

论文

冬凌草甲素通过诱导人宫颈癌HeLa细胞自噬下调凋亡的机制

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摘要:

研究冬凌草甲素通过诱导人宫颈癌HeLa细胞自噬拮抗凋亡的机制。MTT法测定冬凌草甲素对HeLa细胞的细胞毒作用。通过相差显微镜观察细胞形态学变化,用琼脂糖凝胶电泳检测DNA片段化,用流式细胞仪检测细胞自噬和凋亡水平,用Western blotting检测分析药物对蛋白质表达的影响。冬凌草甲素明显抑制HeLa细胞的增殖,诱导HeLa细胞凋亡,同时诱导HeLa细胞发生自噬。Western blotting检测结果表明,冬凌草甲素作用24 h后,促凋亡蛋白Bax、细胞色素c和控制Bax活力的去乙酰化酶SIRT-1的表达明显改变。冬凌草甲素(64 μmol·L<sup>-1</sup>)诱导的自噬通过影响SIRT-1和线粒体途径蛋白的表达下调凋亡。

关键词: 冬凌草甲素 HeLa细胞 自噬 细胞凋亡

Mechanism of downregulation of apoptosis by autophagy induced by oridonin in HeLa cells

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Abstract:

To study the mechanism of downregulation of apoptosis by autophagy induced by oridonin in HeLa cells, the cell viability was measured by MTT method. DNA fragmentation was assayed by agarose gel electrophoresis. Autophagic and apoptotic ratio was determined by flowcytometric analysis. Protein expression was detected by Western blotting analysis. Oridonin induced both apoptosis and autophagy in HeLa cells. Apoptosis was upregulated by introduction of the inhibitor of autophagy, 3-methyladenine (3-MA). Addition of oridonin increased Bax/Bcl-2 expression ratio and cytochrome c, whereas the expression of SIRT-1 was decreased, and 3-MA pre-application enhanced these changes. Oridonin-induced autophagy antagonized apoptosis in HeLa cells through mitochondrial pathway.

Keywords: HeLa cells autophagy apoptosis oridonin

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2. 李瑞芳;王庆端.冬凌草甲素对K562细胞端粒酶活性调控及细胞周期的影响[J]. 药学报, 2004,39(11): 865-868
3. 张典瑞;任天池;娄红祥;邢洁.冬凌草甲素固态类脂纳米粒在小鼠体内的组织分布及兔体内的药代动力学[J]. 药学报, 2005,40(6): 573-576

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