COSMETICS/COSMECEUTICALS

Studies for the potential utilization of Guadua angustifolia Kunth (poaceae) leaves for the cosmetic sector

The use of agro-industrial wastes is a practice that has been implemented by the environmental impact it represents. The objective of this study is to perform a bromatological and phytochemical analysis of Guadua leaves and to evaluate the effect of some variables involved in the process of obtaining plant material that may affect the yield and the antioxidant activity of hydroalcoholic extract. Secondary metabolites in the leaves were qualitatively identified and then supplemented with bromatologic study according to AOAC standards. Through a simple comparison designs and factorial design 2^2, there was determined the influence of the drying process (natural and controlled), the particle size (120 and 64 μm), crop age (3-4 years) and storage time of the dried and ground leaves (1 and 6 months) on the extraction yield and antioxidant activity (DPPH Folin and Ciocalteu) of hydroalcoholic extract. Results: dried leaves revealed the presence of compounds with antioxidant activity (flavonoids and phenols) and 2, 4 % nitrogen less than reported for other bamboo trees. From the leaves, one can obtain a hydroalcoholic extract with yield up to 10.6 % and antioxidant activity up to 9, 2 mg gallic acid / 100g and Trolox 14.5 mg / 100g. It was observed that neither age of the cultures (3-4 years) from leaves, the drying method, nor the time storage of leaves affect antioxidant properties and the extraction yield of hydroalcoholic extract, whereas these properties did change with the particle size. Guadua leaves, for their antioxidant activity, are a potential raw material for use in the cosmetics industry [Durango Álvarez, Enith Susana, Gallardo Cabrera, Cecilia, Conrreras and Conrreras, Anyeline (Universidad de Antioquia. Calle 67 Nº 53-68, Medellín, Colombia), Revista Cubana de Farmacia, 2015, 49(3), 535-542].

Investigation of the antimalanogenic and antioxidant characteristics of Eucalyptus camaldulensis flower essential oil and determination of its chemical composition

The effects of essential oil from Eucalyptus camaldulensis flowers oil on melanogenesis and the oil’s antioxidant characteristics were investigated. Assays of mushroom and cellular tyrosinase activities and melanin content of mouse melanoma cells were performed spectrophotometrically, and the expression of melanogenesis-related proteins was determined by Western blotting. The possible signaling pathways involved in essential oil-mediated depigmentation were also investigated using specific protein kinase inhibitors. The results revealed that E. camaldulensis flower essential oil effectively suppresses intracellular tyrosinase activity and decreases melanin amount in B16F10 mouse melanoma cells. The essential oil also exhibits antioxidant properties and effectively decreases intracellular reactive oxygen species (ROS) levels. The volatile chemical composition of the essential oil was analyzed with gas chromatography–mass spectrometry (GC/MS). The chemical constituents in the essential oil are predominately oxygenated monoterpenes (34.9%), followed by oxygenated sesquiterpenes (31.8%), monoterpene hydrocarbons (29.0%) and sesquiterpene hydrocarbons (4.3%). The results indicated that E. camaldulensis flower essential oil inhibits melanogenesis through its antioxidant properties and by down-regulating both mitogen-activated protein kinases (MAPK) and protein kinase A (PKA) signaling pathways. The present study indicates that the essential oil has the potential to be developed into a skin care product [Huang, H.C.*, Ho, Y.C. , Lim, J.-M., Chang, T.-Y., Ho, C. L. and Chang, T.M. (Department of Medical Laboratory Science and Biotechnology, China Medical University, No. 91 Hsueh-Shih Road, Taichung, Taiwan), International Journal of Molecular Sciences, 2015, 16 (5), 10470-10490].
NPARR, 7(1), 2016-08 Treatment of acne with tea tree oil (melaleuca) products: A review of efficacy, tolerability and potential modes of action (Review)

Over-the-counter acne treatments containing tea tree oil from the plant Melaleuca alternifolia are widely available, and evidence indicates that they are a common choice amongst those self-treating their acne. The aims of this review were to collate and evaluate the clinical evidence on the use of tea tree oil products for treating acne, to review safety and tolerability and to discuss the underlying modes of therapeutic action [Hammer, K.A. (School of Pathology and Laboratory Medicine (M504), Faculty of Medicine, Dentistry and Health Sciences, University of Western Australia, 35 Stirling Hwy, Perth, WA, Australia), International Journal of Antimicrobial Agents, 2015, 45 (2), 106-110].

NPARR, 7(1), 2016-09 Anti-dandruff hair tonic containing Lemongrass (Cymbopogon flexuosus) Oil

Natural remedies for treating dandruff are becoming popular. A randomized, double-blind, placebo-controlled, split-head efficacy evaluation was conducted 30 Thai volunteers aged 20-60 years experiencing dandruff measured at level 3 on D-Squame® scale. An easy to use hair tonic containing essential oil of lemongrass (Cymbopogon flexuosus) active against lipophilic yeasts was developed and then evaluated for efficacy and preference. The base formulation with the significantly highest preference (p < 0.05) was stowed with the oil at 5, 10 or 15%. Subjects applied the formulation twice a day, and an efficacy assessment with D-Squame® scale was conducted on days 7 and 14 of application. The application of lemongrass oil hair tonics with 5, 10, or 15% reduced dandruff significant (p < 0.005) at day 7 (33, 75, and 51%) and increased the effect even more (p < 0.005) at day 14 (52, 81, and 74%). The hair tonic formulation with 10% of lemongrass oil seems to be the most effective preparation [Chaisripipat, W., Lourith, N. and Kanlayavattanakul, M. (School of Cosmetic Science, Mae Fah Luang University, Chiang Rai, Thailand), Forschende Komplementarmedizin, 2015, 22 (4), 226-229].