

论著

## 微生物来源的蛇孢菌素抗肿瘤活性的体外实验研究

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**摘要** 背景与目的: 探讨微生物来源的3个化合物表蛇孢菌素K、蛇孢菌素K和蛇孢菌素G的体外抗肿瘤作用。材料与方法: 利用噻唑蓝(MTT)比色法检测3个化合物对人结肠癌细胞Hct\_15、Hct\_116, 乳腺癌细胞MDA\_MB\_231、MCF\_7, 肺癌细胞A549和白血病细胞K562共6株细胞的体外细胞毒性, 并测定其半数抑制浓度值(IC50)。利用组织蛋白酶B评价3个化合物对肿瘤浸润和转移的抑制活性。结果: 表蛇孢菌素K、蛇孢菌素K和蛇孢菌素G对上述6株细胞均有抑制作用, 与阴性对照组相比较, 其差异均具有统计学意义(P<0.05)。表蛇孢菌素K对上述6株肿瘤细胞的IC50值依次为: 5.70、3.60、28.00、8.40、2.00和3.10  $\mu\text{g/ml}$ 。蛇孢菌素K对6株肿瘤细胞的IC50值依次为: 1.40、0.81、4.26、3.70、0.91和1.10  $\mu\text{g/ml}$ 。蛇孢菌素G对6株肿瘤细胞的IC50值依次为: 4.1、4.6、26.10、17.10、6.70和6.10  $\mu\text{g/ml}$ 。3种蛇孢菌素对组织蛋白酶B的IC50值分别为46、26和23  $\mu\text{g/ml}$ 。结论: 表蛇孢菌素K, 蛇孢菌素K和蛇孢菌素G均具有体外抗肿瘤活性, 其中蛇孢菌素K体外活性高于表蛇孢菌素K和蛇孢菌素G。

关键词 [蛇孢菌素](#); [组织蛋白酶B](#); [抗肿瘤作用](#)

## In Vitro Anti\_tumor Effect of Ophiobolin from Microorganism

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**Abstract** BACKGROUND & AIM: To study the in vitro anti\_tumor effect of 6\_epi\_ophiobolin K、ophiobolin K and ophiobolin G from microorganisms. MATERIALS AND METHODS: The effects of the three compounds on the proliferation of six human tumor cell lines were investigated by MTT method with IC50, and the inhibitory activities of the three compounds against cathepsin B were assayed for evaluation of anti\_tumor invasiveness and metastasis in vitro. RESULTS: Compared with negative control, 6\_epi\_ophiobolin K, ophiobolin K and ophiobolin G showed significant inhibitory activities to Hct\_15, Hct\_116, MDA\_MB\_231, MCF\_7, A549 and K562 cell lines. 6\_epi\_ophiobolin K to the above tumor cell lines demonstrated IC50 of 5.70, 3.60, 28.00, 8.40, 2.00 and 3.10  $\mu\text{g/ml}$ , respectively. Ophiobolin K showed IC50 of 1.40、0.81、4.26、3.70, 0.91 and 1.10  $\mu\text{g/ml}$ , respectively, while Ophiobolin G revealed IC50 of 4.10, 4.60, 26.10, 17.10, 6.70 and 6.10  $\mu\text{g/ml}$ , respectively. All three compounds have moderate inhibitory activities to cathepsin B with the IC50 of 46, 26 and 23  $\mu\text{g/ml}$ , respectively. CONCLUSION: The three compounds all had anti\_proliferative effects on tumor cell lines.

**Keywords** [ophiobolin](#) [cathepsin B](#) [anti\\_tumor](#)

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