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• 計畫中文名稱	台灣金線連優勢品系之遺傳標誌的篩選		
• 計畫英文名稱	The Screening for the Genetic Markers of the Dominant Lines of <i>Anoectochilus formosanus</i>		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC90-2317-B038-001
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• 中文關鍵字	臺灣金線連; 品系; 標誌; 多醣體		
• 英文關鍵字	<i>Anoectochilus formosanus</i> ; polysaccharide; line; marker		
• 中文摘要	<p>台灣金線連依據其外表形態特徵可分為紅骨、綠骨、長葉和圓葉四個品系，本研究利用 DNA 指紋分析技術篩選其特有的分子標誌。rDNA (ribosomal DNA)序列的分析結果發現，種內各品系間無顯著差異；RAPD 分析結果，發現 T12+A、T12+T 及 D1+G 引物可產生對紅骨及綠骨二品系具多型性標誌；在 Inter SSR (Inter simple sequence repeat)分析中，成功地利用 808、827、835、836、841 及 842 六條引物，將四個品系完全區分出來。另一方面，利用 AFLP 偵測台灣金線連體細胞變異的程度，單株 DNA 變異程度介於 0~5.92%，平均為 2.89%，本研究結果推薦五組引物組合可效偵測金線連之體細胞變異。台灣金線連的多醣體具有提高免疫的功能；雖然總多醣體含量在各品系之間並無顯著差異，但根據我們的初步分析結果，各品系之酸性及鹼性多醣含量，具有較明顯的差異；各品系多醣體含量的差異，配合本研究所篩選的 RAPD 及 Inter SSR 遺傳標誌，及 AFLP 對台灣金線連體細胞變異之分析，可建立優良金線連品系的篩選模式，並提供在大量繁殖之過程仍能維持高品質之評估工具。</p>		
• 英文摘要	<p><i>Anoectochilus formosanus</i> Blume, belonging to Orchidaceae, is a perennial herb. It is used as a medicinal plant in folk. There are four lines different lines within the species according to their appearance: red stem, green stem, narrow leaf, and round leaf. In rDNA sequence analysis, no significant variation was found among the four lines. In RAPD analysis, three primers, T12+A, T12+T and D1+G, generated polymorphic markers between the lines of red stem and green stem. However, six screened primers, 808, 827, 835, 836, 841, and 842, were able to completely differentiate the four lines when ISSR analysis was performed. In addition, five sets of AFLP primers were recommended in our study to detect the somatic variation among the excised shoots derived from the same individual. No significant difference in total polysaccharide content was found among the four lines, but acidic and basic polysaccharide contents were different. The polysaccharide content along with RAPD markers and ISSR markers obtained in the study will be employed to set up a model for selection in</p>		

breeding program.