

Characteristic of *Arthrospira platensis* mutants induced by physical and chemical mutagen

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Microalgae is photosynthesis unicellular organisms. *Arthrospira platensis* (*A. platensis*) belongs to cyanobacterium and culture in tropic environment. *A. platensis* consists of 60-70% protein, 15-20% carbohydrate and 6-9% lipid. In this study, we were treated to *A. platensis* with physical and chemical mutagen for order to *A. platensis* mutant. Commonly, physical mutagen is electron-beam, ultra-violet(UV) and X-ray. Chemical mutagen was known as ethyl methane sulfonate(EMS), N-nitro-N-methyl urea(NMU) and diethyl sulfite(DES). We were obtained to mutants that induced by electron-beam, UV and NMU. When mutants were cultivated to 12-days, we were measured to cell growth rate, protein content, dry cell weight and pigment, lipid content. As a result, cell growth rate of NMU2-5 was increased to 1.9-fold compared to wild type(WT). Protein content and dry cell weight of mutants were similar with WT. Pigment(chlorophyll and carotenoid) content of UV1-2 and NMU 2-5 were increased to 2.5-fold compared to WT. Lipid content of UV1-2 was increased to 1.4-fold compared to WT.