

عنوان مقاله:

Evaluation of lentiviral vector-based green fluorescent protein expression in human gastric cancer cell line

محل انتشار:

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خلاصه مقاله:

Background and aims: Human immunodeficiency virus type 1 (HIV-1) based-lentivirus vector is one of the most promising viral vectors for gene delivery in different cell lines including gastric cell lines. Therefore, the aim of this study was to produce a lentivirus vector for transduction and expression of green fluorescent protein (GFP) in human gastric cancer cell line, AGS. **Materials and Methods:** In this piece of work, Escherichia coli HB101 was transformed with plasmids psPAX2, pTD, and pMD2.G, following the purification of which their DNA was extracted along with their quantity and quality evaluated to be used in the next experiments. Subsequently, to produce the vector, the packaging cells were transfected with the plasmids and the vector containing supernatant was collected and purified using ultracentrifuge. ELISA was used to confirm the construction of the vector. Fluorescent microscopy and flow cytometry were used to check the expression of GFP in the cell line and to calculate the percentage of GFP expression, respectively. **Results:** In this study, the results of ELISA confirmed the construction of the plasmid used in this study. AGS cells were infected with viruses produced to detect the viral activity and GFP expression was evaluated by fluorescence microscopy and flow cytometry after 72 hours. Based on the results of flow cytometry, GFP was expressed in over 90% of transduced AGS cells. **Conclusion:** The results of this study showed that lentiviral vector is a highly efficient vector for expression of GFP gene in AGS cell line.

کلمات کلیدی:

Lentivirus-based vector, Transfection, Transduction, GFP, AGS

لینک ثابت مقاله در پایگاه سیویلیکا:

