[1]倪渐凤,孙晓娟,张伟杰,等.三氧化二砷对前列腺癌DU-145细胞RASSF1A基因的去甲基化作用[J].第三军医大学学报,2012,34(07):639-642.

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三氧化二砷对前列腺癌DU-145细胞RASSF1A基因的去甲基化作用(PDF)

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Title: As_2O_3 demethylates RASSFIA gene in DU145 prostate cancer cells

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关键词: 三氧化二砷; 前列腺癌; 甲基化; RASSF1A基因

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摘要: 目的　研究三氧化二砷（arsenic trioxide, As_2O_3）对激素非依赖性前列腺癌DU145细胞的生长抑制作用及对RASSF1A基因去甲基化和蛋白表达的影响。　方法　应用MTT法检测不同浓度(0.5、1.0、2.0、4.0、6.0、12.0、20.0 μmol/L)的As_2O_3不同作用时间（24、48、72 h）对DU145细胞的生长抑制作用；应用甲基化特异性PCR(MSP)和Western blot检测As_2O_3对DU145细胞RASSF1A基因甲基化状态及蛋白表达的影响。　结果　As_2O_3可抑制DU145细胞的增殖，在一定范围内随着药物浓度的增高，抑制作用逐渐增强(F=838.089, P<0.05）；同一浓度作用时间越长，抑制率越高（F=8.849,P<0.05）；且As_2O_3可使RASSF1A基因甲基化逆转，蛋白重新表达。　结论　As_2O_3可以逆转前列腺癌DU145细胞RASSF1A基因启动子CpG岛的异常甲基化，诱导该抑癌基因的重新表达，抑制前列腺癌DU145细胞的增殖。

Abstract: Objective　To determine the inhibitory effects of arsenic trioxide (As_2O_3) on the proliferation in hormonal independent prostate cancer DU145 cells, and on demethylation and expression of Ras-assciation domain family 1A (RASSF1A).　Methods　MTT assay was used to test the growth of DU145 cells after the treatment of As_2O_3 at 0.5, 1.0, 2.0, 4.0, 6.0, 12.0 or 20.0 μmol/L for 24, 48 or 72 h. Methylation-specific PCR (MSP) and Western blot analysis were used to detect the methylation status and protein expression of RASSF1A gene in Du145 cells after treatment.　Results　As_2O_3 significantly inhibited the proliferation of DU145 cells in a dose- and time-dependent manner (F=838.089, P<0.05, F=8.849, P<0.05). As_2O_3 treatment reversed the methylation status of RASSF1A gene and made the protein re-expression.　Conclusion　As_2O_3 reverses abnormal methylation status of promoter CpG island of RASSF1A gene in DU145 prostate cancer cells, induces protein re-expression and inhibits the cells proliferation.

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