• 系統編號	RC8910-0668		
• 計畫中文名稱	γ-放射線引發自由基產生對抗腫瘤藥物的影響		
• 計畫英文名稱	Free Radicals Induced by .gamma.-Ray Irradiation React with Antineoplastic Drugs		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC88-2113-M038-004
• 執行機構	台北醫學院生化科		
• 本期期間	8708 ~ 8807		
• 報告頁數	0 頁	• 使用語言	英文
• 研究人員	陳建志 Chen, Chien-Tsu		
• 中文關鍵字	加馬照射; 自由基; 抗腫瘤藥; 放射線治療		
• 英文關鍵字	Gamma irradiation; Free radical; Antitumor drug; Radiotherapy		

• 中文摘要	.gamma.-ray irradiated free radicals in biological environments, sometime leads a series of chain reaction or modification to macromolecules or small molecules. For those tumor patients, radiotherapy usually combined with chemotherapy to enhance the significance of therapeutic effects. High concentration of drugs in blood may react with free radicals induced from .gamma.-ray irradiation. Lots of side effects produced from the combined therapy have been evaluated for the purpose of safety from the view of molecular level. The aim of this proposal is first experimented in aqueous system to observe the products of the anti-neoplastic drugs, such as 5-FU and folinic acid under a certain dose of radiation. Secondary, to observe those reactions in the patients via serum analysis. Our results showed that the quantitative method of capillary electrophoresis was established to measure the byproducts of salicylic acid and phenylalanine reacting with hydroxyl radicals induced from either Fenton reaction or .gamma.-irradiation.
• 英文摘要	.gamma.-ray irradiated free radicals in biological environments, sometime leads a series of chain reaction or modification to macromolecules or small molecules. For those tumor patients, radiotherapy usually combined with chemotherapy to enhance the significance of therapeutic effects. High concentration of drugs in blood may react with free radicals induced from .gamma.-ray irradiation. Lots of side effects produced from the combined therapy have been evaluated for the purpose of safety from the view of molecular level. The aim of this proposal is first experimented in aqueous system to observe the products of the anti-neoplastic drugs, such as 5-FU and folinic acid under a certain dose of radiation. Secondary, to observe those reactions in the patients via serum analysis. Our results showed that the quantitative method of capillary electrophoresis was established to measure the byproducts of salicylic acid and phenylalanine reacting with hydroxyl radicals induced from either Fenton reaction or .gamma.-irradiation.