

9-Cis Regulate

9-Cis-Beta carotene - *Dunaliella Bardawil*

Accessory Pigment with many therapeutic applications

Dunaliella Bardawil is a hyper saline protoplast green (chlorophyte) microalga. This species of chlorophyte tends to thrive in warm, hypersaline environments such as the Bardawil lake in Egypt and even in the dead sea. Like fucoxanthin, beta carotene is an accessory pigment. In addition, beta carotene functions in a process called photoprotection by quenching the triplet state of chlorophyll before it reacts with oxygen to form singlet oxygen species (Reactive Oxygen Species). Another role of beta carotene is to regulate energy transfer in the light-harvesting antenna through a process called xanthophyll cycle, avoiding over-excitation of the photosynthetic system by safely dissipating excess energy.

The accumulation of beta carotene within the cell is highly dependent on external factors such as salinity, light intensity, and nitrogen concentration. 9-cis-beta carotene is the isomer that presents the highest bioactivity and in certain conditions can reach up to 50% of the total carotenoids. An extensive amount of research showed that 9-cis beta carotene can treat retinal dystrophy, a condition caused by genetic mutation ultimately leading to blindness. In addition, 9-cis beta carotene has been seen to significantly reduced atherosclerosis development. Currently, Yemoja is the only company that produces 9-Cis-Beta carotene in an indoor facility.

APPLICATIONS



Nutraceuticals

9-Cis-beta carotene will be commercially produced in Q1 2022

About Yemoja

At Yemoja, we cultivate a wide variety of micro-algae species and bring unique state-of-the-art biotechnology standards to the microalgae industry, producing a range of products for different high value industries. We help overcome industry challenges such as scalability of production systems, sustainability, compliance, and flexibility, by producing microalgae at scale with all-natural processes which can be easily and rapidly scaled up and adapted, meeting the highest industry standards.