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| Author | Karin Forsberg | |
| Title (English) | Activation of Protein Kinase C to modulate retroviral gene transfer to human hematopoietic progenitor cells | |
| Title (Swedish) | | |
| Abstract | <p>Hematopoietic stem cells (HSCs) are the origin of all other blood cells in the body and are attractive targets for gene therapy. Transduction can be accomplished through the use of oncoretroviral vectors. A barrier to successful oncoretroviral transduction of HSCs has been low levels of viral receptors used by vector particles for cell entry. Activation of Protein kinase C (PKC) has been observed to up-regulate expression of mRNA for viral receptor GLVR1 used by Gibbon Ape Leukemia Virus (GALV). We have treated human hematopoietic progenitor cells with PKC stimulating agents bryostatin-1, ingenol 3-angelate (PEP005) and phorbol 12-myristate 13-acetate (PMA). The aim was to elevate mRNA coding for viral receptors GLVR1 and RDR, used by GALV and feline leukemia virus (RD114) respectively, thus modulating the level of retroviral gene transfer. A minor increase of gene transfer was seen for GALV vector upon exposure to PEP005 and PMA, and in addition mRNA for GLVR1 was elevated. Bryo-1 showed no effect. Transduction with RD114 was not altered by PKC stimulation, nor was the expression of mRNA coding for RDR.</p> | |
| Keywords: | Hematopoietic stem cells, Protein Kinase C, Gibbon Ape Leukemia Virus, Feline leukaemia virus, phorbol 12-myristate 13-acetate, bryostatin-1, ingenol 3-angelate | |
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| Biology Education Centre Box 592 S-75124 Uppsala | Biomedical Center Tel +46 (0)18 4710000 | Husargatan 3 Uppsala Fax +46 (0)18 555217 |