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Tahereh Ziglari

tahereh.ziglari@umontana.edu

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Generation of a stable LLC cell line expressing GFP

Tahereh Ziglari, Department of Biomedical and Pharmaceutical Science

Abstract

Lung cancer accounts for about 27% of all cancer deaths and is by far the leading cause of cancer death in both men and women in the United States; it causes more deaths than the next three most common cancers combined (colon, breast and pancreatic). In order to evaluate the effects of different exposures (i.e. wood smoke) on tumor growth in lung we need to be able to quantitate tumor burden in lung and that is why we inserted the GFP to produce stably transfected the LLC cell line with GFP. We currently can't quantify tumors but we are only able to qualify. Our goal was to produce stably transfect LLC with GFP and quantitate using the iCys system. By considering GFP as our gene of interest and pcDNA 3.1/Zeo as the vector, pcDNA 6.2-GW/EmGFP as well as pcDNA 3.1/Zeo were digested and purified. After ligation the GFP into the vector, transformation into the competent E.coli was taken place. Finally, tumor cells were transfected by GFP and EmGFP expression was confirmed under fluorescence. Results obtained from gel electrophoresis after mapping with PVUI showed two bands, 1514 bp and a 4260 bp corresponding to expected orientation and the results from fluorescent microscopy confirmed EmGFP expression in the tumor cell lines. According to the entire data stable cell lines expressing GFP were produced.