

# 轉殖乙烯突變 receptor (boers) 基因及 bar 基因之洋桔梗植物分析

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## 摘要

洋桔梗是一種非常受歡迎的觀賞植物，可是在栽種上沒有一個有效的雜草管理。洋桔梗是一種對乙烯相當敏感的植物，且在其花朵老化期間會乙烯生成量也會伴隨增加，洋桔梗之保鮮關鍵在於控制其花朵老化。藉由農桿菌轉殖方式將質體(pCAMBI3300-35S-boers)轉殖至洋桔梗植物中，此質體是將來自青花菜的ethylene receptor sensor gene，將此基因之胺基酸序列上的第521胺基酸 glycine 沈寂，並將第62個胺基酸 isoleucine 突變成 phenylalanine (boers gene)，之後將boers與CaMV35S啟動子結合再送入到含有bar基因之農桿菌(pCAMBIA3300)載體中，利用農桿菌基因轉殖方式將基因轉殖至植物細胞中，轉基因植物的獲得是將轉殖之葉片培植於MS培養基並添加0.05 mg/l-1 NAA，1 mg/l-1 BA，100 mg/l-1 及5 mg/l-1 固殺草誘發癒合組織形成，在由癒合組織來形成芽體，之後利用南方點墨法及北方點墨法之分析，證實bar基因在轉基因植物細胞中表現。且將轉基因植物株系在瓶內及溫室下進行對市售固殺草除草劑之耐藥性測試，分析結果顯示轉基因植物在濃度216 mg/l-1固殺草除草劑噴撒後還是正常生長著不受影響。同時在本研究也利用PCR及RT-PCR證實boers在轉基因植物細胞中同時也有表現。

關鍵詞：洋桔梗、bar基因、boers基因、除草劑、農桿菌

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