

对rDNA转录活性的图象分析

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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 用低浓度的放线菌素D(AMD)处理人的外周血淋巴细胞, 可以导致细胞周期各阶段核仁形成区 (NOR) 的银可染性显著减少, 表明了放线菌素D对rDNA的转录活性具有明显的抑制作用。本实验采用IBAS图象分析系统, 对经不同浓度的放线菌素D处理过的外周血淋巴细胞进行形态学测量和计算机统计分析, 其结果阐述了细胞中NOR的银可染性(即rDNA的转录活性指标)与AMD浓度梯度的相关性, 并以此建立了相应的回归方程。本文结果表明, 间期的银染核仁面积是检测rDNA转录活性较为敏感的指标。

关键词 [放线菌素D\(AMD\)](#), [银染NOR](#), [银染核仁](#), [IBAS图象分析系统](#)

分类号

Imago Analysis for Measuring the rDNA Transcriptional Activity

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Abstract

It was clearly demonstrated that the silver stainability of NORs during interphase and metaphase could be inhibited by low doses of AMD concentration. It showed that the AMD concentration could reflect the rDNA transcriptional activity in NORs. In this experiment we used IABM image analysis system to measure the variation of silver stainability of NORs treated by different doses of AMD in order to find the relationship between the rDNA transcriptional activity and the AMD concentration. The data resulted from this experiment were analysed with variance and correlation analysis method. The result showed that the variability of Ag-Nucleoli was significant in different AMD concentration and it was positively correlated with AMD concentration. So we considered that the size of Ag-Nucleoli is one of the most precise signs when measuring the rDNA transcriptional activity with silver staining method.

Key words [Actinomycin D\(AMD\)](#) [Ag-Nucleolus](#) [Ag-NORs](#) [IABM image analysis system](#)

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