



treatment of neurological diseases because of the ethical problems facing embryonic stem cells and allograft transplantation is a risk of cancer increases. Furthermore, injection of basic fibroblast growth factor like molecules (bFGF) and epidermal growth factor (EGF) is involved in the induction created nerve and may be useful in repairing nerve damage.

Conclusion: Future studies will aim Discovery at the molecular mechanisms the interaction between neural progenitor and stem cells and body system.

Keywords: stem cells- neurological diseases- treatment

P9 Evaluation of NT3 gene expression in bone marrow stromal stem cell; the feasibility of its use in the injured spinal cord

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Introduction: One of the approaches for the treatment of the spinal cord injury was using sustained NT3 delivery by transfected bone marrow stromal stem cells. NT-3, is a neurotrophic factor in the Nerve Growth Factor (NGF) family of neurotrophins. It is a protein growth factor which has activity on certain neurons of the central nervous system; it helps the survival and differentiation of existing neurons, and causes the growth and differentiation of neurons and synapses. NT-3 was the third neurotrophic factor to be characterized, after NGF and BDNF (Brain Derived Neurotrophic Factor).

Materials and methods: In order to obtain high-level expression of recombinant human NT-3, we constructed expression plasmids and examined bone marrow stromal stem cell for expression of the human NT-3 gene. In this study first we transformed E. coli with p express-1 vector containing nt3 rat gene and subcloned this gene into psectag vector and then used it for transfection of bonemarrowstromal stemcell.

Results: We evaluate the expression of this gene by RT-PCR and western blotting techniques.

Conclusion: NT3 is an important neurotrophin which can induced proliferation and differentiation of ingenious neural stem cells. Our results indicate high expression level of nt3 in bone marrow stromal stem cells.

Keywords: NT-3, BMSCs, Gene therapy

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