

Isolation and characterization of *Chlorella vulgaris* mutants by EMS(Ethyl Methane Sulphonate)김옥주^{1,2}, 최태오¹, 이재화^{2,†}¹클로랜드; ²신라대학교(jhalee@silla.ac.kr[†])

Microalgae are the most promising feedstock for the sustainable production of commodities such as food, animal feed, chemicals, industrial materials, and biofuels. *Chlorella vulgaris* is the green algae which is spherical unicellular and its scope of diameter is from 2 to 10 μm . In this study, to look into the effects of mutagen, we used EMS (ethyl methane sulphonate) as a chemical mutagen and could get some mutants. We named 2 type mutants as E14, E24 those we got after treating EMS. In the cell growth, the growth patterns of mutants are similar to wild type. Chlorophyll contents of E14, E24 were increase to 1.9 fold, 1.5 fold compare to wild type. Carotenoid content of E14 was increase to 1.1 fold, but the value of E24 was 20% decreased compared to wild type. On the other hand, E24 was increased to 1.2 fold compare to wild type. In the lipid contents, E14 is 10% less than wild type. As a result, there is no difference between mutants and wild type in the cell growth. As physiological materials of mutants are more than wild type, we can expect the mutants of *C. vulgaris* as important high-value materials.