癌变.畸变.突变 ISSN: 1004-616x CN:44-1063/R 2000; 12(4) :205-210

论著

环磷酰胺、噻替哌诱发人支气管上皮细胞的染色体畸变

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收稿日期 修回日期 网络版发布日期:

摘要 目的与方法:以永生化人支气管上皮细胞(BEAS - 2B) 受环磷酰胺、噻替哌诱导并发生癌性转化的细胞为模型,运用染色体G—显带技术,观察环磷酰胺、噻替哌的遗传毒作用引起的细胞转化过程中的染色体动态畸变。结果:BEAS - 2B 细胞染色体众数46 条,近二倍体,核型稳定,携带有M1 ,M2 ,M3 三个标志染色体。环磷酰胺转化细胞(BEAS - CP) 为二倍体核型丢失了1 个14 号染色体,增加了M4 异常染色体,该畸变可能与细胞转化的始动,促进和进展有关。噻替哌转化细胞(BEAS- T) 在培养过程中渐趋多倍体细胞,15 代以后部分细胞的14 和21 号染色体各丢失1 条,BEAS - T 23 代在软琼脂上形成克隆的细胞(BEAS - ST) 是多倍体细胞,并具有高频率的非稳定性畸变,BEAS - T 25 代时为3 % ,BEAS - ST 为34 % ,多倍体背景上出现2 对巨型三着丝粒染色体。结论:所发现的染色体畸变与细胞全面恶性转化之间存在明显关联。

关键词 染色体 畸变 核型 永生化人支气管上皮细胞(BEAS - 2B) 环磷酰胺转化细胞(BEAS - CP) ,噻替哌转化细胞(BEAS - T)

CYTOGENETIC ANALYSIS OF TRANSFORMED HUMAN BROCHIAL EPITHELIAL CELLS INDUCED BY CYCLOPHOSPHAMIDE AND THIOTEPA

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Abstract Purpose and Methods：Utilizing a cell transformed model composed of a human bronchial epithelial cell Iine(BEAS-2B)，BEA&2B cell transformed hy eyelophosphamide (BEAS—CP)and thiotepa(BEAS—T)，cytogenetie alteration a~soeiated with neoplastic trans {ormation of human bronchial epithelial cells was observed Restilts：BEAS一2B cells have near diploid karyotype and genotypically stable Three chromo~mal markers present BEAS-CP cell was mainly diploid with a variable proportion of polyploid celN． Chromosome 14 has lost one of two copies of chromosome and chromo~mal mark M4 has formed Those changes might be lhe original alteration induced by alkylating effect of cyclophosphamide and as the primary alteration involved in transformed initiation，promotion and progression BEAS—T cell mainly consists of po lyploid cells．．~ome cells loss of monosomy of chromosome 8 and 21． BEAS-T∞ft agar selected cells(BEAS—ST)were all polyploid cells and characterized by a high frequency of unstable aberrationsffrom 3％ of BEAS—T 25p up to 34％ of BEAS—ST). Another speci~ alteration for BEAS-ST is two pairs of the largeness tricentric chromosome． Conclusion：These aberralions have a strong re／atioship with cel malignant transformation and the transformed cells might have the tumorgenesis ability in nude mouse．

Keywords chromosome；karyotype；aberration；immortalized hmnan bronchial epithelial cell line(BEAS-2B)；eyclophospharnide transformed celt(BEAS-CP)；thiotepa transform ed cell (BEAS—T)

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