

Beneficial effect of *30Kc19* on production and glycosylation of EPO in serum-free culture of CHO cells

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In previous study, it has been reported that silkworm hemolymph and its 30K protein inhibit an apoptosis in various animal cells. In this study, recombinant CHO cell line producing human erythropoietin (EPO) was genetically manipulated to express the gene of *30Kc19*, another 30K protein. In adhesion culture, the expression of *30Kc19* increased EPO productivity after the serum-containing medium was exchanged to serum-free medium. Although productivity increased, however, anti-apoptotic effect of *30Kc19* was not observed. In suspension culture, *30Kc19*-expressing CHO cell lines showed higher EPO productivity than control cell line. In order to investigate the effect of *30Kc19* expression on glycosylation, the glycan of isolated EPO was evaluated by quantitative MALDI-TOF analysis. In EPO of *30Kc19*-expressing cells, antennary structures of glycans were more branched and high molecular weight-glycans were more detected than that of control cells. Taken together, the expression of *30Kc19* increased not only production but also glycosylation of recombinant protein in CHO cells.