

[1]黄剑波,罗鑫荣,孔令泉,等.PAQR3增强乳腺癌细胞SK-BR-3的表柔比星敏感性[J].第三军医大学学报,2013,35(16):1658-1662.  
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## PAQR3增强乳腺癌细胞SK-BR-3的表柔比星到:

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Title: PAQR3 enhances chemosensitivity of breast cancer cell line SK-BR-3 to epirubicin

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摘要: 目的 探讨PAQR3增强乳腺癌细胞对表柔比星的敏感性。 方法 采用Real-time PCR比较ER、PR及HER2受体不同的4株乳腺癌细胞(MDA-MB-231、MCF7、SK-BR-3及T47D)的PAQR3表达情况。在乳腺癌细胞SK-BR-3中转染人源性PAQR3全长表达质粒,设立对照组,观察比较转染PAQR3细胞组与空载质粒细胞组对表柔比星的敏感性,分别计算其所对应的IC<sub>50</sub>。通过细胞凋亡检测、Western blot探讨PAQR3增加表柔比星敏感性的机制。 结果 在4株乳腺癌细胞中,受体三阴性细胞MDA-MB-231的PAQR3表达量最高,SK-BR-3与MCF7表达量相对较低;SK-BR-3过表达PAQR3后,其对表柔比星的化疗敏感性显著升高,IC<sub>50</sub>显著降低[(25.33±0.94)μg/mL vs (17.72±1.11) μg/mL, P<0.05]; PAQR3本身并未促使SK-BR-3凋亡,实验组与对照组的凋亡率

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差异并无统计学意义 ( $P>0.05$ )。但在同等浓度表柔比星的作用下, PAQR3促使SK-BR-3表达凋亡相关蛋白Cleaved Caspase-7, 从而导致表柔比星抑制率增加, 对Cleaved Caspase-3、Bcl-2、Bcl-xL表达则无影响。进一步分析发现, PAQR3可抑制乳腺癌化疗中表柔比星所致的ERK活化, 因而促使乳腺癌细胞对表柔比星敏感。 结论 PAQR3可提高乳腺癌细胞对表柔比星的化疗敏感性, PAQR3表达可能与乳腺癌对表柔比星的敏感性相关。

**Abstract:** **Objective** To investigate whether PAQR3 can enhance the chemosensitivity of breast cancer line to epirubicin, and the possibly underlying mechanisms. **Methods** The mRNA level of PAQR3 in 4 breast cancer cell lines (MDA-MB-231, MCF7, SK-BR-3 and T47D) with different statuses of ER, PR and HER2 receptors were analyzed by real-time PCR. The plasmid pEGFP-PAQR3 encoding full-length sequence of PAQR3 was transfected into the SK-BR-3 cells, and the cells transfected with empty vector pEGFP-C1 served as control. The inhibitory ratio and  $IC_{50}$  of epirubicin on the SK-BR-3 cells were observed and compared. Flow cytometry was used to analyze the cell apoptosis, and Western blotting to detect the expression of apoptosis-related genes. **Results** Among the 4 breast cancer cell lines, MDA-MB-231 cells who were positive to the above 3 receptors expressed the highest level of PAQR3, while the SK-BR-3 and MCF7 cells got the relatively lower levels. After transfected with plasmid pEGFP-PAQR3, the SK-BR-3 cells become more sensitive to epirubicin as compared to those transfected with pEGFP-C1 ( $P<0.05$ ), and their  $IC_{50}$  was obvious decreased ( $25.33 \pm 0.94$  vs  $17.72 \pm 1.11$   $\mu\text{g}/\text{mL}$ ,  $P<0.05$ ). PAQR3 transfection had no effect on cell apoptosis ( $P>0.05$ ), but when the cells were treated with the same doses of epirubicin, the expression of cleaved caspase-7 was significantly elevated in SK-BR-3 transfected with PAQR3, which contributed to the enhanced sensitivity to epirubicin. Nevertheless, no change of cleaved caspase-3, Bcl-2, and Bcl-xL was found. Furthermore, the anti-apoptotic activation of ERK by epirubicin was suppressed in SK-BR-3 transfected with PAQR3 compared with those transfected with empty vector, which explained their enhanced sensitivity to epirubicin. **Conclusion** PAQR3 enhances the chemosensitivity of breast cancer cells to epirubicin. In light of certain clinical findings, PAQR3 may be relative to the sensitivity of breast cancer to epirubicin.

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#### 参考文献/REFERENCES:

黄剑波, 罗鑫荣, 孔令泉, 等. PAQR3增强乳腺癌细胞SK-BR-3的表柔比星敏感性[J]. 第三军医大学学报, 2013, 35