

Screening of the Sf900-II SFM insect cell culture medium and recombinant baculovirus for the expression of recombinant human transferrin

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Optimized medium composition and high purity recombinant baculovirus stock have historically contributed to high yield recombinant protein expressed in the insect cells baculovirus expression system. In achieving this, screening experiments were conducted to identify the recombinant baculovirus and medium components in Sf900-II SFM that gave significant production of recombinant human transferrin (rhTf). For medium screening, a *Plackett-Burman* screening experiments were conducted. For recombinant baculovirus screening, an end point dilution method based on Poisson distribution was used. RhTf was analyzed using SDS-PAGE and ELISA while the software Statistica (Statsoft, v. 5.0) was used to analyze the results obtained. The results show that glucose and glutamine had the most effect with more than 95% significance, while the recombinant baculovirus was identified at 98.7% purity. The two screening methods were very useful to rapidly screen recombinant baculovirus and culture medium. At the same time, the recombinant protein yield was increased to ~ 20 µg/ml.