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论著

用TK基因和HGPRT基因突变试验检测人参皂甙Re的抗诱变性

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摘要 背景与目的： 用TK基因和HGPRT基因突变试验评价人参皂甙Re的抗诱变性，为其进一步的开发利用提供资料。 材料与方法： 设人参皂甙Re 12.5、25、50、100 μg/ml分别与致突变物甲基磺酸甲酯(MMS)5 μg/ml同时处理TK6细胞的实验组，同时设溶剂对照组(1％ DMSO)，阳性诱变对照组(MMS 5 μg/ml)和抗诱变阳性对照组(VitC＋MMS)，各组处理TK细胞4 h后，采用微孔板法检测TK和HGPRT两个位点的突变频率。 结果： 随着剂量的增加，人参皂甙Re拮抗MMS诱变性的作用增大，表现在TK和HGPRT两个位点突变频率均较阳性诱变对照组降低，差异均具有统计学意义(P<0.05)。 结论： 人参皂甙Re具有拮抗MMS诱导的TK基因和HGPRT基因突变的作用；TK基因突变试验比HGPRT基因突变试验更为敏感。

关键词 人参皂甙Re； TK6细胞； TK基因突变试验； HGPRT基因突变试验

Detection of Antimutagenicity of Ginsenoside Re by TK Gene and HGPRT Gene Mutation Test

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Abstract BACKGROUND AND AIM: To detect and evaluate the antimutagenicity of ginsenoside Re by TK gene and HGPRT gene mutation tests. MATERIALS AND METHODS: The TK6 human lymphoid cells were exposed to ginsenoside Re at concentrations 12.5, 25, 50,100 μg/ml simultaneously with 5 μg/ml of methyl methanesulfonate (MMS) for 4 h. Determination of mutant frequency of TK locus and HGPRT locus were performed by using the microwell method. RESULTS: The mutant frequencies of TK locus and HGPRT locus after treatment with ginsenoside Re were significantly suppressed compared with the MMS control, in a dose-dependent manner. CONCLUSION: Ginsenoside Re had obvious inhibitory effect on TK gene and HGPRT gene mutation induced by MMS. TK6 could be used for both TK and HGPRT gene mutation tests, and TK gene mutation test was more sensitive than that of HGPRT in detection of ginsenoside Re antimutagenicity.

Keywords ginsenoside Re TK6 cell TK gene mutation test HGPRT gene mutation test

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