

Optimization of fed-batch culture strategy for the production of recombinant antibody by rCHO cells

김도윤^{1,2}, 김병진^{1,2}, 장호남¹, 오덕재^{2,*}

¹한국과학기술원; ²세종대학교

(djoh@sejong.ac.kr*)

Fed-batch culture of mammalian cell has been widely utilized for production of therapeutic proteins. Major advantages of fed-batch culture over batch and perfusion cultures were increase of maximal viable cell concentration and prolongation of culture lifetime for a high product concentration. Conventional strategies for fed-batch culture were based upon replenishment of consumed nutrients by feeding supplemental medium and reduction of ammonia and lactate accumulation by control of glucose and glutamine concentration. Various research groups have developed and optimized their own feeding strategy for each cell line and target product.

In this study, basal serum-free medium and supplemental medium for fed-batch culture were developed and they were modified with various statistical methods. Also, nutrient feeding strategies including separate supplementation of each nutrient group and systematic consideration of specific nutrient consumption rate were evaluated for high-yielding production of recombinant antibody.