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论著

苗药黑骨藤多糖部位HGT-5A的细胞免疫抑制作用及其可能的活性成分

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摘要 目的 观察苗药黑骨藤多糖部位HGT-5A的细胞免疫抑制作用及探讨其可能的活性成分。**方法** 采用二硝基氯苯建立小鼠迟发型超敏反应模型，初次致敏当天开始ig给予HGT-5A，每天1次，连续10 d，第11天处死小鼠测定耳肿胀度，观察HGT-5A体内对细胞免疫反应的影响；用［^{3}H］TdR掺入法检测HGT-5A及其多糖组分对小鼠脾细胞增殖反应的影响；用MTT法检测HGT-5A对脾淋巴细胞存活的影响。**结果** HGT-5A 50和100 mg·kg^{-1}可以明显抑制迟发型超敏反应模型小鼠耳肿胀，耳肿胀度由模型组的（8.9±2.2）mg分别降低至6.4±1.7和（7.1±1.5）mg；HGT-5A 50～500 mg·L^{-1}体外应用可促进小鼠脾细胞自发增殖反应，但在HGT-5A 100 mg·L^{-1}以上时可明显抑制刀豆蛋白A诱导的小鼠脾细胞增殖反应（P<0.05），对脂多糖诱导的小鼠脾细胞增殖反应无明显影响；HGT-5A与脾细胞共培养24，48和72 h对脾细胞存活无明显影响。从HGT-5A分离获得的中性糖部位HP1，酸性糖部位HP2，从HP1中分离得到的多糖成分HP1-3，以及从HP2中分离得到的多糖成分HP2-3和HP2-4 0.5～50 mg·L^{-1}可促进脾细胞自发增殖反应；HP2，HP1-3，HP1-4，HP2-2和HP2-4明显抑制刀豆蛋白A诱导的T细胞增殖反应。**结论** HGT-5A可抑制T细胞活化增殖，对细胞免疫反应具有抑制作用，多糖成分HP1-3，HP1-4，HP2-2和HP2-4可能是黑骨藤发挥免疫抑制作用的活性成分。

关键词 黑骨藤 多糖 超敏反应,迟发型 免疫抑制
分类号 R285,R963

Cellular immunosuppression effect of polysaccharides HGT-5A from *Periploca forrestii* Schlecht and its possible active components

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Abstract

OBJECTIVE To investigate the cellular immunosuppression effect of polysaccharide part HGT-5A from *Periploca forrestii* Schlecht and its possible active components. **METHODS** *In vivo*, the dinitrochlorobenzene (DNCB)-induced delayed type hypersensitivity (DTH) model was employed. Male BALB/c mice were sensitized with 5% DNCB on the 1st day and then challenged by DNCB on the 8th day to induce DTH. HGT-5A 50, 100 or 200 mg·kg^{-1} was ig administered from the 1st day, once a day, for 11 d. The mice were sacrificed on eleventh day after drug administration to measure the ear swelling on the 11th day. *In vitro*, the splenocytes from BALB/c mice were co-cultured with HGT-5A 50-500 mg·L^{-1} or its polysaccharide ingredients 0.5-50 mg·L^{-1} for 72 h, then cell proliferation was measured by ［^{3}H］TdR uptake assay. In addition, splenocyte survival was detected with MTT assay. **RESULTS** Compared with model group, HGT-5A 50 and 100 mg·kg^{-1} significantly inhibited DTH by decreasing ear swelling from 8.9±2.2 to 6.4±1.7 and (7.1±1.5)mg. HGT-5A enhanced the primary proliferation of splenocytes, but significantly suppressed concanavalin A (Con A) stimulated lymphocyte proliferation *in vitro* (P<0.05). Splenocytes co-cultured with HGT-5A 50-500 mg·L^{-1} for 24, 48 and 72 h manifested little effect on splenocyte survival. The neutral and acid polysaccharide parts HP1 and HP2 from HGT-5A, the polysaccharrides HP1-3 from HP1, and HP2-3 and HP2-4 from HP2 enhanced the primary splenocyte proliferaction. HP2, HP1-3, HP1-4, HP2-2 and HP2-4 obviously inhibited the Con A induced T cell proliferation. **CONCLUSION** HGT-5A shows immunosuppressive activity on cellular immune response, and its ingredients HP1-3, HP1-4, HP2-2 and HP2-4 may contribute partly to the immunosuppression activity of HGT-5A.

Key words Periploca forrestii Schlecht polysaccharide hypersensitivity delayed immune

suppression

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