1-4. Suspension culture of Stably Transformed *Drosophila melanogaster* S2 Cells expressing EGFP and EPO

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Recombinant plasmids harboring heterologous genes coding enhanced green fluorescent protein (EGFP) and erythropoietin (EPO) were transfected and expressed in *Drosophila melanogaster* S2 cells. Stably transformed cell populations expressing EGFP or monkey EPO were isolated after 4 weeks of selection with hygromycin B. The recombinant EGFP expressed in transformed S2 cells had a molecular weight (MW) of 27 kDa, and was found primarily in the intracellular fraction. The monkey EPO, which was expressed in stably transformed S2 cells, was secreted into the medium with a MW of 24-26 kDa. The two sizes of recombinant EPO may be due to heterogeneity of the glycosylation.

In a spinner flask culture, the recombinant monkey EPO was secreted into suspension medium up to 15.6 mg/l at 9 days of incubation. This findings demonstrate the successful expression of EGFP and monkey EPO in *Drosophila* polyclonal S2 cells, the use of EGFP as a repoter to analyze gene expression, and the potential of a *Drosophila* cell-expression system for recombinant protein production as an alternative to a baculovirus-insect cell expression system.