

## Optimization of kinetic models for batch and fed-batch culture processes by rCHO cells

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Mathematical models are useful in predicting the behavior of animal cell culture and optimizing culture conditions. Tremblay was developed persuasive kinetic model in cell growth and recombinant antibody production in fed-batch and these equations were simplified to batch mode. Also, Dhir was established significant kinetic model for glucose and glutamine metabolism. For establishment of batch and fed-batch model equation, two kinds of model were modified. Strategy of culture temperature shift to low level was optimized to modify batch equation and antibody concentration was high when the shift point was the culture time of 48 or 72 hour, mid-exponential growth phase. Also, effect of high initial cell density on cell growth and recombinant antibody production was also predicted in fed-batch culture and volumetric productivity could be increased with high initial cell density through decrease of culture period.