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SIRPα对乳腺癌细胞MDA-MB-231黏附、侵袭和凋亡的影响 点此下载全文

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摘要：

目的： 研究信号调节蛋白α（signal regulatory protein α, SIRPα）对乳腺癌细胞黏附、侵袭和凋亡的影响及其可能机制。 方法： Western blotting检测侵袭能力强的MDA-MB-231乳腺癌细胞和侵袭能力弱的MDA-MB-435乳腺癌细胞中SIRPα蛋白的表达。脂质体法将pcDNA3.0-SIRPα转染MDA-MB-231细胞后，RT-PCR检测MDA-MB-231细胞SIRPα mRNA的表达，TUNEL法检测细胞的凋亡，细胞侵袭实验观察细胞侵袭能力变化，黏附实验观察细胞黏附能力变化，Western blotting检测JNK和p-JNK蛋白的表达。EGF刺激MDA-MB-435细胞，免疫共沉淀检测MDA-MB-435细胞中SIRPα与SHP2的结合。 结果： 侵袭能力强的MDA-MB-231细胞不表达SIRPα，侵袭能力弱的MDA-MB-435细胞表达高水平SIRPα蛋白。pcDNA3.0-SIRPα转染可增强MDA-MB-231细胞的黏附，降低MDA-MB-231细胞的侵袭能力，并促进MDA-MB-231细胞的凋亡。 pcDNA3.0-SIRPα 转染抑制MDA-MB-231细胞JNK的磷酸化。EGF刺激可进一步上调MDA-MB-435细胞中SIRPα蛋白表达，并促进SIRPα与SHP-2蛋白的结合。 结论： SIRPα与乳腺癌细胞的黏附、侵袭能力相关，并可能通过抑制JNK磷酸化促进乳腺癌细胞凋亡。

关键词：信号调节蛋白α(SIRPα) 凋亡 JNK 侵袭 黏附

Influence of signal regulatory protein α on adhesion, invasion and apoptosis of breast cancer cell line MDA-MB-231 Download Fulltext

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Abstract:

Objective : To observe the effects of signal regulatory protein α (SIRPα) on the adhesion, invasion and apoptosis of human breast cancer cells, and to explore the possible mechanism. Methods: SIRPα protein expression in high invasion breast cancer MDA-MB-231 cells and low invasion breast cancer MDA-MB-435 cells were detected by Western blotting analysis. pcDNA3.0-SIRPα plasmid was transfected into MDA-MB-231 cells by lipofectant assay, and SIRPα mRNA expression was examined by RT-PCR. Apoptosis of cells was examined by TUNEL method; invasion and adhesion abilities of MDA-MB-231 cells were examined by invasion or adhesion assays; and JNK and p-JNK protein expressions were determined by Western blotting analysis. Interaction of SIRPα with SHP2 in MDA-MB-435 cells stimulated with EGF was determined by immunoprecipitation assay. Results: Highly invasive MDA-MB-231 cells did not express SIRPα, while lowly invasive MDA-MB-435 cells expressed high level of SIRPα protein. pcDNA3.0-SIRPα transfection enhanced the adhesion of MDA-MB-231 cells, decreased their invasion ability, and promoted their apoptosis. Phosphorylation of JNK in pcDNA3.0-SIRPα transfected MDA-MB-231 cells was also decreased. EGF stimulation further increased SIRPα protein expression in MDA-MB-435 cells and enhanced the interaction of SIRPα with SHP2. Conclusion: SIRPα is related to adhesion and invasion of breast cancer cells, and might promote their apoptosis by decreasing the phosphorylation of JNK.

Keywords:signal regulatory protein α(SIRPα) apoptosis JNK invasion adhesion

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