Effect of *30Kc6* Expression on Cell Growth and Recombinant Protein Productivity in Serum-Free CHO Cell Culture

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Serum-free media have been used for the production of recombinant therapeutic proteins in animal cell culture system. Serum deprivation, however, causes problems such as inhibition of cell growth and induction of apoptosis. It is difficult as well as time-consuming to adapt host cells to the serum-free medium. In our previous study, isolated and purified from silkworm hemolymph, the anti-apoptotic proteins were identified 30K proteins. These proteins are a group of structurally related proteins whose molecular weights are approximately 30,000 Da. In this study, *30Kc6* gene, coding for one of 30K proteins, was transfected to DG44, DUKX, and recombinant CHO cells producing hepatitis B virus surface antibody in order to overcome disadvantages induced by serum-free medium. Cells cultivated in the serum-containing medium were directly transferred to the serum-free medium without adaptation. Three serum-free media (Excell-301, proCHO4CDM, and CHO Medium) were used in this work. The results indicated that all CHO cell lines expressing *30Kc6* have enhanced cell growth and viability in the serum-free medium. The expression of *30Kc6* improved the production of hepatitis B virus surface antibody throughout the inhibition of serum deprivation-induced apoptosis.

References

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