六種多酚化合物抑制腫瘤壞死因子-α和核因子-κB途徑的對接預測

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摘 要

本研究從具有消炎作用的中藥中，選取藥效較強而且常被使用的六種中藥多酚：薑黃素、兒茶素、芥子醇、丁香?、雷公藤甲素和木犀草素，分為兩部分的主題來進行研究；第一部分是以薑黃素、兒茶素、芥子醇、丁香?、雷公藤甲素和木犀草素等六種多酚以Autodock 4的軟體來作和TNF-α的對接預測；發現在當作以抑制TNF-α的消炎藥劑的單方方面，用雷公藤甲素或是薑黃素會比較好，這二者的藥效既強又穩定。若用做消炎的複方時，因為TNF－α的口袋是三個，根據研究結果，發現有三種使用方法：（a）同時使用薑黃素，兒茶素，芥子醇和木犀草素。（b）同時使用薑黃素，丁香?，芥子醇和木犀草素。（c）同時使用兒茶素，丁香?，和雷公藤甲素和木犀草素。 第二部分是以木犀草素當作小分子，胞內的NF-κB途徑（ TNFR1、 TRAF2、TRADD 、RIP1、IKKβ ）分別當作大分子，以Autodock 4的軟體來作對接預測；發現木犀草素可以強烈的抑制TRAF2、TNFR1 和 TRADD三者的功能，木犀草素可以聯結住RIP1，阻斷RIP1訊號的傳遞；木犀草素也和IKKβ的C-末端強力結合，阻止IKKβ和IKKα以及IKKγ形成三聚體，產生功能。也就是木犀草素可作為細胞外的TNF-α的抑制劑，也可以是細胞內NF-κB途徑的抑制劑。 本研究發現這六種多酚除了可以在細胞外以抑制TNF-α，產生消炎作用以外，其中的木犀草素還可以在細胞內以抑制NF-κB途徑，來產生消炎作用。

關鍵詞 : 薑黃素、兒茶素、芥子醇、丁香?、雷公藤甲素、木犀草素、NF-κB途徑

目錄

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