

# Photoprotective potential of Saharan myrtle (*Myrtus nivellei*) leaves



## Abstract

Long exposure to ultraviolet (UV) radiations reaching the earth from the sun is known to cause several damaging effects to the skin, such as erythema, hyperpigmentation, photoaging, and skin cancer. The most popular way to protect skin against UV radiation's harmful effects is topical application of sunscreen products. However, conventional sunscreen products contain several synthetic chemicals available as photoprotective agents that are or can be harmful for our health. These synthetic molecules have limited concentration according to regulation concern. The main problems of the chemical sunscreen agents are the photoirritation, photosensitization and contact dermatitis. In recent years, it has been observed an increasing interest for use of compounds derived from natural sources with UV absorption property to substitute synthetic sunscreen agents. The purpose of this study is to evaluate in-vitro sunscreen activity of cream formulation containing the different extracts of *M. nivellei* leaves.

**Methodology & Theoretical orientation:** In-vitro sunscreen activity of cream formulation was evaluated through sun protection factor (SPF) determination, by absorption spectroscopy method.

**Findings:** All formulations displayed high potency in photoprotection (SPF>40) at 10000 ppm when compared to the cream without extract (SPF=7). Furthermore, the free radical scavenging activity of the different extracts was measured by the DPPH assay. Ethyl acetate extract exhibited the highest potency in scavenging free radicals comparable to BHA.

**Conclusion & Significance:** These results suggested that leaves extracts of *M. nivellei*, seems to be remarkable against skin damages and skin cancer considering their high sunscreen potential in addition to their richness of phenolic compounds recognized by their numerous biological and pharmacological effects, mainly anti-inflammatory and antioxidant effects. Furthermore *M. nivellei* leaves have a big potential to be substitutes for synthetic sunscreen agents in cosmetics and anti-wrinkle skincare.

## Publications

Mansour A, Rahili G, Bensouici C. Photoprotective potential of Saharan myrtle (*Myrtus nivellei*) Leaves; Research J. Topical and Cosmetic Sci. 11(1): 2020.

Hadjira S, Mansour A, Berkel C, Seghiri R, Menad A, Benayache F, Benayache S, Cacan E, Ameddah S. (2020) Antioxidant, Anti-Inflammatory and Cytotoxicity Properties of *Centaurea africana* Lamk var. [Bonnet] M; Anti-Inflammatory & Anti-Allergy Agents in Medicinal Chemistry. 9.

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## Biography

Mansour Amir, PhD in organic chemistry has her expertise in extraction of natural products, phytotherapy, medicinal plants and herbs, phytochemistry and passion in improving the health and wellbeing. Previously researcher at the scientific research center in physicochemical analysis (CRAPC) for 5 years, currently researcher at the pharmaceutical sciences research center (CRSP).