

Production of the Polyunsaturated Fatty Acid Dihomo- γ -Linolenic Acid (DGLA) by a Microalgal Strain

The n-6 or Ω -6 essential fatty acids (EFA's) are required in the body for the structure of membranes in and around cells, being believed to be necessary in particular for maintaining normal flexibility, fluidity and permeability of such membranes. Certain members of the series also act as precursors of prostaglandins (PG's), short-lived regulating agents which modulate many aspects of cellular function. The possible prophylactic role of dietary DGLA in treating various chronic disease states by modification of cellular lipid composition and eicosanoid biosynthesis has been suggested.

The Technology

An algal strain capable of producing 15% (of dry wt.) of DGLA has been recently isolated by the group. The strain, IKG-1, is a freshwater microalga with an optimum growth temperature of 25°C. To the best of our knowledge this strain is the only plant source to date capable of producing such high amounts of DGLA. At best the DGLA content in algae reaches 0.4% and is not produced at all by higher plants.



Advantages

- Lowering blood pressure, cholesterol, and risk of stroke and heart attack
- Suppression of chronic inflammation (sore and swollen joints)
- Improving the condition of hair, nails, and skin
- Inhibition of smooth muscle cell proliferation associated with atherosclerotic plaque development
- Improving certain kinds of eczema
- Slowing down or stopping deterioration in multiple sclerosis
- Helping in treating diabetic neuropathy in Type II diabetes

Patent Status

Patent Pending

Research Team

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