

人胰岛素基因在体内外表达的研究 The Expression of Human Insulin Gene in vitro and in vivo

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收稿日期 修回日期 网络版发布日期 接受日期

摘要 利用定点突变人胰岛素基因, 以脂质体载体和质粒不同比例形成的复合物进行体内外转染。体外转染鼠肝细胞, G418进行筛选, 利用放免法测定培养液中胰岛素含量; 体内通过肝门脉注射, 测定模型鼠血糖及转染后7天时血液中胰岛素的含量, 结果显示目的基因已转入肝细胞, 且体内外转染都有一定量的成熟胰岛素表达, 体外转染中质粒与脂质体比为1:6转染后24h表达量最高为10.45μIU/ml, 体内转染使模型鼠的糖尿病症状明显改善, 血糖最高降幅达55%。

Abstract:The transfection of mutated human insulin gene was studied using the complex of different proportion of plasmid and Liposome. Hepatic cell was used as the target cell in vitro, isolation of Hepatic cell including insulin gene was carried out by G418, the expression level of insulin in medium was measured by RIA method. The portal vein was cannulated with therapeutic gene in vivo, the blood glucose of the model was regularly examined and the insulin level was detected on the seventh day after transfection. The results showed that the target gene was transferred into the hepatic cell, expression of mature insulin was detected both in vivo and in vitro, It reached the peak 10.45μIU/ml on the 24th hour after transfection with the proportion 1:6 of plasmid and Liposome in hepatic cell. Diabetic symptom of the model was improved after transgene, the blood glucose could decrease 55% at the most.

关键词 [人胰岛素基因](#) [基因治疗](#) [肝细胞](#) [糖尿病](#) **Key words** [uman insulin gene](#) [gene therapy](#) [hepatic cell diabetes](#)

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