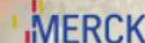




VIII SIMPOSIO INTERNACIONAL DE QUÍMICA DE PRODUCTOS NATURALES Y SUS APLICACIONES
División de Química de Productos Naturales Sociedad Chilena de Química



14th International Congress of Ethnopharmacology

**VIII Simposio Internacional de Química de
Productos Naturales y sus Aplicaciones**



23rd - 26th September 2014

**Hotel Patagónico, Puerto Varas,
Chile**

Book of Abstracts



<http://14ise-slf.otalca.cl/>

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Anthocyanins and flavonoid glycosides as bioactive compounds of *Prosopis nigra* mesocarp flour

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The colour of foods and beverages is one of most important properties to obtain their acceptability. The purple colour of *Prosopis* pods and the different colours showed by the pod flour from different collections of *Prosopis nigra* draw our attention. The aim of this study was to determine the content of phenolic compounds and pigments responsible of the pod colours and their biological properties. The colour of the algarrobo pods is related to the content of anthocyanins. *P. nigra* pods having higher content of anthocyanins are darker (purple). The *P. nigra* flour showed a pattern characterized by the occurrence of anthocyanins, with cyanidin-3-glucoside as main compound as well as 14 flavonoid glycosides. The main flavonoids were quercetin *O*-glycosides and apigenin-*C*-glycosides. Furthermore, the polyphenolic ethanolic extracts of *P. nigra* as well as anthocyanin-enriched aqueous extracts from *P. nigra* showed free radical scavenging activity. Considering the simple extraction of pigments from *P. nigra* flour, its stability in aqueous system during storage as well as its biological properties, the extract enriched in anthocyanins could be added in food systems. Furthermore, the flour obtained from *P. nigra* mesocarp showed activity against cyclooxygenase, a pro-inflammatory enzyme. The results suggest potential of *P. nigra* mesocarp flour as a functional food.

Acknowledgements: We thank MINCYT (CH/11/13) "Valorización de frutos nativos sudamericanos. Metabolómica de frutos de algarrobos", ANPCyT (PICT 1959), SECyT-UNT and CONICET for financial support.

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Mechanism of action of linalool involved in its antiproliferative effects on hepatocellular carcinoma cells

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Monoterpenes, like linalool (LN), are naturally occurring isoprenoids of ten carbons found in essential oils of many plants. It has been demonstrated that some isoprenoids have antiproliferative activities, phenomenon attributed to their multiple pharmacological effects on the mevalonate pathway (MP): the inhibition of the HMG-CoA reductase activity (HMGCR, the rate limiting step enzyme in the MP) and/or the inhibition of protein isoprenylation. Among these prenylated proteins, Ras family showed to be critical in human oncogenesis. They act as molecular switches controlling cell proliferation, apoptosis and survival. Prenylation of Ras enables it to associate with plasma membrane, which is required for its oncogenic activity. The aim of this work was to elucidate the potential mechanisms involved in the antiproliferative effects exerted by LN on human