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塞来昔布对人乳腺癌SKBR-3细胞生长的影响

Influence of Celecoxib on Brest Cancer Cells SKBR-3

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英文关键词:breast cancer SKBR-3 cells celecoxib cyclooxygenase-2(COX-2)

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中文摘要:

目的 探讨选择性环氧化酶-2(COX-2)抑制剂塞来昔布对乳腺癌SKBR-3细胞生长的影响及机制。方法 用不同浓度的塞来昔布处理SKBR-3细胞后，采用CCK-8 法检测塞来昔布对SKBR-3细胞增殖活性的影响；流式细胞仪检测细胞周期；酶联免疫吸附试验(ELISA)检测前列腺素E_2(PGE_2)的释放水平；Western Blot法测定各浓度塞来昔布刺激SKBR-3细胞后Caspase-3被酶解激活情况。结果 塞来昔布对SKBR-3细胞的增殖抑制作用呈剂量-时间依赖性；随着塞来昔布浓度的增加，G_0/G_1期细胞阻滞，S期细胞比例明显减少；塞来昔布明显减少PGE_2的释放水平；Caspase-3在细胞凋亡早期被激活，在凋亡晚期则无表达。结论 塞来昔布能有效抑制乳腺癌SKBR-3细胞的增殖，诱导其凋亡；其作用机制可能与COX-2表达下调、抑制PGE_2水平和促进Caspase-3的活化有关。

英文摘要:

OBJECTIVE To approach the effect of celecoxib, a selective COX-2 inhibitor, on breast cancer cell growth and its mechanism. METHODS CCK-8 assay was adopted to examine the proliferation of SKBR-3 cells treated by different concentrations of celecoxib. Flow cytometry was performed to analyze the cell cycle of SKBR-3. The levels of PGE2 were measured by ELISA. Western Blot was used to detect the activation states of Caspase-3. RESULTS The inhibition of proliferation of SKBR-3 cells in vitro by celecoxib was observed in time- and dose-dependent effects. With the increase of celecoxib concentration, the cell cycle was arrested at G0/G1, and rate of cells in S-phase was obviously decreased. Levels of PGE2 were inhibited by celecoxib. Caspase-3 was activated in the early stage of apoptosis, but there was no expression in the late stage of apoptosis. CONCLUSION Celecoxib inhibits proliferation of SKBR-3 cells, and induces apoptosis. The mechanism of action may be associated with down-regulation of the expression of COX-2, inhibition of PGE2 and activation of Caspase-3.

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