## عنوان مقاله:

Lentiviral vector-mediated transduction of adult neural stem/progenitor cells isolated from the temporal tissues of epileptic patients

## محل انتشار:

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## خلاصه مقاله:

Objective(s): Neural stem/progenitor cells (NS/PCs) hold a great potential for delivery of therapeutic agents into the injured regions of the brain. Efficient gene delivery using NS/PCs may correct a genetic defect, produce therapeutic proteins or neurotransmitters, and modulate enzyme activation. Here, we investigated the efficiency of a recombinant lentivirus vector expressing green fluorescent protein (GFP) for genetic engineering of human NS/PCs obtained during brain surgery on patients with medically intractable epilepsy.Materials and Methods: NS/PCs were isolated from human epileptic neocortical tissues. Three plasmids (pCDH, psPAX2, pMD2.G) were used to make the virus. To produce the recombinant viruses, vectors were transmitted simultaneously into HEk-293T cells. The lentiviral particles were then used to transduce human NS/PCs. Results: Our in vitro study revealed that lentivirus vector expressing GFP efficiently transduced about 80% of human NS/PCs. The expression of GFP was assessed as early as 3 days following exposure and remained persistent for at least 4 weeks. Conclusion: Lentiviral vectors can mediate stable, long-term expression of GFP in human NS/PCs obtained from epileptic neocortical tissues. This suggests lentiviral .vectors as a potential useful tool in human NS/PCs-based gene therapy for neurological disorders, such as epilepsy

## کلمات کلیدی:

GFP, Lentivirus, Neural stem/progenitor cells, Seizure, Transplantation