

延龄草总皂苷抑制乳腺癌细胞MDA-MB-231裸鼠移植瘤的增殖和促进凋亡作用

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Title: Growth inhibiting and promoting apoptosis of Trillium saponins on xenografts of breast cancer cells MDA-MB-231 in nude mice

作者: 曾小聪¹; 张远起²; 黄胜超²; 郁丽妍²; 颜泽铭²; 孙阳³; 陈小东²; 李建文²

1.解放军第422医院肿瘤外科, 广东 湛江 524005; 2.广东医科大学附属第一医院血管甲状腺乳腺外科, 广东 湛江 524001; 3.第四军医大学药理教研室, 陕西 西安 710032

Author(s): Zeng Xiacong¹; Zhang Yuanqi²; Huang Shengchao²; Yu Liyan²; Yan Zeming²; Sun Yang³; Chen Xiaodong²; Li Jianwen²

1.Department of Surgical Oncology, No.422 Hospital of PLA, Guangdong Zhanjiang 524005,China; 2.Department of Vascular,Thyroid and Breast Surgery,Affiliated Hospital of Guangdong Medical University,Guangdong Zhanjiang 524001,China;3.Department of Pharmacology, School of Pharmacy,the Fourth Military Medical University,Shaanxi Xi'an 710032,China.

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摘要: 目的:观察延龄草总皂苷对乳腺癌细胞MDA-MB-231裸鼠皮下移植瘤的影响及相关机制。方法:培养乳腺癌细胞MDA-MB-231, 接种至BALB/c裸鼠背部皮下。接种后第5天通过腹腔注射的方式给裸鼠予延龄草总皂苷治疗, 每隔3天测量移植瘤的体积以及裸鼠的体重; 实验结束时, 采用TUNEL试剂盒检测移植瘤细胞的凋亡情况; Western blot法检测凋亡相关蛋白剪切型caspase-3, 8, 9表达的变化。结果:延龄草总皂苷可有效地抑制裸鼠移植瘤的增殖, 实验结束时, 肿瘤的体积分别为: 模型组(1142.24±164.32)mm³, 延龄草总皂苷(5 mg/kg)(552.90±49.71)mm³, 延龄草总皂苷(10 mg/kg)(269.78±48.84)mm³。延龄草总皂苷能诱导移植瘤细胞的凋亡, 可浓度依赖性地促进细胞中剪切型caspase-3, 9的表达。结论:延龄草总皂苷可有效地抑制MDA-MB-231裸鼠移植瘤的增殖, 其方式可能通过caspase依赖的方式促使MDA-MB-231发生凋亡。

Abstract: Objective:To investigate the effects of Trillium saponins on the growth of xenografts of MDA-MB-231 in nude mice and the possible mechanisms.Methods:MDA-MB-231 cells were cultured and inoculated subcutaneously to the back of BALB/c nude mice.Five days later,the nude mice were intraperitoneally injected with Trillium saponins.Tumor volumes and body weight were measured every 3 days to the end of the experiment.TUNEL assay was used to detect the apoptosis of tumor cells.Western blot was employed to detect the expression of apoptosis related protein caspase-3,8,9.Results:Trillium saponins could inhibit the growth of xenografts of MDA-MB-231 significantly.At the end of the experiment,the tumor volumes were as follows:model group(1142.24±164.32)mm³,Trillium saponins(5 mg/kg)(552.90±49.71)mm³,and Trillium saponins(10 mg/kg)(269.78±48.84)mm³.Trillium saponins could induce apoptosis of tumor cells and promote expression of cleaved caspase-3,9 in a dose-dependent manner.Conclusion:Trillium saponins suppressed the growth of xenografts of MDA-MB-231,at least in part,by inducing apoptosis of tumor cells through a caspase-dependent way.

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