicas y Aplicadas. Universidad Nacional del Chaco Austral. Comandante Fernández 755. Presidencia Roque Sáenz Peña, Chaco; fpazseputic@gmail.com (P.S.F.)

* Correspondence: mbnunez@uncaus.edu.ar (N.M.B.)

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Abstract: Plant extracts contain secondary metabolites of interest, such as polyphenols, which are sensitive to light and heat. Encapsulation can solve this stability problem, and the chosen technique was ionic gelation, which is simple and inexpensive, but sodium alginate solubility is affected by the presence of ethanolic extract. The extract of interest was *Euphorbia serpens* Kunth, known as "yerba meona", Euphorbiaceae family. The objective of the work was to determine the most promising formulation to encapsulate *E. serpens* ethanolic extract. The extract was obtained from dried and ground vegetables by cold maceration (20 %) with 70° ethanol for 14 days. The concentration of ethanol (30%) to maintain sodium alginate solubilized, sodium alginate (3%), and calcium chloride (3%) concentrations were determined to achieve encapsulation of the extract. The beads were obtained by including 20% extract in an alginate solution, and this mixture dripped into a calcium chloride solution. They were dried in an oven at 30°C and reduced pressure. The encapsulation yield was 89.05±7.5%, encapsulated phenolic content was 62.53 ug/g beads, and encapsulation efficiency was 21.15 ± 0.831% so adjustments in the process are required.

Keywords: polyphenols; ionic gelation; encapsulation yield.

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Conflicts of Interest

The authors declare no conflict of interest.