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• 計畫英文名稱	--		
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• 中文關鍵字	上皮成長因子; 上皮成長因子受體; 類黃素		
• 英文關鍵字	Epidermal growth factor (EGF); Epidermal growth factor receptor (EGFR); Flavonoid; A431		
• 中文摘要	上皮成長因子(EGF)在調控細胞成長與增生上扮演重要角色，其誘導細胞增生是經由誘導細胞膜上受器之磷酸化，進而活化其訊息傳導路徑。在皮膚惡性腫瘤如上皮細胞癌、乾癬病灶處等多種皮膚疾病上都發現有 EGF 受器大量表現或細胞內 Tyrosine 磷酸化被不正常活化的情形發生。因此，對 EGF 誘導之訊息活化有專一性抑制作用之化合物,當可作為未來預防或治療與 EGF 調控異常有關之皮膚疾病用藥。多酚類化合物為天然存在的植物成分中主要化合物之一，先前的文獻已證實天然多酚類化合物具備多種特殊的生物活性,例如抗氧化、預防腫瘤生成等。根據預試驗結果顯示特殊種類之 Flavonoid 對 TPA 誘導之血癌、腸癌細胞增生有明顯的抑制作用。為了更進一步瞭解其詳細的作用機轉與方式，本計劃選擇過去在 EGF 研究中最常被使用的 A431 細胞作為計劃之細胞模型細胞,並且由先前篩選所得較具潛力的類黃素中選用一系列結構相似的 Flavonoid 化合物 2'-OH flavanone, 3'-OH flavanone, 4'-OH flavanone, 5'-OH flavanone 6'-OH flavanone, 7'-OH flavanone, 4'-OCH3 flavanone, 6'-OCH3 flavanone, 7-OCH3 flavanone, 5-OCH3 flavanone, Narigenin (4',5,7-trihydroxyflavanone), Naringin (4',5,7-trihydroxyflavanone 7-rhamnoglucoside), Taxifolin (3,3',4',5,7-pentahydroxyflavanone), Baicalin, Kaempferol, Quercetin, Morin 及 Mmyricetin. 來探討其在 A431 細胞中對 EGF 誘導之訊息活化之影響。		
• 英文摘要	Epidermal growth factor receptor (EGFR)-mediated tyrosine phosphorylation may be a primary indicator of signal transduction regulating cell growth and proliferation. Enhanced tyrosine kinase activity due to aberrant or overexpression of receptor or non-receptor tyrosine kinases has been implicated in a variety of skin diseases including different type of skin cancer and psoriasis.		

Therefore, agents inhibited effectively on EGF mediated phosphorylation and signal transduction might be a good candidate for the prevention of cancer formation. Flavonoids are among the best candidates for mediating the protective effect of diets rich in fruits and vegetable with respect to cancer formation. Our unpublished data appeared that flavonoids were able to inhibit TPA-induced cellular proliferation in leukemia and colon cancer. To gain additional information about their growth effects on tumors and their cellular action mechanisms, a series of structure related polyphenols including 2'-OH flavanone, 3'-OH flavanone, 4'-OH flavanone, 5'-OH flavanone 6'-OH flavanone, 7'-OH flavanone, 4'-OCH₃ flavanone, 6'-OCH₃ flavanone, 7'-OCH₃ flavanone, 5-OCH₃ flavanone, narigenin (4',5,7-trihydroxyflavanone), naringin (4',5,7-trihydroxyflavanone 7-rhamnoglucoside), taxifolin (3,3',4',5,7-pentahydroxyflavanone), baicalin, kaempferol, quercetin, morin and myricetin. were added to cultures of epidermal carcinoma cells A431 treated with epidermal growth factor (EGF).