

## 大鼠非致瘤四倍体细胞系的建立及细胞遗传学和酶学特征

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**摘要** 从大鼠自然诱发的肉瘤细胞中, 我们建立了一个四倍体细胞系(4, 二84), 命名为RC (ratCCII)。它具有典型的成纤维细胞外形, 能在玻璃表面贴壁生长, 但不能生长在琼脂半固体培养基中。该细胞在含15% 小牛血清的RPMI 164。培养基中生长良好, 至今已连续繁殖112世代, 细胞群体倍增时间约为15小时。染色体G一带分析表明, RC为整四倍体细胞, 它的1条X染色体在第32至34区为均染区。RC细胞核仁组织者(NORs)活性显然比大鼠二倍体细胞NORs活性的加倍还高(P<0.001)。这个具有非常高NOR“活性的RC细胞系对于研究细胞18S+28S rRNA基因转录活性的调控、基因表达与基因剂量关系有一定的意义。RC细胞还有异常高的磷酸酯酶活性, 而且它的同工酶谱也与大鼠肌肉细胞明显不同。体内接种实验和扫描电镜的观察表明, RC是非致瘤细胞。RC细胞各号染色体的C一带图样与大鼠二倍体细胞无明显的差异。

**关键词** [四倍体细胞系](#); [HSR-X染色体](#); [NORs活性](#); [磷酸酯酶](#)

分类号

## Establishment and Characteristics in Cytogenetics and Enzymology of a Rat Ivontumorigenic Tetraploid Cell Line

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### Abstract

A rat tetraploid cell line, named RC, was established from a rat sarcoma. The RC cellswith typical morphology of fibroblasts can grow very well on glass surface in RPM11640 medium containing 15% calf serum, but not in half.-soft agar. The cell line has been subcultured for 112 passages. The results from chromosome G-banding analysis indicate that the RC cell is tetraploid cell in which one X chromosome has a homogeneously staining region. The NOR activity of the RC cells is significantly higher than the doubled NOR activity of rat dipliod cells (P<

0.001). The RC cell line is useful for research on transcription of the genes coding for 18S+28S rRNA and relationship between gene exhibition and gene dosage.

There is extretnehigh activity of phosphotase in the RC cells. The isoenzyme pattern of the RC cells is quite different from the rat muscle cells. The results from injection of the RC cells in vivo and observation of scanning electron microscope on the cells demonstrate that the RC cells are nontumorigenic. There is no difference in chromosome C-banding patterns between the RC cellsanal the rat dipliod cells.

**Key words** [Tetraploid cell line](#) [HSR-X chromosome](#) [NORs activity](#) [Phosphotase](#)

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