• 系統編號	RN9607-3445		
• 計畫中文名稱	應用電氣極化技術改變氫氧磷灰石之表面電位對骨內植入生醫材料表面改質之研究		
• 計畫英文名稱	Osteogenesis Stimulated by Electrical Polarized Hydroxyapatite		
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• 中文關鍵字	--		
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• 中文摘要	查無中文摘要		
• 英文摘要	The manipulation of cells by inert or biomaterials has therefore long been a focal theme of biomaterial science, microbiology, and biochemistry because cells and bacteria are known to variably adhere to solids, depending on their surface charge. Tissue engineering has rapidly developed with the manipulation of cells in vitro using scaffolds from biomaterials. However, the dependence of cell adhesion on the electrical charge of these materials is not yet generally accepted because of a lack of evidence. We recently demonstrated changes in the rate of bone-like crystal overgrowth on electrically polarized ceramics of hydroxyapatite (Ca10(PO4)6(OH)2, HAp) in a simulated body fluid. The effect of polarization on the acceleration and deceleration of grown hydroxyapatite layers was reported by Yamashita et al. This inductive effect by the polarized ceramics could potentially be useful to manipulate biomineralization. We proposed that nucleation and crystal growth took place because of the interaction of the supersaturated ionic groups in simulated body fluid with the accumulated charges on the polarized HAp surface. On the basis of these findings, we examined the effect of electrically charged HAp ceramics on selective cell adhesion.		