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线粒体融合蛋白-2基因增强人乳腺癌T47D细胞对小白菊内酯的敏感性 [点此下载全文](#)

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摘要:

目的: 探讨线粒体融合蛋白-2 (mitofusin-2, Mfn-2) 基因表达对乳腺癌T47D细胞对小白菊内酯敏感性的影响。方法: 细胞系 (T47D、MDA-MB-231、MCF-7、MDA-MB-435及HCC38) 中 Mfn-2 mRNA的表达。LipofectamineTM 2000体外转染人乳腺癌T47D细胞, real-time PCR和Western blotting检测T47D细胞中 Mfn-2 mRNA和蛋白的表达, MTT法检测T47D细胞的凋亡率及线粒体膜电位。结果: 与正常乳腺细胞相比, Mfn-2 mRNA在乳腺癌HCC38细胞系中高表达, 在T47D等其他细胞系中低表达, T47D细胞中 Mfn-2 mRNA和蛋白的表达均明显上调。与pEGFP转染组相比, pEGFP-Mfn-2转染组T47D细胞在小白菊内酯处理下, 凋亡率显著降低 [(47.93±2.21)% vs (56.93±2.05)%], P<0.05。流式细胞术检测结果显示: 50 mmol/L小白菊内酯作用下, pEGFP-Mfn-2转染组T47D细胞凋亡率升高 [(71.2±2.1)% vs (38.8±2.6)%], P<0.05, 而线粒体膜电位明显降低 [(1.6±0.1)% vs (5.0±0.5)%], PEGFP-Mfn-2转染可增强T47D细胞对小白菊内酯的敏感性。

关键词: [乳腺癌](#) [T47D细胞](#) [线粒体融合蛋白-2](#) [小白菊内酯](#) [敏感性](#)

Mitofusin-2 gene enhances sensitivity of human breast cancer T47D cells to parthenolide [Download Full](#)

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Abstract:

Objective: To investigate the effect of mitofusin-2 (Mfn-2) gene expression on sensitivity of human breast cancer T47D cells to parthenolide. Methods: The expressions of Mfn-2 mRNA in various breast cancer cell lines (T47D, MDA-MB-231, MCF-7, MDA-MB-435 and HCC38) were detected by real-time PCR. Plasmids pEGFP and pEGFP-Mfn-2 were transfected into human breast cancer T47D cells using LipofectamineTM 2000 in vitro. The expression levels of Mfn-2 mRNA and protein in T47D cells were detected by Western blotting. MTT assay was used to detect the proliferation of T47D cells. The cell apoptotic rate and mitochondrial membrane potential were measured by flow cytometry. Results: Compared with that in normal breast cells, Mfn-2 mRNA was highly expressed in cancer HCC38 cell line, and lowly expressed in the other cell lines, such as T47D etc. After pEGFP-Mfn-2 transfection, the expression levels of Mfn-2 mRNA and protein were significantly up-regulated in T47D cells. Compared with the pEGFP transfection group, the survival rate of T47D cells under the treatment of parthenolide was significantly decreased in pEGFP-Mfn-2 transfection group [(47.93±2.21)% vs (56.93±2.05)%], P<0.05. Flow cytometry results showed that the apoptotic rate of T47D cells under 50 mmol/L parthenolide was significantly increased in pEGFP-Mfn-2 transfection group compared with that in pEGFP transfection group [(71.2±2.1)% vs (38.8±2.6)%], P<0.05. However, the mitochondrial membrane potential was significantly decreased in pEGFP-Mfn-2 transfection group [(1.6±0.1)% vs (5.0±0.5)%], P<0.05. Conclusion: pEGFP-Mfn-2 transfection can enhance the sensitivity of T47D cells to parthenolide.

Keywords: [breast cancer](#) [T47D cell](#) [mitofusin-2](#) [parthenolide](#) [sensitivity](#)

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