

论著

d2筒箭毒碱对V79 细胞和小鼠骨髓细胞有丝分裂的影响

和智君,汪 旭

云南师范大学生命科学系,云南昆明 650092

收稿日期 1999-5-30 修回日期 1999-7-29 网络版发布日期:

摘要 目的:探讨烟碱乙酰胆碱受体阻断剂d2筒箭毒碱对V79细胞和小鼠骨髓细胞有丝分裂的影响。方法:在离体情况下以受试物处理中国仓鼠V79细胞,通过分析V79细胞晚末期和早G1 期细胞核与细胞质构型、双核细胞频率,探讨受试物对细胞质裂的影响;研究同时探讨了活体情况下,该化合物对小鼠骨髓细胞的C2有丝分裂(C—M)效应,分析其对哺乳动物体细胞有丝分裂的影响。结果:d2筒箭毒碱能使V79细胞的晚末期—早G1 期细胞核和细胞质分裂构型发生显著变化($P < 0.001$)双核细胞的频率显著提高($P < 0.001$)。在小鼠骨髓细胞C—M 效应分析中,该化合物除在低剂量组导致较明显的C—有丝分裂细胞增加外($P < 0.05$),其他未见异常。结论:研究提示受试物可通过N 型胆碱受体阻断过程对哺乳动物细胞质裂的真实性产生影响;同时,该化合物还具有影响染色体正常分离的潜在能力。对胆碱受体功能的研究将有助于探索非整倍体产生的各种机制。

关键词 [中国仓鼠V79 细胞](#) [d-筒箭毒碱](#) [有丝分裂](#) [非整倍体](#)

STUDY OF MITOTIC EFFECTS OF d2TUBOCURARINE IN V79 CHINESE HAMSTER CELLS AND IN MOUSE BONE MARROW CELLS

HE Zhi -jun , WAN G Xu

Department of Life Sciences, Yunnan Normal University, Kunming 650092, China

Abstract Purpose : The mitotic effects of d-tubocurarine in V79 cells and mouse bone marrow cells was investigated in this study. d2t ubocurarine is a antagonist to cholinergic receptors and inhibitor of nicotinic receptor. Methods : V79 Chinese hamster cells were t reated in vit ro by d2tubocurarine. The alteration of late telophaseearly G1 configuration induced by this chemical was determined by analyzing of presence or lack of a cleavage furrow in late telophase and very early G1 cells , the abnormal cytokinesis was investigated for the f requencies of binuclear cells in interphase cells. Simultaneously , we investigated the C2M effect s of d2t ubocurarine in mouse bone marrow cells. Results : The tested chemical disturbed mitotic coordination and significantly induced high frequency of binuclear cells in V79 cell line ($P < 0.001$) . There is no other distinguished abnormality in mouse bone marrow cells but significant enhance of C2M cells at low dose group. Conclusion : The result s indicated that d-tubocurarine is able to inhibit mammal mitosis by blocking the function of nicotinic receptor. The malfunction of cholinergic and nicotinic receptors may be a mechanism of aneuploid induction.

Keywords [V79 hamster cell](#) [mitosis](#) [aneuploidy](#)

DOI

扩展功能

本文信息

▶ [Supporting info](#)

▶ [\[PDF全文\]\(82k\)](#)

▶ [\[HTML全文\]\(0k\)](#)

▶ [参考文献](#)

服务与反馈

▶ [把本文推荐给朋友](#)

▶ [加入我的书架](#)

▶ [Email Alert](#)

相关信息

▶ [本刊中 包含“中国仓鼠V79 细胞” 的相关文章](#)

▶ 本文作者相关文章

· [和智君](#)

· [汪旭](#)