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**The effect of sucrose concentration on the Green
Fluorescent Protein (GFP) expression from
transformed rice cell suspension cultures**

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Recently, plant cell suspension cultures can be employed for the production of biologically active transgenic proteins. There are several advantages to using plant cells for the production of biologically active proteins. In plant cell cultures, however, bioprocess applications of GFP for recombinant protein production have not been widely reported. We have that product GFP from transformed rice cell using an *Army3D* promoter It is expressed in response to sugar depletion. In this study, we report the effects of sucrose concentration on the cell weight, total protein, total protease and production of GFP fluorescence from cell suspension cultures of genetically engineered rice cells. Under 10day culture condition, total extracellular protein was 1061 U/L in 3% sucrose concentration and total extracellular protease was 5615 U/L in 6% sucrose concentration. Production of GFP fluorescence was measured 960 U/L in 3% sucrose concentration and the dry cell weight reached 42.8 g/L in 12% sucrose concentration. Thus, sucrose concentration 3% was suitable for optimum production as well as GFP fluorescence during suspension cultures of transformed rice cell.