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Growing microalgae *Dunaliella salina* using photo bio reactor for bioactive compounds

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A series of scientific studies were carried out for the production of biodiesel from microalgae isolated from the Egyptian flora. In addition to biofuel production from algae, pharmaceuticals, food and cosmetics products are also produced. This makes the process more economically feasible. The advanced techniques of cultivation of algae allowed the microalgae to be started to present themselves as novel sources of pharmaceutical compounds. The accumulation of β-carotene by *Dunaliella salina* under suitable growth conditions has led to its potent antioxidant effect. Moreover, *D. salina* showed antidiabetic activity against Streptozotocin (STZ)-induced diabetic rats as well as neuromodulating effect against the development of Alzheimer's disease. The results showed that *D. salina* is a rich source of carotenoid particularly β-carotene (10.89–15.2). *D. salina* powder (50 mg/kg) and *D. salina* extract (25mg/kg) revealed a hepatoprotective and treatment efficacy against fibrosis via ameliorating the elevation of liver enzymes and fibrotic markers induced by Thioacetamide (TAA) in rats. Preparation a pharmaceutical product from *D. salina* extract for tropical application to treat wrinkles and skin aging was formulated. New products compounds were submitted for registration through Industrial Pharmaceutical Alliance (IPA). Global microalgae market segments and potential were presented.

Biography

Farouk Kamel El-Baz was graduated from Cairo University, Cairo - he is a Professor of Biochemistry. He was the Vice President of National Research Centre during the period 2001-2005, awarded the highest state of Egypt Prize of Merit in Advanced Technological Sciences (2008) and Scientific Merit Award in Agric. Sciences of NRC, 2007. The Principal Investigator (PI) of biodiesel production from algae as a renewable energy source project - which funded by EU 2014-2017. He is also the PI of Industrial Pharmaceutical Alliance (NRC) sponsored by the Academy of Scientific Research and Technology (Egypt); He is the Director of Algal Technology Unit/ NRC, Cairo, Egypt. He has published 152 papers in International Journals, he has Supervised 18 Thesis, and serving as the reviewer of many International Journals.

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