• 系統編號	RN9511-2129		
• 計畫中文名稱	具釋控性去乙醯幾丁聚醣/聚乳酸水膠在導引組織再生之開發與應用研究		
• 計畫英文名稱	Process Development of Control Releasable Chitosan/PLA Hydrogel for GTR Barriers		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC93-2314-B038-037
• 執行機構	臺北醫學大學牙醫學系		
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• 研究人員	李勝揚; 劉巡宇; 楊正昌 Lee, Sheng-Yang		
• 中文關鍵字	組織導引再生、吸收性植入材、去乙醯幾丁聚醣、聚乳酸		
• 英文關鍵字	GTR, Resorbable implant, Chitosan, PLA		
• 中文摘要	將吸收性高分子結合組織導引再生術(Guided Tissue Regeneration, GTR)之觀念而應用到治療牙周病上，不僅具免除二次手術之優點，更在臨床醫療上證實新骨質之生成，然而在手術後為減少或舒緩發炎反應，往往需藉助抑菌漱口水或使用抗生素藥物，甚至在 GTR Barrier 產品中添加 Doxycycline，而具水溶性之抗生素在劑量設計時常不易兼顧安全性與持久性，故本計畫之目的在發展出兼具操作便利性與長效抑菌性之新型 GTR Barrier 阻隔材。研發構想上，係以可注射式之吸收性聚乳酸共聚物溶液系統為基礎，透過導入具有抑菌功能與促進骨癒合功能之幾丁聚醣，有效地提供長時間之抑菌效果降低發炎反應及加速癒合以縮短療程。研究重點在探討幾丁聚醣與聚乳酸共聚物溶液之相分離行為以增進對薄膜孔洞大小控制之瞭解，並探討浸泡時間對不同組成配方之抑菌性影響，為產品配方上兼顧整體療效與便利性之設計基礎。		
• 英文摘要	The improvement in surgical technique and the barrier materials have made the GTR (Guided Tissue Regeneration) technology successfully applied in periodontal therapy. A variety of resorbable barrier materials have been marketed during these few years offering the benefit of second-stage surgery free as well as the promotion of new cementum formation and connective tissue fiber attachment. Although these resorbable GTR barriers showed some promising results, the development of post-surgical infection control is still needed. Our goal is to develop an injectable GTR Barrier with a long-lasting antibacterial function and wound healing to meet specific human biology requirements. A resorbable PLA/NMP solution system formulated with the addition of Chitosan. The phase separation behavior of the Chitosan/PLA/NMP solution system was studied to gain the control of pore-formation in membrane		

for cell occlusion. The soaking time dependence of antibacterial effect of various GTR barriers was evaluated to compare the lasting period of effectiveness.