



天花粉多糖对外周血单个核细胞的免疫活性作用

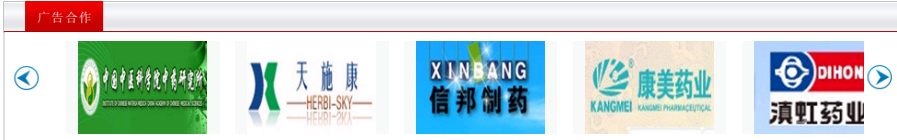
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中文摘要:目的:建立天花粉多糖促人外周血单个核细胞(peripheral blood mononuclear cells,PBMC)淋巴细胞增殖的方法,了解天花粉多糖对淋巴细胞增殖、活化作用,对T淋巴细胞亚群分群的影响和诱导产生TNF- α 、IL-6水平的差异。方法:制备天花粉多糖提纯液。健康人PBMC作为药物筛选的靶细胞;采用MTT法测定不同浓度天花粉多糖(0.5,1,0.5,0.1,0.0,20.0,50.0 mmol \cdot L $^{-1}$)的促人PBMC淋巴细胞增殖作用;采用流式细胞术和ELISA法分别检测药物作用后人PBMC中T淋巴细胞亚群(CD3 $^{+}$,CD4 $^{+}$,CD8 $^{+}$ T细胞)的表达和诱导人PBMC分泌产生TNF- α 、IL-6水平。结果:1.0-50.0 mmol \cdot L $^{-1}$ 天花粉多糖对人PBMC具有明显促增殖作用($P<0.05$);经5.0,1.0 mmol \cdot L $^{-1}$ 天花粉多糖刺激后的人PBMC中,CD3 $^{+}$,CD4 $^{+}$,CD8 $^{+}$ T细胞的含量明显高于对照组($P<0.05$),1.0,5.0,10.0 mmol \cdot L $^{-1}$ 天花粉多糖刺激人PBMC 8 h后,TNF- α 、IL-6水平显著升高($P<0.05$)。结论:天花粉多糖对人PBMC有明显促增殖和活化作用,不同程度地上调T淋巴细胞亚群中CD3 $^{+}$,CD4 $^{+}$,CD8 $^{+}$ T细胞的含量,并可诱导人PBMC高水平分泌产生TNF- α 、IL-6,为阐明天花粉多糖的免疫活性和作用机制奠定基础。

中文关键词:天花粉多糖 淋巴细胞增殖 T淋巴细胞亚群 细胞因子

Immunocompetence effects of polysaccharide of snakegourd root on human peripheral blood mononuclear cells *in vitro*

Abstract:Objective: To establish the method of promoting human peripheral blood mononuclear cell proliferation by polysaccharide of snakegourd root and identify the effects of polysaccharide of snakegourd root on lymphocyte proliferation, T lymphocyte subsets and the different levels of TNF- α and IL-6. Method: The polysaccharide of snakegourd root preparations were purified with dialysis and ethanol precipitation. The healthy human PBMC were used as the target cells for screening potency of the drugs. MTT colorimetry was established to examine the levels of lymphocyte proliferation on human PBMC by polysaccharide of snakegourd root *in vitro*. The percents of lymphocyte subsets (CD3 $^{+}$, CD4 $^{+}$, CD8 $^{+}$ T lymphocyte) and the different levels of TNF- α and IL-6 in PBMC were analysed by FCM and ELISA, respectively. Result: 1.0-50.0 mmol \cdot L $^{-1}$ of polysaccharides of snakegourd root showed the significant effects of promoting proliferation of human PBMC ($P<0.05$). The percents of CD3 $^{+}$, CD4 $^{+}$, CD8 $^{+}$ T lymphocytes in PBMC treated with 5.0 and 10.0 mmol \cdot L $^{-1}$ of polysaccharides of snakegourd root were significantly higher than those of the control group ($P<0.05$).The levels of TNF- α and IL-6 were significantly higher than those of the control group after 1.0,5.0,10.0 mmol \cdot L $^{-1}$ of polysaccharides of snakegourd root stimulation on the human PBMC at 8 hours ($P<0.05$). Conclusion: The significant effects on promoting lymphocyte proliferation and activation of the polysaccharide of snakegourd root are confirmed in this study. The percents of lymphocyte subsets are increased in different degrees by the polysaccharide of snakegourd root. The high levels of TNF- α and IL-6 are secreted after the polysaccharides of snakegourd root stimulation on the human PBMC, which lays a foundation for further elucidating the immunocompetence effects and mechanism of the polysaccharide of snakegourd root.

keywords:polysaccharide of snakegourd root lymphocyte proliferation T lymphocyte subsets cytokines

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