ICU Investigación, Ciencia y Universidad Año 2018 Vol 2 / Nº 2

Resumen /Oral

Anti-inflammatory activity of Chia protein hydrolysates on primary human monocytes

Millán-Linares, M.C.[1]; Yust, M.M.[1]; Montserrat-de la Paz, S.[2]; González-Luna, R.[3]; Millán, F.[1] Pedroche, J.[1]
[1]Plant Protein Group, Instituto de la Grasa (IG-CSIC), Sevilla - España;
[2]Laboratory of Cellular and Molecular Nutrition, Instituto de la Grasa (IG – CSIC), Sevilla - España;
[3]Autonomous University of Nuevo León. Faculty of Biological Sciences. Av. Pedro de Alba S/N, Ciudad Universitaria, 66455. San Nicolás de los Garza, Nuevo León, México.

Contacto: mcmillan@ig.csic.es

Keywords: *Chia Protein Hydrolysate; Bioactive Peptides; Monocytes; Anti-Inflammatory Activity*

Bakcground & Aims Chia (Salvia hispanica L.) has recently garnered interest in the scientific community and food industry owing to its high protein content and potential bioactive compounds. Chia protein hydrolysates (CPH) could prove an effective functional ingredient in a wide range of foods. The present study aimed to test whether peptides released from the enzymatic hydrolysis of chia protein may modulate the inflammatory responses on primary human monocytes.

Methods

Gene and protein expression and protein release were analyzed in primary human monocytes by RT-qPCR and ELISA after 24 hours of treatment with CPH at 50-100 µg/mL.

Results

The incubation of monocytes with CHP for 24 h showed to have an anti-inflammatory activity, since in most cases tend to repress pro-inflammatory genes expression such as TNF-a, IL-1B, and IL-6. In addition, CHP enhanced the expression of other anti-inflammatory cytokines such as IL-10. These results were corroborated by the levels of proteins determined by ELISA procedures.

Conclusion

Therefore, this study reveals that the inclusion of chia protein hydrolysates on our diets could help in the prevention and/or treatment of inflammatory diseases.