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论著

蟾酥不同溶剂萃取物对小鼠免疫细胞功能的影响

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摘要 目的 对蟾酥不同溶剂萃取物进行初步免疫活性筛选。方法 用MTT法检测小鼠脾淋巴细胞增殖反应和腹腔巨噬细胞（M_ϕ）能量代谢水平，中性红吞噬法测定腹腔M_ϕ的吞噬功能，流式细胞术检测T淋巴细胞亚群和S期细胞的百分率。结果 蟾酥各萃取层中的水层（VB_2）、乙酸乙酯层（VB_4）及总水提蛋白层（VB_6）分别在1.25~30、10~20 和10~40 mg·L^{-1}浓度范围内增强刀豆蛋白A（Con A）诱导的小鼠脾淋巴细胞增殖反应；其他3组(VB_1, VB_3和VB_5)蟾酥提取物单独作用或与Con A联合作用对小鼠脾淋巴细胞增殖反应无明显影响；VB_2, VB_4和VB_6在1.25~40 mg·L^{-1}浓度范围内可增强Con A诱导的小鼠腹腔M_ϕ能量代谢水平和吞噬中性红的能力。在10 mg·L^{-1}时，VB_2, VB_4和VB_6可协同Con A增加脾淋巴细胞中S期细胞百分率，并降低$CD4^+CD8^-$和$CD4^-CD8^+$、增加$CD4^+CD8^+$ T淋巴细胞亚群百分率。结论 蟾酥不同溶剂萃取物VB_2, VB_4和VB_6体外可协同Con A促进脾淋巴细胞和腹腔M_ϕ的免疫功能，其机制可能与协同Con A促进DNA合成并活化$CD4^+CD8^-$ T细胞表达CD8a抗原、增加兼具辅助和细胞毒作用的$CD4^+CD8^+$ T淋巴细胞亚群的数量有关。

关键词 提取物, 蟾酥 免疫活性 淋巴细胞 巨噬细胞 细胞周期

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Effects of extracts from venenum bufonis with different solvents on immunocyte functions of mice *in vitro*

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Abstract

AIM To preliminarily screen the immunological activity of the extracts from venenum bufonis. **METHODS** The proliferation of splenic lymphocytes and the level of energy metabolism of peritoneal macrophages of mice were measured by using MTT assay. The phagocytic activity of macrophages was also measured with neutral red method. The $CD4^+$ and $CD8^+$ T lymphocyte subsets and cell cycle of the splenic lymphocytes were determined by using flow cytometry. **RESULTS** The extracts of venenum bufonis, VB_2 (1.25-30 mg·L^{-1}), VB_4 (10-20 mg·L^{-1}) and VB_6 (10-40 mg·L^{-1}), combined with concanavalin A (Con A), respectively, could promote the proliferation of splenic lymphocytes of mice. The other 3 extracts VB_1, VB_3 and VB_5 from venenum bufonis used alone or combined with Con A had not this effect. VB_2, VB_4 and VB6(1.25-40 mg·L^{-1}) also could enhance the energy metabolic level and phagocytic function of peritoneal macrophages. In 10 mg·L^{-1}, VB_2, VB_4 and VB6 combined with Con A could obviously increase the percentages of $CD4^+CD8^+$ T lymphocytes and S phase cells in splenic lymphocytes. **CONCLUSION** VB_2, VB_4 and VB_6, the extracts of venenum bufonis, can enhance the reaction of mouse splenic lymphocytes to the extraneous stimulation such as Con A. The extracts showed enhancement effect on the immune function of mice *in vitro*, which may be related to their increase in $CD4^+CD8^+$ and S phase cells.

Key words extracts venenum bufonis immunocompetence lymphocytes macrophages cell cycle

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