

重铬酸钾对蚕豆根尖细胞致畸效应的研究 Study on Teratogenic Effect of Potassium Dichromate on Vicia Faba Root Tip Cells

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收稿日期 修回日期 网络版发布日期 接受日期

摘要

以蚕豆根尖为材料, 研究重铬酸钾对蚕豆根尖细胞的致畸效应。采用蚕豆根尖细胞的微核试验和染色体畸变试验方法, 以不同浓度的重铬酸钾为诱变剂, 测定蚕豆根尖细胞的微核率和染色体畸变率。结果表明: 重铬酸钾能诱发较高频率的微核率, 即在一定浓度范围内, 其微核率随重铬酸钾处理浓度的升高而增加, 但高于一定浓度后反而呈下降趋势; 不同浓度的重铬酸钾均使蚕豆根尖细胞有丝分裂指数增大; 重铬酸钾还能诱导蚕豆根尖细胞产生较高频率的染色体畸变, 且产生多种类型的染色体畸变。结论是重铬酸钾对蚕豆根尖细胞具有明显的致畸效应。

Abstract: We studied the aberrant effects of different concentrations of potassium dichromate on Vicia Faba root tip cells. The micronucleus and chromosome aberration assay was conducted to determine the micronucleus rate and chromosome aberration rate of Vicia faba root tip cells induced by potassium dichromate. The result indicated that potassium dichromate could increase the micronucleus rate of Vicia faba root tip cells. Within certain range of concentration the rate of micronucleus was found to be increased with the increase of potassium dichromate concentration, but beyond this range the rate of micronucleus decreased with further increase of potassium dichromate concentration. The potassium dichromate at different concentrations could increase the cell mitosis index. Besides, it also caused various types of chromosome aberration, and the rates of chromosome aberration were always higher than that of the control group. The conclusion of this study was that potassium dichromate has obvious teratogenic effect on vicia faba root tip cells.

关键词 [重铬酸钾](#) [蚕豆](#) [微核率](#) [染色体畸变率](#) **Key words** [potassium dichromate](#) [Vicia Faba](#) [the micronucleus rate](#) [the rate of chromosome aberration](#)

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