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论著

北豆根提取物PE2成分的体内抗肿瘤作用及其免疫学调节机制研究

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摘要 背景与目的：探讨中药北豆根提取物的体内抗肿瘤作用和免疫学调节作用机制。材料与方法：采用水提取、醇提取及水回流等方法对北豆根进行成分分离。采用四甲基偶氮唑蓝[3-(4,5-dimethy-2-thiazoly)-2, 5-diphenyl-2-tetrazoliumbromide, MTT]显色法分析北豆根提取物对肿瘤细胞和淋巴细胞增殖反应的作用。采用中性红法检测了北豆根提取物对小鼠巨噬细胞吞噬功能的影响。采用皮下接种肿瘤细胞建立荷瘤小鼠动物模型，通过灌胃法投入北豆根提取物，观察北豆根提取物的体内抗肿瘤作用和免疫调节作用。结果：北豆根乙醇提取物（RME）比水提取物（RMW）具有更强的抑瘤活性，醇提取物中的PE2成分可能是北豆根的主要抗肿瘤活性部分。北豆根提取物PE2经口投入荷瘤小鼠后，与对照组相比，实验组小鼠胸腺指数、脾指数明显增加，腹腔巨噬细胞吞噬功能和细胞因子分泌功能增强，NK细胞活性增加；一般情况较对照组小鼠好，肿瘤生长缓慢而局限，生存期明显延长。结论：PE2是北豆根抗肿瘤作用的主要有效部分，PE2体内也具有抗肿瘤作用，能通过增强荷瘤小鼠巨噬细胞的吞噬功能，增强NK细胞和小鼠脾细胞的活性，而发挥抗肿瘤作用。

关键词 北豆根提取成分；抗肿瘤作用；免疫学调节作用；脾细胞；腹腔巨噬细胞

The Anti-tumor Effect and Immunoregulatory Activity of PE2 From Rhizoma Menipermi Extracts in Vivo

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Abstract BACKGROUND & AIM: To study the antitumor activity and immunoregulatory activity of Chinese medicinal herb Rhizoma Menipermi extracts in vivo. MATERIAL AND METHODS: The chemical composition of Rhizoma Menipermi extract was separated with water, ethanol extraction and distillation methods. The suppressive effect of Rhizoma Menipermi extracts on the proliferation of tumor cells were assayed in vitro using MTT colorimetric method. The effect of Rhizoma Menipermi extracts on lymphocytes and the effect on the phagocytosis of mouse peritoneal macrophages were studied using MTT colorimetric method and neutral red method. The tumor bearing mouse model was constructed by injecting tumor cells subcutaneously. Then PE2 from Rhizoma Menipermi extract was given to the mouse orally to observe its antitumor activity and immunoregulatory activity in vivo. RESULTS: Rhizoma Menipermi extracts RMW and RME markedly inhibited the proliferation of tumor cells such as K562. The effect of RME was stronger than RMW.The PE2 constituent purified from RME might be the main antitumor active part of Rhizoma Menipermi as shown by antitumor test in vitro. After treatment with PE2, the general condition of the test mice was much better than that of control mice, with tumor growing more slowly and life prolonged. CONCLUSION: PE2 might be the main antitumor active part of Rhizoma Menipermi. PE2 also had antitumor effect in vivo. PE2 could exert antitumor effect in vivo by enhancing the phagocytosis of macrophages and by enhancing NK cells activity.

Keywords Rhizoma Menipermi extracts antitumor activity immunoregulatory activity spleen cells macrophages

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