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## Double Reporter Genes Enabling the Viable and Reliable Selection, and cell Tracing

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Dual reporter genes driven by either a ubiquitous cytomegalovirus (CMV) or a neuro specific tubulin alpha1 promoter (T alpha1) were constructed. The newly constructed CMV (pCMV-GL) or T alpha1 promoter driven GFP LacZ (pTalpha1-GL) dual reporter genes robustly expressed the fused GFP LacZ protein reporting constitutive expressions in various cell types including CHO cells, loach and chicken embryos, and neuro specific expression in differentiating mouse embryonic stem (ES) cells, respectively. The dual reporter genes should provide a versatile tool to study the level of gene expression, cell lineage within the embryo and possibly the fate of stem cells in transplantation experiment, thus facilitating different analyses depending on the experimental purposes.

Keywords: *CMV, Dual reporter gene, GFP LacZ, Promoters, Tubulin alpha1*