

# 褐藻醣膠對糖尿病引起的腎病變之影響

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## 大綱

一、 前言

二、 褐藻醣膠藉由調節 PKC 及 NF- $\kappa$ B 改善糖尿病引起之腎病變

三、 低分子量褐藻醣膠改善糖尿病腎病變引起的發炎及腎小球過濾功能

四、 小分子褐藻醣膠藉由活化 Sirt-1, GLP-1 及 Nrf2/HO-1，改善糖尿病引起之腎

纖維化

五、 結論

## 摘要

糖尿病 (diabetes mellitus, DM) 是一種慢性代謝疾病，為國人十大死因之一，由於糖尿病的發生率逐漸增加，糖尿病腎病變也愈來愈普遍。糖尿病腎病變是糖尿病的重要併發症之一，是由於飲食、生活習慣不良，導致血糖控制不佳，進而損傷腎功能，導致末期腎臟病變，最終可能需要進行洗腎治療。許多研究指出褐藻醣膠具有活化免疫系統、抑制血管新生、調節發炎反應、改善腎臟的功能異常及腎纖維化等作用。因此本次報告目的為探討褐藻醣膠對糖尿病引起的腎病變之影響。結果顯示褐藻醣膠可以藉由調節蛋白激酶 C 抑制 NF- $\kappa$ B 信號傳遞，進而抑制 TGF- $\beta$ 1、TGF- $\beta$ 1R 及 FN，增加 Sirt-1、GLP-1R 及 Nrf2/HO-1 的基因表現，減緩糖尿病引起的腎纖維化及腎功能異常。褐藻醣膠也可以維持腎小球及腎小球基底膜的結構，抑制糖化終產物的產生及累積，改善腎小球過濾功能及腎臟發炎反應，延緩糖尿病引起的腎病變。綜合上述，褐藻醣膠有助於改善糖尿病所引起的腎病變。

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