In vivo retrovirus-mediated gene transfer into lamb liver.

Titre	In vivo retrovirus-mediated gene transfer into lamb liver.
Type de publication	Article de revue
Auteur	Podevin, Guillaume [1], Podevin, J [2], Ongoiba, N [3], Sandoval, C [4], Bralet, M P [5], Ferry, N [6], Levard, G [7]
Type	Article scientifique dans une revue à comité de lecture
Année	2000
Langue	Anglais
Date	2000 Jun
Pagination	167-71
Volume	10
Titre de la revue	European Journal of Pediatric Surgery
ISSN	0939-7248
Mots-clés	Animals [8], Disease Models, Animal [9], Genetic Vectors [10], Hepatocytes [11], Liver Diseases [12], Liver Regeneration [13], Male [14], Metabolism, Inborn Errors [15], Random Allocation [16], Recombination, Genetic [17], Retroviridae [18], Sheep [19], Transduction, Genetic [20]
Résumé en anglais	**TOPIC:** Highly efficient retrovirus-mediated gene transfer into hepatocytes in vivo has been previously reported in the rat. Before considering human applications of these techniques in the treatment of inherited liver diseases, it was necessary to document its efficiency in a large animal model. Lamb was choosen because the liver was similar to human liver regarding size and anatomy. **MATERIALS AND METHODS:** To induce hepatocyte division which is necessary for infection with retroviral particles, animals were subjected to a left hepatectomy. Kinetics of liver regeneration were assessed on sequential liver biopsies after partial hepatectomy in order to provide an evaluation of the peak of maximal liver regeneration in a first animal group. Recombinant retroviruses encoding a reporter gene (E. coli beta galactosidase) were then perfused through the portal vein of the regenerating liver in a second animal group. **RESULTS:** The more intense liver regeneration occurred from one to 6 days after partial hepatectomy, with the highest thymidine kinase rate and MIB-1 antibody staining on the second day. The proportion of genetically modified lamb hepatocytes expressing the reporter gene was less than 1%, despite the use of higher titers of retroviral particles than those described in previous reports. **CONCLUSION:** The results obtained in rodent livers with this in vivo gene transfer methodology cannot currently be scaled up in a large ruminant model. The efficacy of vectors has to be tested in other large mammals before planning gene therapy trials for the treatment of inherited liver diseases.
URL de la notice	http://okina.univ-angers.fr/publications/ua5758 [21]
DOI	10.1055/s-2008-1072350 [22]
Lien vers le document	http://dx.doi.org/10.1055/s-2008-1072350 [22]
Autre titre	Eur J Pediatr Surg

Identifiant (ID) PubMed	10982045 [23]

Liens
[1] http://okina.univ-angers.fr/g.podevin/publications
[2] http://okina.univ-angers.fr/publications?f[author]=9774
[3] http://okina.univ-angers.fr/publications?f[author]=9775
[4] http://okina.univ-angers.fr/publications?f[author]=9776
[5] http://okina.univ-angers.fr/publications?f[author]=9777
[6] http://okina.univ-angers.fr/publications?f[author]=9778
[7] http://okina.univ-angers.fr/publications?f[author]=9779
[8] http://okina.univ-angers.fr/publications?f[keyword]=964
[9] http://okina.univ-angers.fr/publications?f[keyword]=1100
[10] http://okina.univ-angers.fr/publications?f[keyword]=10205
[11] http://okina.univ-angers.fr/publications?f[keyword]=10423
[12] http://okina.univ-angers.fr/publications?f[keyword]=10433
[13] http://okina.univ-angers.fr/publications?f[keyword]=10439
[14] http://okina.univ-angers.fr/publications?f[keyword]=968
[15] http://okina.univ-angers.fr/publications?f[keyword]=10440
[16] http://okina.univ-angers.fr/publications?f[keyword]=10441
[17] http://okina.univ-angers.fr/publications?f[keyword]=10442
[18] http://okina.univ-angers.fr/publications?f[keyword]=10434
[19] http://okina.univ-angers.fr/publications?f[keyword]=10360
[20] http://okina.univ-angers.fr/publications?f[keyword]=10427
[21] http://okina.univ-angers.fr/publications/ua5758
[22] http://dx.doi.org/10.1055/s-2008-1072350
[23] http://www.ncbi.nlm.nih.gov/pubmed/10982045?dopt=Abstract