

# 柚皮苷对骨肉瘤细胞生物学功能的影响

《现代肿瘤医学》[ISSN:1672-4992/CN:61-1415/R] 期数: 2019年16期 页码: 2836-2839 栏目: 论著(基础研究) 出版日期: 2019-07-08

**Title:** The inhibitory effect of naringin on the biological function of osteosarcoma

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**关键词:** 柚皮苷; 骨肉瘤; MG63; 增殖; 迁移

**Keywords:** naringin; osteosarcoma; MG63; proliferation; migration

**分类号:** R738.1

**DOI:** 10.3969/j.issn.1672-4992.2019.16.008

**文献标识码:** A

**摘要:** 目的: 探讨柚皮苷对骨肉瘤细胞生物学功能的调节作用。方法: 将骨肉瘤MG63细胞分成三组, 分别用NaCl(对照组)、10 μmol/ml和20 μmol/ml浓度的柚皮苷作用于细胞, 通过MTT实验观察不同时间不同浓度的柚皮苷对MG63细胞增殖的作用。流式细胞术分析10 μmol/ml和20 μmol/ml柚皮苷对MG63细胞细胞周期的影响。通过Western blot检测不同浓度柚皮苷对增殖相关蛋白(Cyclin D1)的调节作用。Transwell实验观察10 μmol/ml和20 μmol/ml柚皮苷对MG63细胞迁移能力的影响。通过Western blot检测不同浓度柚皮苷对侵袭转移相关蛋白(MMP2)的调节作用。结果: MTT检测结果发现10 μmol/ml和20 μmol/ml浓度的柚皮苷作用MG63细胞24 h后, 对MG63细胞增殖的抑制率分别为(24.10±0.03)%和(46.94±0.03)%。流式细胞术结果发现柚皮苷可以对MG63细胞G1/S期的转导造成阻滞。Western blot结果指出, 柚皮苷可以抑制Cyclin D1的表达。Transwell实验发现柚皮苷作用后可以显著抑制MG63细胞的迁移。Western blot检测发现, 柚皮苷可以抑制MG63细胞中MMP2的表达。结论: 柚皮苷可以抑制骨肉瘤细胞的增殖和迁移。

**Abstract:** Objective: To investigate the effect of naringin on the biological function of osteosarcoma. Methods: MG63 osteosarcoma cells were divided into three groups. The cells were treated with NaCl (control group), 10 μmol/ml and 20 μmol/ml naringin respectively. The effect of naringin on the proliferation of MG63 cells at different concentrations at different time was observed by MTT. Flow cytometry was used to analyze the effects of 10 μmol/ml and 20 μmol/ml naringin on the cell cycle of MG63 cells. The regulation of naringin with different concentrations on proliferation related protein (Cyclin D1) was detected by Western blot. The effect of naringin on the migration of MG63 cells was observed by Transwell. The regulation of naringin with different concentrations on the metastasis related protein (MMP2) was detected by Western blot. Results: MTT assay showed that the inhibitory rates of 10 μmol/ml and 20 μmol/ml naringin on MG63 cells after 24 h were (24.10±0.03)% and (46.94±0.03)%. Flow cytometry results showed that naringin could block the G1/S phase transduction of MG63 cells. The results of Western blot indicated that naringin could inhibit the expression of Cyclin D1. Transwell assay found that the action of naringin could significantly inhibit the migration of MG63 cells. Western blot detection showed that naringin could inhibit the expression of MMP2 in MG63 cells. Conclusion: Naringin can inhibit the proliferation and migration of osteosarcoma cells.

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备注/Memo: -

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更新日期/Last Update: 1900-01-01