Production of Primary Metabolites in *Microcystis Aeruginosa* in Regulation of Nitrogen Limitation

Background

Microalgae are considered to be promising alternative feedstock in biofuel production. Although many studies focus on the accumulation of carbohydrates and lipids in different microalgae, few uncover the regulating mechanism of Nitrogen (N) deficiency. This paper investigates the growth, photosynthetic abilities, carbohydrate, lipid and protein content in the *Microcystis aeruginosa* cells under different N levels, and analyzed the transcriptome to uncover the response mechanism to N deficiency.

Research Pipeline

1. *M. aeruginosa* cells — Samples
2. Total RNA from *M. aeruginosa* was extracted using a Total RNA Extraction System (Takara, Japan) — RNA Isolation
3. mRNA library — Library Preparation
4. Illumina platform — Sequencing
5. Gene expression quantification, differentially expressed genes analysis, KEGG enrichment — Bioinformatics Analysis

Reference

Zuo ZJ, Ni BB, and Yang Lin. Production of primary metabolites in *Microcystis aeruginosa* in regulation of nitrogen limitation [J]. *Bioresource Technology*, 2018, 270: 588-595.

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Year	Journal	Title
2019	*Metabolic Engineering*	Direct production of commodity chemicals from lignocellulose using *Myceliophthora thermophila*
2019	*Bioresource Technology*	Production of primary metabolites in *Microcystis aeruginosa* in regulation of nitrogen limitation
2019	*Ecotoxicology and Environmental Safety*	Effects of nitrogen nutrients on the volatile organic compound emissions from *Microcystis aeruginosa*
2018	*Bioresource Technology*	Transcriptional analysis of *Myceliophthora thermophila* on soluble starch and role of regulator AmyR on polysaccharide degradation
2018	*Molecular Plant Pathology*	Competitive control of endoglucanase gene *engXCA* expression in the plant pathogen *Xanthomonas campestris* by the global transcriptional regulators HpaR1 and Clp

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