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Aswathy Udayan, Muthu Arumugam

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Selective Enrichment of Eicosapentaenoic acid (20:5n-3) in *N. oceanica CASA CC201* by Natural Auxin Supplementation

Aswathy Udayan[1,2] and Muthu Arumugam[1,2]*

[1]Microbial Processes and Technology Division, National Institute for Interdisciplinary Science and technology (NIIST), Council of Scientific and Industrial Research (CSIR), Trivandrum, Kerala, India.[2]Academy of Scientific and Innovative Research (AcSIR), CSIR, India.

*Corresponding Author: Scientist, CSIR-NIIST, Tel: +91-471-2515 424; Fax: +91-471-2491 712

Email ID: arumugam@niist.res.in, aasaimugam@gmail.com

ABSTRACT

The present study aims to evaluate the effect of different concentration of natural auxin, Indole-3 acetic acid (IAA) on growth, lipid yield, PUFA and EPA accumulation in *Nannochloropsis oceanica* CASA CC201. It was observed that the, treatment with 10ppm concentration of IAA resulted in high cell number 579.5x10^6cells/ml than the control (215.5x10^6cells/ml). Treatment with IAA at a concentration of 40ppm gives the highest cellular lipid accumulation of 60.9% DCW than the control 31.05% DCW). Lipid yield is also found to be increased by the addition of 40ppm IAA (319.5 mg/L) compared with the control (121.5mg/L). EPA percentage is increased to 10.76% by the addition of 40ppm IAA compared to the control (1.87%).

Keywords: Microalgae, Omega 3 fatty acids, PUFAs, Phytohormones, IAA, Neutraceuticals.

Highlights