

## SUN PROTECTOR OF MARINE ORIGIN

### Description:

Ultraviolet (UV) radiation, both from the sun and from man-made sources, is potentially harmful to organisms at various levels. In humans, UVB radiation is responsible for the production of actinic erythema, sunburn and carcinogenesis, in addition to being directly related to immunosuppression processes, while UVA radiation is responsible for immediate skin tanning, photoaging and skin photosensitization. Mycosporin-type amino acids (MAAs), present in a multitude of aquatic organisms, are compounds that, due to their chemical structure, are effective as filters for ultraviolet radiation between 300 and 350 nm. Among the different properties attributed to them, its activity as a photoprotector and as an antioxidant stands out. The present invention describes the potential use as antioxidant substances of MAAs isolated from red algae and marine lichens in addition to their possible application in sunscreen products. Thus, for the first time, a photoprotective composition composed exclusively of two molecules with a high level of purification is presented, which presents improved protection values if formulated separately, and whose photoprotective potential against important pathologies caused or aggravated by UV radiation is comparable to creams that include commercial sunscreens.

### Keywords:

[Solar Filter](#), [Sunscreen](#), [Algae](#)

### Sectors:

[Biotechnology](#), [Health](#)

### Areas:

[Health Sciences](#), [Marine and Aquaculture](#), [Industrial](#), [Biotechnology](#)



### Advantages:

There are many sunscreens on the market that are presented as effective against UVA and UVB radiation. A problem with many of the sunscreens on the market, of synthetic origin, is that they cause photosensitivity reactions in some individuals. MAAs very efficiently dissipate the absorbed energy from UV radiation without producing residues from the photolysis of the molecules. All this, together with the high photostability in vitro and in vivo, are attributes of a good photoprotector against UV radiation. In red algae, MAAs may also have antioxidant activity. Furthermore, certain MAAs are capable of scavenging water-soluble free radicals and inhibiting lipid peroxidation and the formation of superoxide radicals in a high percentage.

### Uses and Applications:

The present invention is useful for the preparation of pharmaceutical or cosmetic products with similar or improved photoprotective characteristics compared to alternatives of industrial origin, since their origin is essentially natural.

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