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Tautomycetin诱导乳腺癌耐药细胞MCF-7/ADR的凋亡及其机制 点此下载全文

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摘要：

目的： 研究tautomycetin对乳腺癌耐药细胞MCF-7/ADR增殖及凋亡的影响及其机制。 方法： MTT法检测tautomycetin对MCF-7/ADR细胞增殖的影响，流式细胞术检测MCF-7/ADR细胞的凋亡，Western blotting法检测tautomycetin对MCF-7/ADR细胞caspase相关蛋白、Bcl-2、Cyto-C、P53蛋白表达和Akt磷酸化的影响。 结果： Tautomycetin可剂量（0.01~100 μmol/L)依赖性地抑制MCF-7/ADR细胞的增殖（ P <0.05），IC 50值为（1.26±0.12）μmol/L；与对照组相比，tautomycetin（ 1 μmol/L）可诱导MCF-7/ADR细胞凋亡，早期凋亡比例由（0.67±0.18）%升高至（17.2±3.8）%，晚期凋亡比例由（0.96±0.23）%升高至（28.4±5.7）%（ P <0.05）。Tautomycetin可活化MCF-7/ADR细胞中caspase-7和caspase-9，降低Bcl-2蛋白的表达，促进线粒体释放Cyto-C，降低p-Akt的水平，但对caspase-8和P53的表达没有影响。 结论： Tautomycetin可阻断Akt活化，以P53非依赖的方式通过Cyto-C介导的通路诱导MCF-7/ADR细胞凋亡。

关键词：乳腺癌 tautomycetin 增殖 凋亡 caspase 细胞色素C

Tautomycetin induces apoptosis of human breast cancer cell line MCF-7/ADR and its mechanism Download Fulltext

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Abstract:

Objective：To investigate the effects of tautomycetin on the proliferation and apoptosis of human breast cancer cell line MCF-7/ADR and the related mechanism. Methods: The effect of tautomycetin on the proliferation of MCF-7/ADR cells was examined by MTT assay; its effect on apoptosis of MCF-7/ADR cells was assessed by flow cytometry; and its effects on expressions of caspase-related proteins, Bcl-2, cytochrome C (Cyto-C), P53 and Akt in MCF-7/ADR cells were detected by Western blotting. Results: Tautomycetin inhibited the proliferation of MCF-7/ADR cells in a dose-dependent manner （0.01~100 μmol/L, P <0.05), with the IC 50 value of (1.26±0.12) μmol/L. Compared with the control group, the early apoptosis rate of MCF-7/ADR cells after 1 μmol/L tautomycetin treatment was increased from (0.67±0.18)% to (17.2±3.8)%, and the late apoptosis rate from (0.96±0.23)% to (28.4±5.7)%, (P <0 05); tautomycetin activated caspase-9 and caspase-7, decreased Bcl-2 expression, promoted Cyto-C secretion and decreased p-Akt levels in MCF-7/ADR cells, while showed no obvious effect on caspase-8 and P53 expressions. Conclusion: Tautomycetin can inhibit the phosphorylation of Akt, and induce the Cyto-C-mediated apoptosis of MCF-7/ADR cells in a P53-independent pathway.

Keywords:breast cancer tautomycetin proliferation apoptosis caspase cytochrome C

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