

Analysis of Lipid Composition of *Chlamydomonas reinhardtii* under Nitrogen and Phosphate Deprivation박성호, 최종일[†]
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Microalgae have been considered as feedstocks for biofuel production. The green algae *Chlamydomonas reinhardtii* serves as an important model organism for studying perturbations in metabolic pathways under environmental stress conditions. *C. reinhardtii* accumulates lipids under nutrient limitation conditions. To understand biochemical changes under nutrient limitation, we used newly developed mutant *C. reinhardtii* with higher lipid content. Nitrogen NO_3^- and phosphate PO_4^{3-} were used as stressor for nutrient starvation during the cultivation. Also, the lipid composition of *C. reinhardtii* mutant was investigated with thin-layer chromatography. Under nutrient starvation, total lipid content level was increased to 27~33% and C16:0 fatty acid content constituted over 31~43% of total fatty acid. Interestingly, we also found that the expression of fatty acid desaturase (FAD7) was decreased when nutrients were starved.