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Mulinum crassifolium Phil; two new mulinanes, gastroprotective fibromyalgia activity and metabolomic analysis by UHPLC-orbitrap mass spectrometry

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Mulinum crassifolium Phil. (Apiaceae) is an endemic shrub from Chile commonly used as infusion in traditional medicine to treat diabetes, bronchial and intestinal disorders and stomach ailments, including ulcers. From the EtOAc extract of this plant, the new mulinane-type diterpenoids 3 and 5 were isolated along with three known diterpenoids. The gastroprotective effect of the infusion of the plant was assayed to support the traditional use and a fast HPLC analysis using high resolution techniques was performed to identify the bioactive constituents. The EtOAc extract and the edible infusion showed gastroprotective effect at 100 mg/kg in the HCl/EtOH induced gastric ulcer model in mice, reducing lesions by 33% and 74%, respectively. Finally, a metabolomic profiling based on UHPLC-ESI-MS/HRMS of the edible infusion was performed and thirty-five compounds were tentatively identified including quercetin, ca eic acid, apigenine glucoside, p-coumaric acid, chlorogenic acids, and ca eoylquinic acids, which have been associated previously with gastroprotective and antiulcer properties. This scientific evidence can support the contribution of polyphenols in the gastroprotective activity of the edible infusion of this plant, and can validate at least in part, its Ethnopharmacological use.

Biography

Teresa Cano de Terrones has her experience in evaluation and passion to improve health and wellness research as a teacher and researcher. Its evaluation and research model is open and contextual based on receptive constructivists who create new ways to improve medical care. She has built this model after years of experience in research, evaluation, teaching and administration. Its methodology is based on the evaluation of different plant species, which is techniques used by previous generations of evaluation: measurement, description and judgment. It allows the pluralism of values. This approach responds to all interested parties and has a different way of focusing. Advice in masters and doctorate in the areas: molecular biology, chemistry of natural products, and its application in the field of medicine, bioremediation, and nanoparticles obtained from plant extracts with sales of noble metals.

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