



III BIO.NATURAL- BIOACTIVE NATURAL PRODUCTS RESEARCH MEETING

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higher than leaves, respectively. The total polyphenol content was 4.1 times higher. Microshoot extracts showed the highest activity of COX-1 and COX-2 inhibition (76% and 66%, respectively). For the leaf extracts that was 70% and 36%, respectively. Tested extracts showed antiproliferative activity against tested tumor cells. The highest activity was shown by the leaf extract against HT-29 cells. As the dominant lignans in the phytochemical estimations were indicated: schisantherin A and B, licarin A and deoxyschisandrin. This is the first report confirming the high pharmacological potential of extracts from *S. henryi* leaves as well as from biomass of microshoot cultures grown in PlantForm bioreactors.

In Vitro Biological Activity and Phenolic Profile of Selected Portuguese Monofloral Honeys

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Abstract:

Portuguese monofloral honeys from carob tree, chestnut, bell heather, eucalyptus, incense, orange, and strawberry tree, were evaluated in vitro for antimicrobial, antioxidant, wound healing, and cell viability effect, compared to manuka honey 850+. Antimicrobial activity was determined against Gram+ and Gram- bacteria and yeast. Antioxidants, wound healing, and cell viability effects were studied in the Human Keratinocyte (HaCaT) cell line. Chestnut, bell heather, eucalyptus, manuka and strawberry tree honeys were most effective against *S. aureus* with a minimum inhibitory concentration (MIC) of 12.5%-25.0% (w/v), and greater ability to decrease reactive oxygen species (ROS) production (> 75%), than manuka honey (68%). Incense and orange honeys exhibited high wound healing rates, 89% and 86%, respectively, higher than manuka honey, 53%. Honeys showed cell viability > 76%. Bell heather and strawberry tree honeys exhibited the highest total phenolic content, 38 and 137 mg/100 g honey respectively, being more effective against the microorganisms tested and showing greater antioxidant activity. Opposite, incense, and orange honeys with lower phenolic amounts, 11 and 15 mg/100g honey, respectively, achieved higher wound healing ability. Flavonoid aglycones were the

most abundant flavonoids in all honeys. This knowledge can be further explored in formulations that take the best out of each honey type composition and biological activity capacity.

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Extraction of Phospholipids, Alpha-tocopherol and Omega-3 Fatty Acids from Squid Waste by Low-toxic Solvent Employment

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Abstract:

Processing marine species generates a great amount of by-products, which constitute an important source of high-added value molecules but also led to environmental contamination. This study focused on the recovery of bioactive compounds from Patagonian squid (*Doriteuthis gahi*) by-products. Extraction conditions of phospholipids (PLs), α -tocopherol, and ω 3 fatty acids (FAs) were analysed by employing different concentrations of three low-toxic solvents (ethanol, acetone and ethyl acetate). A remarkable attention was also accorded to FA ratios (polyunsaturated FAs/saturated FAs and ω 3 FAs/ ω 6 FAs). Results were compared to yields obtained by traditional (i.e. chloroform/methanol) extraction. As a result, ethanol-including extracting systems led to higher PL values than the traditional procedure and any other eco-friendly system tested. Contrary, acetone- and ethyl acetate-containing systems led to a higher recovery of α -tocopherol, eicosapentaenoic acid, docosahexaenoic acid compounds and greater polyunsaturated FA/saturated FA ratio; in such cases, levels were higher than those obtained by the traditional extraction procedure. Finally, ethanol-containing systems provided higher ω 3 FA/ ω 6 FA values than any other eco-friendly system and were similar to those detected in the lipid extract obtained by the traditional procedure. Differences are discussed and explained based on the different polarities and extracting capacities of the different solvents. The suitability of low-toxicity solvents tested was concluded, matching present international interests in the search for alternatives for extracting systems that provide valuable constituents on healthy and nutritional properties from a waste marine substrate.

Iris xiphium L. Flowers Extract Induces Selective Antiproliferative Activity and G1 Cell Cycle Arrest in A549 Lung Cancer Cells

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