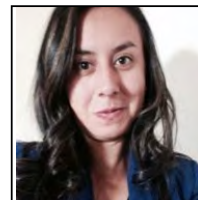


B-orcinol despised from hypotrachyna caraccencis, lichen from the paramo ecosystem and their free radical scavenging activity

Angela Leal

National University of Colombia, Colombia



Abstract

The new hypotrachynin A (1) and B (2) along with the known (+)-(9b-R)- usnic (3) and methylstictic acids (4) were isolated for the first time from *Hypotrachyna caraccensis*. Additionally, their potency and reactivity as DPPH• scavengers was determined by a kinetic study calculating their EC50 and second-order rate constants (k_2). Considering 1-4 could be dermatological agents, their n-octanol water partition coefficients and standard molar Gibbs free energies of transfer were calculated as an estimation of their lipophilicity and skin penetration. Compounds 1, 3 and 4 were less potent than 2 (EC50=3.3014; 1.7540; 2.6652 vs 0.7376) as DPPH• scavengers, in turn 4, was the most reactive with a comparable k_2 to the antioxidant BHT ($k_2 = (232 \pm 24) \times 10^{-2}$ vs $(564 \pm 12) \times 10^{-2} \text{ M}^{-1} \text{ s}^{-1}$, respectively). Since 2 and 4 had an optimal lipophilicity and permeability for skin penetration, they might be developed as topical ingredients to prevent oxidative damage.

Key words: Lichen, antioxidant, scavengers, kinetic, lipophilicity

Biography

Angela Leal, I am from Bogotá – Colombia and I did my Master degree in Chemical Sciences at Universidad Nacional de Colombia. I worked and study on the determination of antioxidant biological activity of secondary isolated metabolites of a lichen. My knowledge and experience in the development of analytical techniques in isolation, NMR spectroscopy and antioxidant trials to determination of biological activities is basic, since I worked in three laboratories of the Universidad Nacional de Colombia: the first was Phytochemical Research Group (Department of Pharmaceutical Chemistry), the others were Marine Natural Products Research and Physicochemical, and Biological Research of Colombian lichens.



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