

龍眼花水萃物改善高糖誘發內皮細胞損傷效果之探討

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【目的】在我們先前的研究中發現龍眼花水萃物具有改善動物高血糖現象的能力，因此本計畫想進一步測試龍眼花是否亦具有改善糖尿病引發之粥狀動脈硬化併發症的效果。本研究利用高糖處理內皮細胞 (endothelial cell) 模擬高血糖下的內皮細胞損傷情形，觀察並分析龍眼花水萃物對內皮細胞存活度及改善單核球黏附之能力。

【材料與方法】本實驗利用高糖 (High glucose, 33mM) 誘發人類臍靜脈內皮細胞 (HUVEC) 損傷情形，並以龍眼花水萃物 (Longan flower water extract) 共同處理，觀察其細胞存活度及 THP-1 人類單核球細胞黏附作用之情形。

【結果】結果顯示 HUVEC 細胞單獨或與高糖共同處理不同濃度之龍眼花水萃物 (20~80µg/ml) 24 小時情況下，對細胞存活度並不會有特別之影響。在單核球黏附實驗中，與控制組相比，HUVEC 細胞加入高糖處理 24 小時會顯著增加單核球黏附作用。而 HUVEC 單獨處理龍眼花水萃物下對核球黏附作用並無任何影響。但共同處理高糖及龍眼花水萃物的組別與高糖組相比，則有顯著降低單核球黏附作用的效果。

【結論】實驗結果顯示龍眼花水萃物對 HUVEC 細胞存活度並無顯著影響，在單核球黏附實驗中，龍眼花水萃物可顯著降低因高糖增加的單核球黏附作用。

關鍵字：HUVEC、高糖、內皮細胞損傷、龍眼花

苦檻藍之細胞毒殺活性成分

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Cytotoxic constituents from *Myoporum bontioides*

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【Objective】*Myoporum bontioides* (Sieb. & Zucc.) A. Gray (Myoporaceae) is a small evergreen shrub which is rarely found in Taiwan. Though *M. bontioides* didn't show any cytotoxic information from the literature survey, it possessed cytotoxicity in our preliminary screen against MCF-7 breast cancer, THP1 acute monocytic leukemia and SCC4 oral squamous cell cancer cell lines. We reported five flavonoids and their cytotoxicity in this presentation.

【Methods】All the isolates were purified by silica gel. Structural elucidation was accomplished by ¹H-, ¹³C-NMR and MS spectra. Cytotoxicity was evaluated by MTT assay.

【Results】Five bio-active flavonoids were obtained from the leaves of *M. bontioides*, including

5,7,4-trihydroxyflavone (1), myoporone (2), rhamnocitrin (3), norartocarpetin (4), and 2-(3,4-dimethoxyphenol)-3,5,7-trihydroxy-4H-chromen-4-one (5). Compound 5 (IC₅₀, 5.9 - 8.8 µM) showed high potency in suppressing cancer cell viability.

【Conclusions】Compound 5 may have a potential application in anticancer usage. The purification and cytotoxic mechanism deserves further investigation in the future.

【Key words】*Myoporum bontioides*, flavonoids, cytotoxicity, MCF-7 breast cancer, THP1 acute monocytic leukemia, SCC4 oral squamous cancer