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论著

NADH对二乙基亚硝胺所致L02人肝细胞株p53基因突变和c-erbB2基因表达的影响

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摘要 背景与目的： 研究NADH对二乙基亚硝胺(DENA)所致L02人肝细胞株p53基因突变和c-erbB2基因表达的影响。 材料与方法： 采用聚合酶链反应-单链构象多态性(PCR-SSCP)及聚合酶链反应-限制性酶切片段长度多态性(PCR-RFLP)方法检测DENA所致的L02细胞p53基因突变；Southern blot分析DENA对c-erbB2基因表达的影响；研究辅酶NADH的抗突变作用。 结果： PCR-SSCP分析显示NADH保护的DL02-Ⅲ细胞和DL02-B 细胞p53 exon7突变率均较DENA致突变组降低，差异有统计学意义(P<0.01)；PCR-RFLP分析结果显示NADH降低DENA所诱发的L02细胞p53基因第7外显子249位密码子点突变率(P<0.01)。Southern blot检测结果也显示NADH可抑制DENA所致的L02 细胞c-erbB2基因的表达上调。 结论： 还原型辅酶NADH具有抗突变作用，可降低DENA所致的L02细胞p53基因的突变，并抑制c-erbB2基因的表达。

关键词 还原型烟酰胺腺嘌呤二核苷酸(NADH) 抗突变作用 二乙基亚硝胺

Effect of NADH on Mutations of p53 Gene and Expression of c-erbB2 Gene in L02 Cells

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Abstract BACKGROUND AND AIM: To investigate effects of NADH on mutations of p53 gene and c-erbB2 gene in L02 cells induced by diethylnitrosamine(DENA). MATERIALS AND METHODS: The anti-mutagenesis effects of NADH on DENA-induced mutations of p53 gene in L02 cells were investigated by PCR-SSCP and PCR-RFLP analysis. The effect of NADH on c-erbB2 gene amplification was assessed by Southern blotting analysis. RESULTS: PCR-SSCP analysis showed that the mutation rate of p53 exon7 in DL02-Ⅲ and DL02-B cells in NADH protection groups decreased to 33.3％(4/12)and 50％(6/12), respectively. The difference was significant(P<0.01)compared with DENA mutagenesis group. PCR-RFLP analysis showed that NADH decreased the mutation frequency of the 249th codon of p53 in L02 cells induced by DENA. Southern blotting showed that NADH down-regulated the amplification of c-erbB2 gene in L02 cells induced by DENA. CONCLUSION: Reduced coenzyme NADH had anti-mutagenesis effects and could decrease mutation of p53 and inhibit the expression of c-erbB2 in L02 cells induced by DENA.

Keywords nicotinamide adenine dinucleotide-reduced(NADH) anti-mutagenesis diethylnitrosamine

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