

Evaluación de un sistema de digestión *in vitro* sobre la bioaccesibilidad de componentes bioactivos en alimentos funcionales



Universidad
Autónoma
de Coahuila



ENCUENTRO DE CIENCIA
Y TECNOLOGÍA



DIRECCIÓN DE
INVESTIGACIÓN
Y POSGRADO
Uadec

Castillo-Ramírez D.C. 1; Belmares, R. 1; Rodríguez-Jasso, R.M.1; Ruiz-Leza H.1; Cruz, M. 2; Nobre-Gonçalves C. 3

11*Universidad Autónoma de Coahuila, Facultad de Ciencias Químicas – Saltillo. Departamento de Investigación de Alimentos. Ing J. Cardenas Valdez S/N, República, 25280 Saltillo, Coah. MÉXICO.

2*Universidad Autónoma Agraria Antonio Narro – Calz Antonio Narro 1923, Buenavista, 25315 Saltillo, Coah.

3*Universidade do Minho – Braga, Portugal

E mail: danielacastillorami@uadec.edu.mx

Keywords

Bioaccessibility; bioactive compounds; *in vitro* digestion model.

Introduction

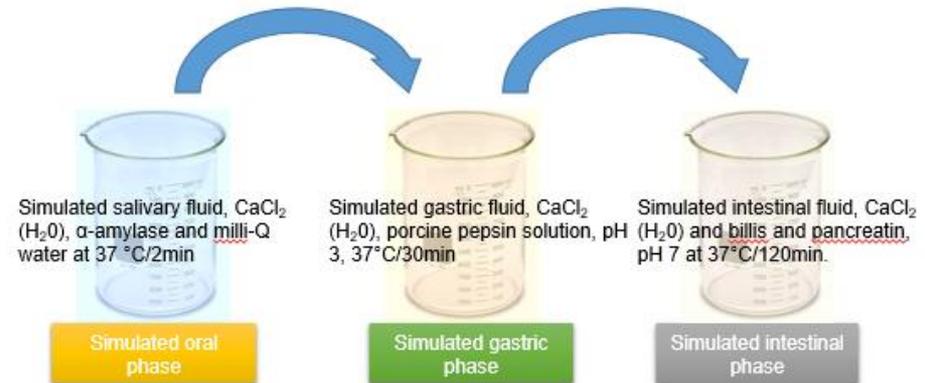
Nowadays the relevance of functional foods have been increase as well as the incorporation and study of bioactive compounds, it has gained relevance in its development¹. Bioactive compounds are defined as nutrients that can cause a biological effect. To establish the health benefits is necessary to evaluate the bioaccessibility of the bioactive compounds. There are methods available for the bioaccessibility's quantification, from *in vivo* to *in vitro* process. *In vitro* methods can be used to recreate the digestion conditions with many advantages and without the ethical restrictions of *in vivo* models and provide information about the bioavailability of bioactive compounds in a food matrix². The aim of this investigation is to evaluate the bioaccessibility of bioactive compounds in food, by assessing them under controlled gastrointestinal conditions in an *in vitro* digestion process.

Bibliography

[1] Gonçalves, R. F. S., Martins, J. T., Duarte, C. M. M., Vicente, A. A., & Pinheiro, A. C. (2018). Advances in nutraceutical delivery systems: From formulation design for bioavailability enhancement to efficacy and safety evaluation. *Trends in Food Science and Technology*, 78(January), 270–291. <https://doi.org/10.1016/j.tifs.2018.06.011>

[2] Dima, C., Assadpour, E., Dima, S., & Jafari, S. M. (2020). Bioavailability and bioaccessibility of food bioactive compounds; overview and assessment by *in vitro* methods. *Comprehensive Reviews in Food Science and Food Safety*, June, 1–23. <https://doi.org/10.1111/1541-4337.12623>

Methodology



Results

It is expected to be able to carry out the evaluation of the *in vitro* system by determining the bioaccessibility of the active compounds of the sample (s) used for the experiment.