

Development of Highly Efficient Photobioreactor for Biological Fixation of CO₂ Using Microalgae

김철웅¹, 김성혜¹, 조범호^{1,2}, 양지원^{1,*}

¹KAIST; ²Innovid
(jwyang@kaist.ac.kr*)

These days many researches to reduce CO₂ are in progress because CO₂ is one of the various greenhouse gases leading to the global warming regarded as a serious environmental problem. The biological fixation method using microalgae is one of many attempts to reduce the quantity of CO₂ from industrial plants.

In this study, highly efficient photobioreactor for biological fixation of CO₂ using microalgae was developed. LED is easy to arrange in the reactor and relatively small and economic. Therefore LED was used as a light source in this photobioreactor.

Using this type of photobioreactor, a few microalgae such as *Chlorella minutissima*, *Chlorella vulgaris* and *Isochrysis galbana* were cultured for biological fixation of CO₂ and growth rate and CO₂ fixation rate were tested.