

论著

用共聚焦显微镜研究plk1在秋水仙胺和长春新碱抗肿瘤效应中的作用

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摘要 目的: 研究plk1在秋水仙胺和长春新碱抗肿瘤效应中的作用。方法: 采用Western blotting和共聚焦显微镜检测秋水仙胺、长春新碱及plk1反义寡核苷酸(Asodn)处理对K562细胞plk1及 γ 微管蛋白表达的影响。结果: Western blotting检测结果提示秋水仙胺和长春新碱不影响plk1和 γ 微管蛋白的表达量,但共聚焦显微镜观察发现秋水仙胺和长春新碱影响plk1在分裂期聚集和中心体形成。plk1 Asodn处理不仅可明显降低plk1蛋白表达,而且影响 γ 微管蛋白聚合形成中心体。结论: 秋水仙胺和长春新碱抗肿瘤效应可能是通过plk1介导的抑制 γ 微管蛋白聚合形成中心体来实现的,plk1具有作为肿瘤治疗靶点的可能性。

关键词 [K562细胞](#) [秋水仙素](#); [长春新碱](#); [polo-like激酶](#)

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Role of plk1 in the anti-cancer effect of colcemid and vincristine against K562 cells

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Abstract

AIM: To study the role of plk1 in the anti-cancer effect of colcemid and vincristine against K562 cells. METHODS: K562 cells were treated with colcemid and vincristine and antisense oligonucleotide of plk1, then expression of plk1 and γ -tubulin were investigated by Western blotting and confocal microscopy. RESULTS: Treatment of K562 cells with colcemid and vincristine influenced the condensation of plk1 and assembly of γ -tubulin, though without change of protein quantity. Treatment with antisense oligonucleotide of plk1 not only reduced the expression of plk1 without influence on protein quantity of γ -tubulin detected by Western blotting, but also disturbed the formation of centrosome observed by confocal microscopy. CONCLUSION: The function of colcemid and vincristine destructing the spindle might be realized through the mechanism of restraining condensation of plk1 and assembly of γ -tubulin, which might be dependent on plk1. plk1 may be a potential target in anti-cancer therapy.

Key words [K562 cells](#) [Colchicum](#) [Vincristine](#) [Polo-like kinase](#)

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