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Plant biomolecules in health: Effect on skin healing

Fazouane-Naimi Fethia and Ait-Aourahoun Karima
University of Boumerdes, Algeria

Medicinal plants growing in Algeria feature pharmacological properties distinguished according to their adaptation to the climates of different regions and during the seasons. The aim of our work is to search in the plant biodiversity representing a local genetic resource, the plants traditionally used and to identify which biomolecules have a healing effect on burns and wounds. These are *Phlomis crinita*, *Carthamus caeruleus* and *Pistacia lentiscus*. These plants are genetically different but have common phytochemical characteristics such as the presence of abundant molecules in plant organs (leaves, rhizomes, fruits) such as polyphenols, O-glycosides, C-glycosides, mucilage, the saponins and unsaturated fatty acids. GPC analysis revealed that *Pistacia lentiscus* is rich in oleic acid (14.94%), linolenic acid (36.17%), linoleic acid (28.90%); *Phlomis crinita* is rich in oleic acid (18.33%), linoleic acid (39.83%); *Carthamus caeruleus* is rich in oleic acid (12.94%) and myristic acid (70.03%). The second phase of our study is the ointment formulation based on plant extracts from aqueous macerated from *Phlomis crinita*, rhizomes for *Carthamus caeruleus* and oil seeds of *Pistacia lentiscus* for wound rats which suffered from surface burns and wounds. The wound assessment is made by macroscopic observations, planimetric studies, statistical and histological studies. The ointment showed a positive effect on wound healing with a significant contraction reaching approximately on the fourth day with 50% shrinkage and to achieve 100% reduction on fourteenth day against 96% for the wounds treated with Madécassol. The plant extract ointment showed an obvious healing activity consistent with the efficacy which is used in folk medicine. These plants can be phylogenetic in perspective study and can be used in the production of recombinant enzymes involved in the synthesis of their biomolecules.

fazouane.bioch1990@gmail.com

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