View metadata, citation and similar papers at core.ac.uk

brought to you by CORE

provided by Kazan Federal University Digital Repository

Cellular Transplantation and Tissue Engineering 2013 vol.8 N3, pages 142-146

Generation of recombinant adenoviral vectors encoding neural cell adhesion molecules ncam1, ncam2 and l1cam

Fedotova V., Cherenkova E., Islamov R., Rizvanov A.
Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

To succed in gene therapy it is necessary to observe few basic conditions, such as targeted delivery of the therapeutic gene into the target organ and its effective expression. Nowadays targeted delivery of therapeutic genes is one of the critical problems of gene therapy. Delivery of recombinant genes using cell carriers (vectors), expressing tissue-specific cell adhesion molecules, allows us to move toward solving this problem. Using Gateway cloning technology (Invitrogen) we have created recombinant expression constructs pAd-NCAM1, pAd-NCAM2 and pAd-L1CAM, encoding neural cell adhesion molecules. Expression of recombinant proteins has been confirmed by immunofluorescent analysis. Based on these genetic constructs recombinant adenoviruses (serotype 5) were generated and titered. Obtained viral vectors encoding neural cell adhesion molecules may be subsequently used to modify cells carrying additional therapeutic genes to increase the efficiency of gene-cell therapeutics delivery to target organ.
© Human stem cells institute, 2013.

Keywords

Gene therapy, Gene-cell therapeutics, Neural cell adhesion molecules, Recombinant adenovirus