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论著

凋亡素诱导HepG2细胞凋亡过程中Mcl-1 mRNA和蛋白水平的变化及意义

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摘要 目的: 探讨凋亡素诱导肝癌细胞HepG2凋亡过程中Mcl-1 mRNA和蛋白水平的变化及其意义。方法: 经脂质体介导将pCDNA3.0-VP3转入HepG2细胞内,48 h后采用Western blotting检测凋亡素、Mcl-1和细胞色素C,实时定量RT-PCR检测细胞内的Mcl-1 mRNA。结果: VP3基因成功地转入HepG2细胞内并稳定表达凋亡素。与空白对照相比,表达凋亡素的细胞出现Mcl-1 mRNA含量减少(0.09%±0.00% vs 0.41%±0.14%, P<0.05),细胞内Mcl-1水平下降(0.43%±0.01% vs 0.90%±0.04%, P<0.01),线粒体释放细胞色素C增加(0.98%±0.02% vs 0.62%±0.03%, P<0.01)。结论: 凋亡素诱导HepG2细胞凋亡过程中存在细胞内Mcl-1 mRNA和蛋白水平的下降,以及线粒体细胞色素C的释放增加。凋亡素诱导的细胞凋亡可能与其下调细胞内Mcl-1 mRNA与蛋白水平有关。

关键词 HepG2细胞 Myeloid cell leukemin-1 凋亡素 细胞凋亡

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Variation and significance of Mcl-1 mRNA and protein concentration in the apoptosis of HepG2 cells induced by apoptin

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Abstract

<FONT face=Verdana>AIM: To investigate the variation and significance of mRNA and protein concentration of myeloid cell leukemin-1 (Mcl-1) in apoptotic HepG2 cells induced by apoptin. METHODS: The apoptin expression vector pCDNA3.0-VP3 was transfected into HepG2 cells via liposome. Mcl-1 mRNA was analyzed by real-time quantitative reverse transcriptase-polymerase chain reaction. The protein of apoptin, Mcl-1 and cytochrome C were detected by Western blotting. RESULTS: The VP3 gene was transfected into HepG2 cells successfully and expressed steadily. Compared to blank control, Mcl-1 mRNA and protein levels of VP3 positive cells were decreased (mRNA: 0.09%±0.00% vs 0.41%±0.14%, P<0.05; protein: 0.43% ±0.01% vs 0.90%±0.04%, P<0.01). Released cytochrome C from mitochondrion was increased (0.98%±0.02% vs 0.62%±0.03%, P<0.01). CONCLUSION: In the course of the apoptosis of HepG2 cells induced by apoptin, the amount of Mcl-1 mRNA and protein is decreased, and released cytochrome C from mitochondrion is increased. The apoptosis induced by apoptin may be correlated with the down-regulation of Mcl-1 mRNA and protein.</FONT>

Key words HepG2 cells Myeloid cell leukemin-1 Apoptin Apoptosis

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