

• 系統編號	RB8501-1277		
• 計畫中文名稱	豬皮膠原蛋白之生物相容性、生物可吸收性與對骨質促進的研究		
• 計畫英文名稱	A Study of Biocompatibility, Biodegradation, and Osteopromotion of Porcine Collagen Membrane.		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC83-0412-B038-016
• 執行機構	台北醫學院牙醫學系		
• 本期期間	8302 ~ 8402		
• 報告頁數	0 頁	• 使用語言	中文
• 研究人員	呂炫？；陳朝洋 Lu, Hsien-Kun；Chen, Chau-Yan		
• 中文關鍵字	膠原蛋白膜；生體相容性；生體降解；戊二醛；骨質促進		
• 英文關鍵字	Collagen membrane；Biocompatibility；Biodegradation；Glutaraldehyde；Osteopromotion		
• 中文摘要	<p>本實驗乃針對台北醫學院藥學研究所所萃取之豬皮膠原蛋白,利用戊二醛塑化劑,增進膠原蛋白之交叉結構,進而將此製劑做成膜片,並埋入實驗老鼠之後大腿肌肉深層種植區,藉以觀察我們實驗室之純化膠原蛋白,是否具備生物相容性或生物可吸收性,並希望藉此初步之實驗,觀察膠原蛋白膜於軟組織中吸收之狀況,確定此品將來是否可進一步廣泛應用於醫療之用途上。本實驗結果顯示,未經戊二醛塑化之豬皮膠原蛋白膜,於植入肌肉八週後即完全被組織吸收;由 0.01%和 0.05%戊二醛塑化之膠原蛋白膜,亦於手術以後第八週於組織中被完全吸收,唯 3%戊二醛處理之膜片,於手術後第八週仍可見殘留之蛋白膜。再者,所有實驗組與控制組於植入手術後第二週,組織反應即由亞急性期逐漸轉成慢性期,而且於膜片周圍形成一完整之纖維囊。綜上所述,本研究建議 3%戊二醛可充分聚化豬皮膠原蛋白膜,並延緩於組織中被吸收之時間,並提供新肉芽組織附著與生長之機會,因此下一步驟之實驗,我們將進一步研究此膠原蛋白膜於牙周組織導引再生手術中,是否可完全符合組織隔離與空間維持之要求,以期將來可應用於臨床治療上。</p>		
• 英文摘要	<p>The purpose of the present study is tried to clarify the biologic characteristics of different collagen membranes which are harvested from porcine dermis and cross-linked by variant concentration of glutaldehyde (GA) in the Graduate Institute of Pharmaceutical Science, Taipei Medical College. In the present study, 48 Sprague-Dowley rats were used for the implantation of purified porcine collagen membranes (100 micrometers thick) in the muscular spaces of their hine legs in order to observe local soft tissue responses. Every 12 rats were randomly selected for four groups, which included implantation of membranes with non-conditioned control group, 0.01% GA</p>		

conditioned group, 0.05% GA conditioned group, and 3% GA conditioned group. From histologic measurement and observation, it was suggested that most of membranes, including non-conditioned group, the membranes were encapsulated by a well developed fibrous capsule at the time of six weeks after surgery. At eight weeks, most of the membranes were resorbed by tissue, except the group of 3% GA conditioned membrane. It was indicated that by using 3% GA to cross-link porcine dermal collagen membrane, the biodegradability of the membrane could be retarded and still preserved the biocompatibility of this material. Therefore, 3% GA can be chose as the optimal level of concentration for cross linking collagen membrane and be used in variant purposes of medical field, as guided tissue regeneration, osteopromotion, etc..