

# Researchers isolate microalgal strain that could reduce cholesterol

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Ben-Gurion University of the Negev (BGU) researchers have isolated a microalgal strain which produces large amounts of a polyunsaturated fatty acid that could reduce blood pressure, chronic inflammation and blood cholesterol level, reducing the risk for heart attacks.

A research team at BGU's Landau Family Microalgal Biotechnology Lab in the Jacob Blaustein Institutes for Desert Research (BIDR) headed by Prof. Zvi HaCohen, is studying an algal mutant that is capable of accumulating up to 15 percent (of dry weight) of a polyunsaturated fatty acid (PUFA) called DGLA (Dihomo- $\gamma$ -Linolenic Acid). The new strain, IKG-1, is a freshwater microalga that the researchers believe is the only known plant source capable of producing such significant amounts of DGLA.

"Omega-6 PUFA are necessary as components of brain cell membranes and have various nutritional uses," explains HaCohen, incumbent of the Maks and Rochelle Etingin Chair in Desert Research and rector-elect at BGU. "DGLA is one of these PUFA, but appears in nature only as an intermediate in the biosynthesis of other compounds and does not accumulate to any appreciable concentration. There is no natural source for DGLA and although its beneficial effects are well known, very few clinical studies have been conducted."

The research team also included the director of the Landau Laboratory, Prof. Sammy Boussiba; director of the BIDR Prof. Avigad Vonshak; Dr. Inna Khozin-Goldberg; and Ph.D. student Pushkar Shrestha.

"The significant discovery of the IKG-1 microalgal mutant and its high content of DGLA could impact treatment of life-threatening diseases, such as chronic inflammations, multiple sclerosis and arteriosclerosis," explains Dr. Ora Horovitz, vice president of business development for BGN Technologies, the technology transfer and commercialization subsidiary of BGU.

"Our Microalgal Biotechnology Laboratory continues to be a leading innovator in its work on microalgae and its products harnessing Negev resources, such as brackish water and highly abundant sunlight. BGU is continuing to develop valuable pharmaceuticals and nutraceuticals, as well as biofuels and other potential alternative energy sources."

Provided by American Associates, Ben-Gurion University of the Negev

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