

## Production of Recombinant Antibody by rCHO Cells in Bioreactor Systems

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The increasing needs for therapeutic proteins derived from mammalian cells such as recombinant antibody has led to many developments in the area of animal cell technology. Among several production systems, the perfusion system in which cells are retained in a bioreactor, while conditioned medium is constantly replaced with fresh medium, have been used to increase cell density and productivity. However, most conventional perfusion culture systems have some drawbacks, such as unstable operation and uneasy sustenance of perfusion rate in high cell density.

In this study, rCHO cells in the DFPS were cultivated for recombinant antibody production. High density cell culture of rCHO cell in the DFPS showed stable production at a perfusion rate of up to six culture volume per day (working volume 1 liter). Antibody productivity by the DFPS was 53 times higher than that by batch culture and even higher in the two-stage depth filter perfusion system. It could be found that the DFPS is effective and robust in long-term production of therapeutic proteins by high density cultures of animal cells which are either anchorage dependent or not.