

The effect of open-system for autotrophic cultivation of microalgae *Haematococcus pluvialis*

김은혜, 심상준*
성균관대학교
(simsj@skku.edu*)

A unicellular green microalga, *Haematococcus pluvialis*, has been focused as a microbial source of astaxanthin production. *Haematococcus pluvialis* accumulates the highest level of astaxanthin (up to 4%/g [dry weight]) and seems to be a very promising source of natural astaxanthin. Thus beneficial role of astaxanthin as a food supplement for humans has been suggested. In industry, outdoor system of a large scale such as a open pond for mass production was generally used because cell cultivation might be difficult to handle and a high cost of energy to sterilize the closed-photobioreactor system. Thus, the optimization of *Haematococcus pluvialis* cultivation were necessary after the growth condition was prepared by outdoor environment. In this study, the microalgal *Haematococcus pluvialis* were cultured in the medium with or without sterilization. Moreover, to minimize the contamination of culture, NIES medium was modified except carbon source (NIES-C).