中草藥萃取液對雲芝胞外多醣?曳ㄥq、化學特性及免疫活性之影響

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摘 要

本論文以本土雲芝Coriolus versicolor菌種（LH1），以20升發酵槽（150 rpm，25 ℃，起始pH值為5）生產，各添加不同中藥萃取液（枸杞、半枝蓮及丹?）於培養基中，探討是否影響其胞外及胞內多醣?之產量、化學特性及不同種類之胞外多醣?誘發老鼠巨噬細胞（RAW264.7）產生不同NO（nitric oxide，一氧化氮）與細胞激素IL-1、IL-6及TNF-α產生量之生物活性影響。結果顯示在無添加任何中藥時LH1可產出胞外多醣?為0.61g/L、胞內多醣?為0.09 g/L，若添加中藥萃取液則影響胞外及胞內多醣?產量：添加丹?萃取液之胞外多醣?（2.54 g/L）＞添加枸杞萃取液的胞外多醣?（1.66 g/L）＞添加半枝蓮萃取液之胞外多醣?（1.37 g/L）；胞內多醣?為：丹?（0.49 g/L）＞枸杞（0.30 g/L）＞半枝蓮（0.29 g/L）。 化學特性中，各胞內外多醣?之單糖由不同比例之葡萄糖、半乳糖、甘露糖、木糖及阿拉伯糖組成，粗蛋白質含量亦有差異。以傅氏紅外線光譜儀分析其圖譜顯示胞內外多醣?同樣具有生物活性之β(1→3)鍵結之結構。此外，雲芝胞外多醣?溶液及添加不同中藥雲芝胞外多醣?溶液對老鼠巨噬細胞（RAW264.7）刺激後產生之細胞激素（TNF-α、IL-1β及IL-6）生成量及誘導巨噬細胞產生NO生成量亦有差異性。IL-1β生成量中以添加枸杞萃取液之雲芝的胞外多醣?產量最多；IL-6生成量以添加枸杞萃取液所得之雲芝胞外多醣?及添加半枝蓮萃取液所得之雲芝胞外多?為最多；而TNF-α生成量以任何胞外多醣?均比控制組高。而雲芝胞內多醣?溶液及添加不同中藥雲芝胞內多醣?溶液對老鼠巨噬細胞（RAW264.7）在與各胞外多醣?溶液相同濃度62.5μg/mL之下卻會使巨噬細胞死亡，顯示胞內外多醣?對巨噬細胞有不同刺激性，而胞外多醣?對巨噬細胞產生免疫活性與其不同之化學組成可能有密切關係。

關鍵詞 : 發酵 丹參 枸杞 半枝蓮 胞外多醣? 胞內多醣? 化學特性 免疫調節

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