

四细胞杂交克隆的NORs活性和均染区的巨染色体

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摘要 通过聚乙二醇使3个小鼠细胞与1个中国仓鼠骨髓细胞融合, 获得四细胞杂交克隆。在第6世代, 该杂种细胞含有100条小鼠染色体和5条仓鼠染色体。本文报道在杂种细胞中双亲NORs活性均受抑制, 不仅73.2%的仓鼠NORs活性被抑制, 而且还有18.3%的小鼠NORs失去了活性。由于在杂种细胞中, 仓鼠第3号染色体上的NORs活性仍保留它原来的91.2%因此我们的结果表明: 不同染色体上18s和28s rRNA基因的转录活性可有明显的差异, 这可能与它们所在的染色体结构有关。我们首次报道了杂种细胞中所出现的均染色区巨染色体, 并对这条巨染色体进行了G-带、C-带和Ag-NORs的分析。对这条巨染色体与18s和28s rRNA基因扩增的关系进行了初步讨论。

关键词

分类号

NOR Activity and Giant Chromosomes with HSR of Hybrid Clone Derived from a Four-karyon

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Abstract

A hybrid clone derived from three mouse cells and one Chinese hamster bone marrow cell was obtained using PEG fusion technique. The hybrid cell at the sixth passage contains one hundred mouse chromosomes and five hamster chromosomes. It is reported that the activity of nucleolar organizer regions (NORs) of both parents in the hybrid cells is suppressed, e.g., 73.2% of NOR activity of the hamster cells and 18.3% of mouse, one are suppressed. Since the NOR activity on chromosome No. 3 of hamster cells remains as high as 91.2% of its diploid one, it is demonstrated that the degree of the suppression for different chromosome pairs could be quite different, implying that the NOR activity may associate with structure of the chromosomes where the NORs are located. It is also reported that there are the giant chromosomes with homogeneously staining region (HSR) in the hybrid cells. The G-, C-banding, Ag-NOR patterns and the relationship between the presence of giant chromosome and amplification of the genes coding for 18s and 28s rRNA are also discussed.

Key words

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扩展功能

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