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ANTI-INFLAMMATORY PROPERTIES OF THE OLIVE LEAF EXTRACT XORIALYC® *(OLEA EUROPAEA L.)* FOR PSORIASIS TREATMENT

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Psoriasis is a common chronic inflammatory disease. Under an inflammatory stimulus, epidermis can convert arachidonic acid to prostaglandin E2 (PGE2), a pro-inflammatory mediator which can elevate the cellular levels of cyclic nucleotides promoting psoriasis pathogenesis. Adherence to prescribed drugs might be a problem in some patients due to side effects associated, so finding an alternative natural treatment is of great interest. Due to the anti-inflammatory properties related to olive (*Olea europaea* L.) leaves, the objective of this work was to characterize the bioactive components of Xorialyc®, an olive leaves extract standardized to ortho-diphenols and luteolin-7-o-glucoside, and test its anti-inflammatory action compared to other similar extracts. Identification of Luteolin-7-o-glucoside was accomplished by high performance liquid chromatography, while the characterization of ortho-diphenol content was carried out by colorimetric determination as catechin monohydrate. To determine the anti-inflammatory activity the production of PGE2 was measured in lipopolysaccharide and interferon γ-stimulated murine macrophages, RAW264.7 cells, in the presence or absence of different doses of Xorialyc®, Diclofenac or other olive leaves extracts. More than 1 mg/g of Luteolin-7-O-glucoside was quantified in Xorialyc® sample at 355 nm. The total ortho-diphenolic content was higher than 30% of dry basis. All extracts inhibited the release of PGE2 in a dose dependent relation, being Xorialyc® the most active (p-value ≤0.05). Compared with Diclofenac, Xorialyc® induced higher inhibition of PGE2 release at lower doses (p-value ≤0.05).The high levels of ortho-diphenols and Luteolin-7-O-glucoside at Xorialyc® may be responsible for the higher inhibition of PGE2 release compared to other commercial olive leaves extracts, being at lower doses more active than Diclofenac. These findings may help in the search of more natural anti-psoriatic treatments as an alternative to the pharmacological ones that, in general, are related to higher side effects.

Biography

Daniel Gonzalez-Hedstrom has obtained his Bachelors' in Biochemistry in 2016 at the Universitat de les Illes Balears (Spain). After completing the Bachelors' Biochemistry, he obtained his Masters' in Pharmacological Research at the Universidad Autonoma de Madrid (Spain), where he carried out his Master thesis about the cardiovascular insulin resistance in an experimental model of childhood obesity in rats. He is doing his PhD in Pharmacology and Physiology at the Research & Development department of the company, Pharmactive Biotech Products S L in collaboration with the research group of Dr Miriam Granado, who protects the doctoral thesis, under the Doctorado Industrial Fellowship by the Comunidad de Madrid. His work is focused in the development of new plant-based nutraceuticals and tests its functionality in vitro and in vivo. He has recently published 3 papers in Q1 journals and he has participated in many different scientific congresses.

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