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论文

联苯双酯(DDB)对Bel-7402人肝癌细胞株一些表型的作用及其机理

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摘要：

Bel-7402人肝癌细胞在DDB(10^{-4} mol·L^{-1})处理后,生长和克隆形成受到明显抑制,电子显微镜观察到DDB作用过的细胞核仁减少或消失,核与胞浆比例缩小。Bel-7402细胞内环化腺苷酸(cAMP)和钙调蛋白(CaM)的含量,经DDB处理不同时间后皆显示明显高于对照组。此外,DDB还能降低从Bel-7402细胞内提取出的DNA拓扑异构酶II(ToPoII)活力。说明DDB对Bel-7402人肝癌细胞的作用机理与cAMP,CaM和ToPoII有关。

关键词： 人肝癌细胞株 联苯双酯 环化腺苷酸 钙调蛋白 DNA拓扑异构酶II

EFFECT OF DIMETHYL-4,4'-DIMETHOXY-5,6,5'6'-DIMETHYLENEDIOXYBIPHENYL-2,2'-DICAKBOXYLATE(DDB)ON SEVEKAL PHENOTYPES OF BEL-7402 HEPATOCAKCINOMA CELL LINE AND ITS MECHANISM

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Abstract:

DDB is a hepatoprotectant and has been widely used for the treatment of chronicviral hepatitis in China,The drug markedly improved the abnormal liver ft1nction particularly inlowering the elevated serum transaminases in patients.It is k nown that there is a close correlationbetween primary hepatocarcinoma and chronic viral hepatitis.The aim of the present study is toevaluate the effect of DDB on hepatocarcinoma cell line.The results showed that the growth andclonogenicity of Bel-7402 human hepatocarcinoma cell line cultured with DDB were markedlyinhibited.The nucleoles of the cells treated with DDB disappeared or their numbers and nucleus/cytoplasm ratio decreased under electron microscopic observation, DDB at the concentration of 10-mol·L^{-1} significantly increased the contents of cAMP and calmodulin(CaM)in Bel-7402 hepatocarci-noma cells.DDB was also found to inhibit topoisomerase II activity of Bel-74 02 hepatocarcinomacells.These results suggest that the mechanism of inhibition of DDB on several phenotypes of Bel-74 02 cell line may be related to its effect on cAMP and CaM content as well as topoisomerase IIactivity.

Keywords: Human hepatocarcinoma cell line cAMP CaM Topoisomerase II Dimethyl-4,4'-dimethoxy-5,6,5',6'-dimethylene dioxybiphenyl- 2,2'-dicarboxylate(DDB)

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