

Red Algae Research Paper

APPEARS INS



Dry skin is a common skin condition that can occur under a variety of conditions such as excess pollution, harsh environmental changes, genetics, etc. When the skin loses its moisture and flexibility, it might appear more textured and dry. A remedy to this, aside from plant oils, is Red Algae Extract, specifically the *Kappaphycus Alvarezii* Extract that can be found in the [Three Ships Dew Drops Mushroom Hyaluronic Acid + Vitamin C Serum](#). This serum is great for those who want something that is hydrating and brightening, but also water-based.

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Red Algae has been studied by cosmetic formulators and dermatologists for its beneficial properties for years. The curiosity and research done into Red Algae has been powered by its potential applications in hydrating and protecting the skin. Red Algae has been known to contain components that work as UV filters, antioxidants, and humectants.

The role of UV filters and antioxidants help to prevent the skin from sun damage and oxidative stress. The role of humectants is to help attract water molecules to the surface of the skin, prolonging hydration and combating dry skin. Red Algae has also been formulated into hair care products to help soothe itchy, dry scalps. This paper, however, will focus on the topical skin care applications of Red Algae.



Typical extraction methods include soaking the Red Algae in a hot water solution to draw out the polysaccharides that will later be filtered out. The warm solution has to be at a specific temperature because if the solution is too hot, it will affect the structure of the necessary molecules. Another method of extraction uses hydrolysis before soaking in the solution. The exact methods of extraction for the Red Algae used by Three Ships is proprietary information to the manufacturer.

HELPS TO PROTECT THE SKIN FROM OXIDATIVE STRESS THAT CAN LEAD TO PREMATURE AGING

Red Algae Extract contains minerals, such as potassium, magnesium, sodium, and calcium, and polysaccharides, such as galactomannans. The minerals present help to enhance the hydration and signal exchanges between cells. Elements, such as magnesium, help to produce energy for cells and calcium has been shown to help improve the stratum corneum cell cohesion. Polysaccharides make up the majority of active components in Red Algae. They are long sugar molecules that have an affinity to pull in water, due to their chemical polarity. This physical property of polysaccharides is what gives the Red Algae its hydrating effect.

The sugar molecules that the Red Algae polysaccharides are made out of are typically galactose and mannose which, together, form galactomannan. The polysaccharides in Red Algae have also been studied to exhibit antioxidant potential, which helps to protect the skin from oxidative stress that can lead to the development of fine lines and wrinkles.

SCIENTIFIC STUDY

Antioxidative Study of Polysaccharides Extracted from Red (*Kappaphycus Alvarezii*), Green (*Kappaphycus Striatus*), and Brown (*Padina Glynospora*) Marine Macroalgae/Seaweed

In this study, three types of closely related macroalgae were tested. These macroalgae were red, green, and brown algae sourced from Malaysia East Coastal seas and examined for their antioxidant activities and polysaccharide content. To measure antioxidative activity, the DPPH method was used. Each of the macroalgae was incorporated into a testing solution, and each solution was treated with ethanol solution. The mixture was shaken and left to settle for 30 minutes. The results showed that each of the macroalgae had some antioxidative ability, with red and brown algae being the highest. The researchers also noted that the higher the polysaccharide content, the higher the scavenging activity in the macroalgae.

In conclusion, Red Algae, which is also known as *Kappaphycus Alvarezii*, has hydrating effects and mild antioxidant activity. This ingredient is used in the Three Ships Dew Drops Mushroom Hyaluronic Acid + Vitamin C Serum, giving it extra fortifying hydration and protection against oxidative stress. Red Algae Extract works together with tremella mushroom and Kakadu plum to provide all-day hydration and brightening to the skin.