

# Pharmacological Activities of *Moringa oleifera* in Topical Formulations

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## INTRODUCTION

*Moringa (Moringa oleifera)* is a widely adapted plant, that use as a medicinal herb is already recorded since 2000 years B.C. The *Moringa oleifera* is a natural plant of the Indian northwest, widely distributed not only in India but in the Philippines, Egypt, Thailand, Ceylon, Burma, Malaysia, Singapore, Pakistan, Nigeria and Jamaica. *Moringa* is a plant having potential for producing various products for topical application<sup>1</sup>.

### ANTIMICROBIAL ACTIVITY OF *M. oleifera*

*M. oleifera* has antimicrobial activity against various pathogens, including gram-negative: *Shigella shinga*, *Pseudomonas aeruginosa*, *S. sonnei* and *Pseudomonas spp.* And also against gram positive *Staphylococcus aureus*, *Bacillus cereus*, *Streptococcus B-haemolytic*, *Bacillus subtilis*, *Sarcina lutea* and *Bacillus megaterium*. This effect can be attributed to different parts of the plant such as leaves, flowers, seeds, roots, fruit peel and green pods<sup>2,3</sup>.

### MOISTURIZING AND REJUVENATING ACTIVITY OF *M. oleifera*

Creams containing leaf extract of *M. oleifera* showed effectiveness in improving skin hydration, preventing the absorption of UV radiation. The water content of the stratum corneum was significantly increased and effective in moisturizing the skin<sup>4</sup>.

The leaf extract of *M. oleifera* may be used in topical formulations in the prevention and treatment of diseases mediated by oxidative stress and photo-aging. Also, they have activity that helps in skin rejuvenation<sup>4,5</sup>.

### ANTIINFLAMMATORY AND ANALGESIC ACTIVITY OF *M. oleifera*

The bark of the stem and leaves of *Moringa* have analgesic and anti-inflammatory activity. In a study using animal models, it was possible to observe that aqueous extract of *Moringa* leaves have significant anti-inflammatory and analgesic activity<sup>6,7</sup>.

## HEALING ACTIVITY OF *M. oleifera*

The extract of pulp and seeds of *Moringa* have significant healing action. Furthermore, it can be concluded that healing effects may be due to its high protein content, zinc and antimicrobial components. The healing activity of aqueous extract of *M. oleifera* it's able to overcome the suppressive action of dexamethasone<sup>5,8</sup>.

## PHOTOPROTECTIVE ACTIVITY OF *M. oleifera*

The seeds oil of *M. oleifera* has photoprotective activity. The study realized by Kale et al.<sup>9</sup> considered the seed oil of *M. oleifera* as a photoprotective compound or an active component that can be incorporated into other formulations to improve photoprotection. The presence of flavonoids is reason to encourage researchers to evaluate the photoprotective potential of *Moringa*<sup>10</sup>.

## ACKNOWLEDGMENT



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