• 系統編號	RN9604-3897
• 計畫中文名稱	鋰鹽對微膠細胞作用之分子機轉(II)
• 計畫英文名稱	The Molecular Mechanisms of LiCl on Microglia Activation (II)
• 主管機關	行政院國家科學委員會
• 計畫編號	NSC94-2314-B038-007
• 執行機構	臺北醫學大學細胞及分子生物研究所
• 本期期間	9408 ~ 9507
• 報告頁數	6 頁
• 使用語言	中文
• 研究人員	呂思潔; 沈武典 Leu, Sy-Jye; Shen, Wu-Dien, Winston
• 中文關鍵字	鋰鹽，雙極性情感性躁鬱症，樹突狀細胞，免疫調節
• 英文關鍵字	Lithium, Bipolar disorder, Dendritic cell, Immunoregulation
• 中文摘要	雙極性情感性躁鬱症是一個非常普遍的精神疾病，在美國大約有 1.3-1.5%的人口罹患。它的症狀包含憂鬱和躁症兩個時期。鋰鹽爲治療雙極性情感性躁鬱症的首選藥物，但他們的作用機轉並不清楚。在神經系統上，鋰鹽可以保護神經系統及防止凋亡；在免疫系統上，雙極性情感性躁鬱症服用情緒穩定藥的病人，被檢測出較容易罹患自體免疫病人，而服用鋰鹽治療的病患罹患的機率比較小。因此，我們有興趣研究鋰鹽在免疫系統之鑰—樹突狀細胞分子及功能上所扮演的角色。自人類周邊血液分離出單核球，將之培養七天成未成熟樹突狀細胞，並在培養第一天便給予不同濃度的鋰鹽。實驗發現給予鋰鹽 2.5-10mM 可有意義的增加樹突狀細胞 CD86 和 CD83 的表現。但對其他樹突狀細胞表面記號如 HLA-DR,CD80,CD40 和 CD14 並無影響。鋰鹽刺激的未成熟樹突狀細胞與控制組比起來有意義的增加 IL-8 和 TNF-α 的分泌。這些實驗數據顯示鋰鹽在調控樹突狀細胞的功能和免疫調節中可能扮演重要的角色。
• 英文摘要	disease in the world, its symptoms include alternating depressive and manic episodes. It affects 1.3-1.5 ％ of population in the U.S. lithium (Li) have been chosen as the first line medicine for bipolar disorder. However, their mechanisms remain unclear. Lithium could protect and prevent apoptosis of neuron cells. Patients with bipolar disorder have higher prevalence of autoimmune disease, but patients treated with LiCl have lower incidence. Therefore, we are interested in the effect of lithium on the functions of dendritic cells (DC), which is a key regulator of immune responses. Peripheral blood mononuclear cell (PBMC) derived DCs were generated and treated with lithium for examination of change of surface molecules, mixed lymphocyte reaction and cytokine production. We found that lithium could significantly increase the expression of CD86 and CD83 expression on DCs to 2-3 folds as compared to control. Furthermore, IL-8 and TNF-alphasecretion were increased by lithium. These data suggest that lithium could modulate DC functions, and might have

potential role in immunomodulation.