

咖啡酸苯乙酯對糖尿病影響之探討

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一、前言

二、咖啡酸苯乙酯透過抑制 JNK 及 NF- κ B 發炎路徑改善胰島素抗性

三、咖啡酸苯乙酯對糖尿病大白鼠抗氧化保護作用

四、咖啡酸苯乙酯衍生物透過調控 Akt/NF- κ B/iNOS 路徑改善糖尿病小鼠腎病

五、結論

摘要

糖尿病 (Diabetes Mellitus, DM) 為一種代謝疾病，主要原因為胰島素相對或絕對上的不足，嚴重點會產生許多併發症，像是酮酸血症、慢性腎臟病以及視網膜病變等。咖啡酸苯乙酯 (caffeic acid phenethyl ester, CAPE) 為蜂膠中主要的活性成分，根據研究指出，CAPE 具有抗氧化、抗發炎及調節血糖等功效，本次報告主要探討 CAPE 對糖尿病之影響。結果顯示，在體外試驗方面，CAPE 顯著改善 HepG2 細胞的葡萄糖消耗及攝取，並降低 glucose-6-phosphatase 的表現量。餵食 5 週 CAPE 的糖尿病小鼠後，發現 CAPE 可以改善胰島素敏感性、高血脂症，並增加 PPAR α 表現量，使血液中促發炎因子 TNF- α 濃度下降。此外，體內及體外試驗皆能夠增加 Akt 及 IRS-1 表現量並抑制 JNK 及 NF- κ B 表現量。給予大鼠餵食 CAPE 後，其胰島素濃度及抗氧化相關酵素均有顯著上升，並能夠增加 HO-1、GGCL 及 DDAH-1 的表現量，降低 iNOS 表現量，達到抗氧化的效果。CAPE 及其衍生物皆能夠降低血液中肌酸酐、尿素氮、丙二醛濃度，並增加超氧化物歧化酶活性。綜合上述，CAPE 及其衍生物均具有改善糖尿病代謝之效果。

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