

人类与医学遗传学

基于载体的RNA干扰介导人核受体hLRH-1表达稳定抑制肝癌细胞BEL-7402的基因表达谱分析

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摘要

为建立一hLRH-1表达稳定抑制的细胞系, 我们构建了hLRH-1基因靶向的稳定RNA干涉载体(pSineohLRH-1)并导入肝癌细胞BEL-7402。通过半定量RT-PCR分析发现, 携有pSineohLRH-1的BEL-7402细胞其hLRH-1基因mRNA的表达抑制率达60%。此外, 微阵列法基因表达谱分析结果表明, 与未干涉的对照细胞相比, 包括一些肿瘤相关的基因如Gadd45 β 和PTEN在内的405个基因在hLRH-1基因表达稳定下调的BEL-7402细胞中呈明显的表达差异, 提示hLRH-1比已知更为广泛的生物学功能。尽管hLRH-1与这些差异表达基因的确切关系尚有待进一步的实验探究, 我们的发现仍为hLRH-1在肿瘤发生发展中可能的作用机制的揭示提供了新的线索。

关键词 [基因表达谱; hLRH-1; RNA干扰; 表达稳定抑制](#)

分类号

Microarray Analysis of Gene-Expression Profile in Hepatocellular Carcinoma Cell, BEL-7402, with Stable Suppression of hLRH-1 via a DNA Vector-based RNA Interference

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Abstract

<P>To establish a cell line with a permanent suppression of hLRH-1 in this study, a stable RNAi vector (pSineohLRH-1) targeting hLRH-1 was constructed and introduced into hepatocellular carcinoma cell, BEL-7402. By semiquantitative RT-PCR analysis, the expression of hLRH-1 in BEL-7402 cells carrying pSineohLRH-1 was shown to be significantly suppressed by up to ~60%. In addition, microarray analysis was carried out to assess the extent of altered gene expression in BEL-7402 cells with stable knockdown of hLRH-1. Direct comparison of gene-expression profiles of more than 18 000 genes showed that 405 of the expressed genes in hLRH-1-knockdown cells differed dramatically in expression levels from those in controls, which suggested the even extensive biological functions of hLRH-1. Interestingly, among those differentially expressed genes, some are cancer-associated such as Gadd45 β and PTEN, and their expressions were further validated. Although the identification of the exact relationship between these genes and hLRH-1 awaits intensive investigation, the findings of this study provide new insights into the mechanism by which hLRH-1 is involved in tumorigenesis.</P>

Key words [gene expression profile; hLRH-1; RNA interference; stable suppression](#)

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