[1]王杨,陈彬,姜晓梅,等.睾酮对乳腺癌细胞中FEN1表达的影响[J].第三军医大学学报,2013,35(02):95-98.

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睾酮对乳腺癌细胞中FEN1表达的影响(PDF)

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Title: Effect of testosterone on FEN1 expression in breast cancer cells

作者: 王杨; 陈彬; 姜晓梅; 王越; 付晓红; 何凤田
第三军医大学基础医学部生物化学与分子生物学教研室

Author(s): Wang Yang; Chen Bin; Jiang Xiaomei; Wang Yue; Fu Xiaohong; He Fengtian
Department of Biochemistry and Molecular Biology, College of Basic Medical Sciences, Third Military Medical University, Chongqing, 400038, China

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摘要: 目的 探讨睾酮（testosterone，T）在乳腺癌细胞中对瓣状核酸内切酶（flap endonuclease 1，FEN1）表达的影响及其机制。 方法 以MCF-7作为研究对象，采用RT-PCR观察雌二醇（17β-estradiol，E2）单独作用以及分别与雌激素受体（estrogen receptor，ER）拮抗剂ICI182，780（ICI）和MAPK途径抑制剂U0126共同作用时FEN1表达的变化。以MCF-7aro（芳香化酶过表达的MCF-7）作为研究对象，采用RT-PCR观察加入单独的睾酮以及睾酮和芳香化酶抑制剂来曲唑（letrozole）共同作用时FEN1表达的变化；采用Western blot观察睾酮单独作用以及分别与来曲唑和U0126共同作用时FEN1、p-ERK和p-Elk的变化。 结果 与对照组比较，加入雌二醇后MCF-7细胞中FEN1 mRNA的表达升高2.04倍（*P*<0.01），加入ICI和U0126后分别降低10.63倍和2.17倍（*P*<0.01）。加入睾酮后MCF-7aro细胞中FEN1 mRNA的表达升高1.66倍（*P*<0.01），蛋白的表达升高1.80倍（*P*<0.01）；加入来曲唑后FEN1 mRNA的表达下降2.38倍，蛋白的表达降低1.84倍，加入U0126后蛋白的表达降低2.28倍（*P*<0.01）；加入睾酮后ERK和Elk-1的磷酸化水平分别升高2.28倍和2.60倍（*P*<0.01），加入来曲唑后ERK和Elk-1的磷酸化水平分别降低2.60倍和2.37倍（*P*<0.01），加入U0126后ERK和Elk-1的磷酸化水平分别降低10.38倍和119.50倍（*P*<0.01）。 结论 睾酮可通过MAPK途径上调MCF-7 aro细胞中FEN1的表达。

Abstract: Objective To determine the effect of testosterone on the expression of flap endonuclease 1 (FEN1) in breast cancer. Methods The expression of FEN1 in MCF-7 cells was observed by RT-PCR after the cells were treated with 17β-estradiol (E2), E2 combined with ICI182, 780, an estrogen receptor antagonist, and E2 combined with U0126, a MEK inhibitor, respectively. In MCF-7 cells over-

expressing aromatase (MCF-7/Aro), the expression of FEN1 was observed by RT-PCR when cells were treated with testerone or testerone combined with letrozole, one of aromatase inhibitors. The expression of FEN1 protein, p-ERK and p-Elk was observed by Western blotting when the cells were treated with testosterone, testosterone combined with letrozole, or combined with U0126. Results In MCF-7 cells, E2 resulted in an increase in the expression of FEN1 mRNA by 2.04 folds (P<0.01), which was inhibited by ICI182,780 or U0126（10.63 and 2.17 folds, P<0.01）. In MCF-7aro cells, testosterone resulted in an increase in the expression of FEN1 at mRNA and protein levels by 1.66 and 1.80 folds respectively（P<0.01）, which was inhibited by letrozole (2.38 and 1.84 folds, P<0.01) or U0126（2.28 folds for protein only, P<0.01）. Testosterone increased the phosphorylation of p-ERK and p-Elk by 2.28 and 2.60 folds, which was inhibited by letrozole by 10.38 folds or U0126 by 119.50 folds（P<0.01）. Conclusion Testosterone up-regulates FEN1 in MCF-7aro cells through MAPK signaling pathway.

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