遗传学报 1992 19 (1): 17-21 ISSN: 0379-4172 CN: 11-5450/R

微核形成与细胞周期关系的初步研究Ⅳ.化学诱变剂诱发人淋巴细胞间期各阶段的微核形成

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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 本实验应用具有诱变作用的抗癌药：噻地哌、长春新碱，乙双码啉等，体内或体外处理诱发人体外周血淋巴细胞微核，通过控制细胞培养时间，放射性自显影及中期细胞阻滞等方法，定量地分析了细胞间期各阶段的微核率(MNF)。本组实验结果表明，间期各阶段均可有不同程度的微核形成，其中最多的是G1期，其次是G2期和G0期。S期细胞的MNF校G1期有极显著的下降，这提示大部分G1期的微核细胞不能进入S期，使细胞增殖中止，这可能是抗癌药物杀伤肿瘤细胞的机制之一。

关键词 微核形成,化学诱变剂,人淋巴细胞,细胞周期

分类号

Preliminary Studies of the Relationship Between Micrnocleus Formation and Cell C

¢,ô,.Micronucleus Formation Induced by Chemical Mutagens at G0,G1,S and G2 Phases

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Abstract

In this paper the authors studied quantitatively the micronucleus formation at v arious phases of interphase in human lymphocytes indaced by chemical mutagens by means of control of cell culture intervals,autoradiography and block metaphase cells etc.The results show that mutagenic anti-tumer drugs:bimolane (treatment i n vitro) and thio-tepa etc.(treament in vivo) can induce micronucleus formation at various phases of interphase in lymphocytes.The frequency of micronucleus (MN F) induced at G₁phase is significantly higher than that at G0 and G2 phase.The MNF at Sphase of cells is obviously lower than at G1.This result suggests that most of the micronucleated cells att G₁ phase do not enter Sphase and micronucleus rarely form at S phase of cells.

Key words Micronucleus formation.Chemical mutagenic agent Human ymphocytes Cell cycle

DOI:

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