

论著

紫杉醇对MDA-MB-435人乳腺癌高转移细胞粘附，侵袭及迁移能力的影响

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摘要 观察紫杉醇对人乳腺癌高转移细胞粘附，侵袭和迁移能力的影响。采用重组基底膜侵袭模型，三维空间胶原小室培养，时间推移摄像和计算机辅助细胞跟踪系统研究紫杉醇对MDA-MB-435人乳腺癌高转移细胞粘附，侵袭和迁移能力的影响。紫杉醇在0.01~0.1 mg·L⁻¹范围内可明显抑制MDA-MB-435细胞与纤维粘连蛋白或层粘连蛋白的粘附，抑制率分别为9.9%~51.2%和35.0%~49.8%；紫杉醇0.01和0.03 mg·L⁻¹对MDA-MB-435细胞侵袭重组基底膜抑制率为66.7%和74.4%；0.02和0.1 mg·L⁻¹时可明显抑制MDA-MB-435细胞在三维胶原中的迁移。结果表明紫杉醇具有较强的抑制MDA-MB-435细胞粘附，侵袭和迁移的作用，提示其在控制肿瘤转移方面可能具有应用前景。

关键词 [紫杉醇](#) [时间推移摄像](#) [乳腺肿瘤](#) [粘附](#) [肿瘤,侵袭](#) [迁移](#)

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Effect of taxol on adhesion, invasion and migration of MDA-MB-435 highly metastatic human breast cancer cells

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Abstract

To investigate the effect of taxol on adhesion, invasion and migration of MDA-MB-435 highly metastatic human breast cancer cells, invasive capacity of MDA-MB-435 cells was evaluated by using reconstituted basement membrane invasion assay, the locomotion behavior of MDA-MB-435 cells in a three-dimensional collagen lattice was recorded by using time-lapse videomicroscopy and computer-assisted cell tracking system. It was found that taxol(0.01-0.1 mg·L⁻¹) inhibited MDA-MB-435 cells to adhere to the basement membrane component fibronectin and laminin by 9.9% - 51.2%, 66.8% - 86.9%, respectively. At concentration of 0.01 and 0.03 mg·L⁻¹, taxol suppressed MDA-MB-435 cells to invade the reconstituted basement membrane by 66.7% - 74.4%. At the concentration of 0.02 and 0.1 mg·L⁻¹, taxol significantly decreased the percentage of locomoting MDA-MB-435 cells and changed the pathway of migrating cells. The results indicate that taxol can significantly inhibit the adhesion, invasion and migration of MDA-MB-435 cells.

Key words [taxol](#) [time lapse videomicroscopy](#) [breast neoplasms](#) [adhesions](#) [neoplasms](#) [invasiveness](#) [migration](#)

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