

论文

HBV在人肾小球系膜细胞内的表达及对其凋亡的影响

洪森¹, 王义国², 刘长虹², 张鹏举³, 刘倩²

1. 山东省医学科学院, 济南大学医学与生命科学学院, 济南 250012;
2. 山东大学附属千佛山医院消化内科, 济南 250014;
3. 山东大学医学院生物化学与分子生物学研究所, 济南 250012

摘要:

目的 研究乙型肝炎病毒(HBV)在人肾小球系膜细胞内的表达及对细胞凋亡的影响。方法 采用脂质体转染法将C基因型重组全长乙型肝炎病毒(PHY106 CHBV)转染至人肾小球系膜细胞。收集24、48和72h细胞培养上清液,进行HBsAg与HBeAg的定量检测;应用倒置显微镜和荧光显微镜观察细胞形态学变化;MTT法检测细胞增殖率;流式细胞仪检测细胞凋亡率。结果 实验组细胞培养上清液中可检测到HBsAg和HBeAg的高表达;观察细胞形态学变化发现,转染PHY106 CHBV后可诱导人肾小球系膜细胞凋亡;MTT结果显示细胞增殖受抑;流式细胞仪检测显示细胞凋亡率增加。结论 HBV可在人肾小球系膜细胞内表达,且能抑制细胞增殖,促进细胞凋亡。

关键词: 肝炎病毒, 乙型; 人肾小球系膜细胞; 细胞凋亡

Expression of recombinant HBV in the NHMC cells and its influence on cell apoptosis

HONG Sen¹, WANG Yi-guo², LIU Chang-hong², ZHANG Peng-ju³, LIU Qian²

1. Shandong Academy of Medical Sciences, School of Medical and Life Sciences, Jinan University, Jinan 250012, China;
2. Qian Fo Shan Hospital, Shandong University, Jinan 250014, China;
3. Institute of Biochemistry and Molecular Biology, School of Medicine, Shandong University, Jinan 250012, China

Abstract:

Objective To study the expression of a recombinant HBV in human glomerular mesangial cells (NHMC) and its influence on cell apoptosis. Methods Recombinant full length C genotype hepatitis B virus (PHY106-CHBV) was transfected into NHMC cells by the liposome method. The supernatant of NHMC cell cultures was collected at 24, 48 and 72h after transfection. HBsAg and HBeAg were detected by the ELISA method. Morphological changes were detected by light and fluorescence microscopes after staining with Hoechst 33258; The proliferation rate and apoptosis rate of NHMC cells were examined using the MTT assay and flow cytometry, separately. Results The high expression levels of HBsAg and HBeAg were detected in NHMC cells after PHY106-CHBV transfection. The observed morphological changes indicated that NHMC cells' apoptosis was induced by PHY106-CHBV. Proliferation of NHMC cells was inhibited, and apoptotic rate was elevated as shown with flow cytometry. Conclusion HBV expression in NHMC cells led to cell proliferation arrest and promoted apoptosis.

Keywords: Hepatitis B virus; Human glomerular mesangial cell; Apoptosis

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通讯作者: 王义国(1965-), 男, 主任医师, 主要从事病毒性肝炎的基础与临床研究。E mail: wangyg2145@sina.com

作者简介: 洪森(1985-), 女, 硕士研究生, 主要从事乙型肝炎病毒相关性肾炎的研究。

作者Email:

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