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何首乌不同分离部位对人正常肝**L02**细胞和 肝癌**HepG2**细胞的杀伤作用

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中文摘要:目的: 考察何首乌不同分离部位对人正常肝L02细胞和肝癌HepG2细胞的杀伤作用,寻找能明显杀伤肝癌细胞但对正常肝细胞生长影响较小的分离部位,并初步探讨其对2种细胞不同作用的机制。方法: 何首乌70%乙醇提取物经AB-8型大孔树脂吸附,依次用水、50%乙醇和95%乙醇洗脱得到何首乌乙醇提取物的水洗脱部位(RW)、50%乙醇洗脱部位(R50)和95%乙醇洗脱部位(R95);体外培养人正常肝L02细胞及肝癌HepG2细胞,用含何首乌各分离部位的细胞培养液与细胞共同孵育一定时间后,MTT检测及倒置镜下观察药物对L02及HepG2细胞生长的影响,筛选具有区别杀伤作用的部位,考察其剂量和时间作用效应。进一步通过Giemsa染色观察药物作用后细胞核的变化,流式细胞术检测L02细胞周期和凋亡情况。结果: MTT和倒置镜下镜检结果均表明,R50对L02细胞和HepG2细胞具有明显的区别杀伤作用。Giemsa染色和流式细胞术结果表明,R50诱导2种细胞凋亡的程度不同:试验的各个时相下HepG2中凋亡细胞的比例均明显高于L02细胞(HepG2细胞中凋亡细胞的比例在24,48,72h分别为83.62%,60.52%,74.49%,L02细胞中凋亡细胞的比例则分别为31.02%,20.57%,25.32%,2种细胞阴性对照组中凋亡细胞的比例在各个时相均小于5%),但对2种细胞的细胞周期没有明显影响。结论: 何首乌提取物的R50部位对人正常肝L02细胞和肝癌HepG2细胞具有明显的区别杀伤作用,区别杀伤作用的本质是药物诱导2种细胞凋亡的程度不同。

中文关键词:何首乌 肝细胞 肝癌细胞 区别杀伤 细胞凋亡 细胞周期

Damage effect of *Polygonum multiflorum* fractions on human normal liver cells L02 and liver cancer cells HepG2

Abstract: Objective: To investigate the damage effect of different fractions from *Polygonum multiflorum* on normal human liver and liver cancer cells, in order to seek for fractions that can obviously kill cancer cells but have less impact on normal liver cells, and make a preliminary study on different mechanism of the two kinds of cells. Method: *P. multiflorum* water-eluted fraction(RW), 50% ethanol-eluted fraction(R50) and 95% ethanol-eluted fraction(R95) were successively obtained from 70% ethanol extracts of *P. multiflorum*, after being eluted by water, 50% ethanol and then absorbed by AB-8 macroporous resin. Normal human liver L02 cells and liver cancer HepG2 cells were incubated with cell supernatants from different fractions and cells. MTT method and inverted microscope were adopted to observe the impact of L02 on growth of HepG2 cells, screening fractions with damage effect and detect their doses and time effect. Giemsa stain showed changes in cell nucleus after administration and flow cytometry analysis was used to detect cycle and apoptosis of L02 cells. Result: MTT method and inverted microscope showed that R50 had significant growth inhibition effects on L02 and HepG2 cells. According to giemsa stain and flow cytometry analysis, R50 showed different effect on inducing the two cells:there are much more apoptotic HepG2 cells than apoptotic L02 cells in each time phase(the proportion of the apoptosis cells in HepG2 group were 83.62%, 60.52% and 74.49%, and L02 31.02%, 20.57% and 25.32% after treated with R50 for 24, 48, 72 h. Both cells showed less than 5% of apoptotic cells in the negative control group in each time phase). However, there is no significant impact on cycle of both cells. Conclusion: R50 from *P. multiflorum* extracts had different damage effects on human liver L02 cells and liver cancer HepG2 cells, which was caused by different degree of induction on apoptosis of the two cells in nature.

keywords:*Polygonum multiflorum* liver cell liver cancer cell different damage apoptosis cell cycle

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