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• 計畫英文名稱	Research of Study on the Molecular Mechanism of Anti-Arthritis by Chinese Herbal (Triptolide and Clematidis Radix)	
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• 中文關鍵字	雷公藤；威靈仙；關節炎；間質分解酵素；；；	
• 英文關鍵字	osteoarthritis；Clematidis Radix；hyaluronic acid；MMPs；TNF；IL-1；Triptolide；	
• 中文摘要	<p>本計畫全程為兩年，第一年以建立『人類軟骨細胞初代培養之系統』，以作為篩選治療關節炎之中草藥平台，具活性之中草藥繼續探討其作用機轉。第二年再建立『關節炎之動物模式』，探討威靈仙等中草藥，開發成治療關節炎之潛力。本年度結果顯示：（1）可有效率從人類軟骨分離得軟骨細胞，其生長速度緩慢，單離約 14~20 天後，方可進行實驗。（2）雷公藤內脂醇為雷公藤中之主要活性成分，諸多文獻已報導其具有抑制關節之發炎反應，因此選其作為本實驗之正對照組。（3）篩選在許多中草藥後，發現以丙酮萃取之威靈仙，具有明顯抑制以脂多醣(LPS)誘導初代人類軟骨細胞之 NO，PGE2，MMP 3 及 MMP 13 等釋放，而 IL-1B 誘導者，則較無明顯變化。在蛋白質表現亦相同，以 LPS 誘導之 COX 2 抑制較為明顯。而雷公藤內脂醇在 200 nM 下即具有明顯之抑制作用，則再以 SW1353 人類軟骨細胞株進行機轉之探討，結果顯示：可明顯 MMP-13 之基因表現，phospha-ERK 及 phospho-IkBa 的表現。綜合結果，雷公藤內脂醇及丙酮萃取之威靈仙皆具有開發至量關節炎之潛力。</p>	
• 英文摘要	<p>In the first year of this study, we establish an in vitro model using primary human chondrocytes (PHC) and SW1353 human chondrosarcoma cell lines to find out potential anti-arthritic herbs and to explore the mechanism involved. Herbs that could interfere with the cartilage-degrading mechanisms will be further examined using in vivo model in the second year. The results of our first part of study are as followed: (1), PHC could be effectively obtained and established, though the confluent growth of chondrocytes takes about 2 to 3 weeks; (2)Triptolide is a documented active cartilage protective natural compound from Tripterygium wilfordii Hook F</p>	

(TWHF) and it is used as positive control within this study; (3), the acetonitrile extracted *C. chinensis* showed significant and dose dependent inhibitory effect on NO, PGE<sub>2</sub>, MMP-3, -13, and production by LPS-induced PHC, while the inhibitory effect was less obvious in IL-1-induced PHC. The acetonitrile extracted *C. chinensis* also showed significant inhibitory effect on COX-2 expression by LPS-stimulated PHC, comparable to that of triptolide. Triptolide inhibited the expression of MMP-13, phospho-ERK and phospho-IkBa in SW1353 cells. the above results imply chondroprotective effect of *C. chinensis* and triptolide on inflammatory arthritis.