

## The Control of Cell Growth Curve to Optimize Transformation Efficiency in Electroporation

김영훈, 권상구, 임도진†

부경대학교

(dj-im@pknu.ac.kr†)

In many cases, exogenous materials delivery is highly dependent on the cell cycle status and growth curve of *C. Reinhardtii*. Commonly, The highest expression following electroporation is obtained when cells are in mid-log phase growth. That's why cell wall is weak in mid-log phase. So, In this phase, It facilitates maximum exogenous DNA uptake. However, It takes many time to prepare cells in mid-log phase. So, It is good to find ways to reduce time of cell preparation. The way to reduce time of cell preparation is to increase initial concentration. So, It is possible to save time of cell preparation and obtain higher exogenous materials delivery efficiency. And cells have been cultivated in continuous light(~24h). But, algal cultures can be synchronized naturally by alternating light/dark periods so that growth occurs in the light and DNA replication(s) and nuclear and cellular division(s) occur in the dark. So, Between in the continuous light culture and in the synchronized cultrue, compare exogenous materials delivery efficiency. So this paper can be useful for biological researcher to do electroporation.