• 計畫中文名稱	保健食品預防大腸癌評估方法之研究		
• 計畫英文名稱	Study on the Assessment Method of Health Food on Prevention of Colorectal Cancer		
• 系統編號	PG9402-0118	• 研究性質	基礎研究
• 計畫編號	DOH94-TD-F-113-027	• 研究方式	委託研究
• 主管機關	行政院衛生署	• 研究期間	9401 ~ 9412
• 執行機構	台北醫學大學保健營養學系		
• 年度	94 年	• 研究經費	700 千元
• 研究領域	食品科技, 基礎醫學類		
• 研究人員	施純光		
• 中文關鍵字	保健食品；大腸癌；預防；評估方法；；；；		
• 英文關鍵字	Health food；Colorectal cancer；Prevention；Assessment method；；；；		
• 中文摘要	大腸癌是和膳食關係最密切的癌症，許多膳食因子可調節大腸癌的形成，透過膳食預防大腸癌爲合理且可行的方向。化學預防（Chemoprevention）是指利用天然物或藥物預防、逆轉或延遲癌症的發展，食品或其成分爲相當熱門的化學預防劑（Chemopreventive agent），據統計目前已有百種以上的食品或其成分具有預防大腸癌的潛力，是研發保健食品的良好原料。自從我國健康食品管理法實施以來，衛生署陸續公布多種健康食品的保健功能評估方法或其草案，但迄今尚無針對癌症相關保健功能的評估方法。本研究之目的爲建立保健食品預防大腸癌功能的評估方法，並實際以食品原料探討此評估方法的可行性及應用性。由於現有的誘發型大腸癌動物模式需相當長的誘發時間，不符經濟效益，故本研究擬建立一套快速誘發型大腸癌之動物模式。首先以動物實驗比較兩種高脂飼料對 1,2-dimethylhydrazine（DMH）所誘發大腸癌形成過程的影響，分析時間點爲誘發 8 週、16 週及 24 週，分析項目包括：大腸癌前期病變 Aberrant crypt foci (ACF)、大腸黏液素（Mucin）的分泌情形以及大腸腫瘤。由分析結果選擇誘發效果較佳的飼料作爲後續實驗的對照組飼料，並決定後續實驗的分析時間點。待此動物模式建立後，選擇數種具有預防大腸癌潛力的穀類作爲實驗樣品，探討此動物模式用於評估食品預防大腸癌功效之可行性及應用性。由於許多研究證實：非類固醇消炎藥（Nonsteroidal anti-inflammatory drug, NSAID）當中的 Piroxicam 無論對大腸癌前期病變 ACF 或對大腸腫瘤的抑制效果均極佳，故在此項評估實驗中以此藥品作爲正對照組的化學預防劑。本研究成果可提供大腸癌研究者更有效率的誘發型大腸癌動物模式，瞭解高脂飲食及穀類對大腸癌形成過程的影響，並可作爲衛生署制定保健食品預防大腸癌功能評估方法的參考。		

• 英文摘要	Colorectal cancer is the form of cancer most closely associated with diet. Dietary factors play a role in colorectal carcinogenesis, and thus it may be possible to prevent the occurrence of this cancer by dietary modification. Chemoprevention refers to the use of natural or synthetic compounds to prevent, reverse, or delay the development of cancer. Food-derived products are highly interesting for developed as chemopreventive agents, and more than 100 dietary agents have been tested against colorectal cancer. The Department of Health has promulgated several assessment methods of health food on health care effects. However, none of these methods assessed the preventive effect of health food on cancer. This study was designed to establish a fast assessment method of health food on prevention of colorectal cancer, and to evaluate the application of this method. The first experiment was designed to compare high-fat diets on 1,2-dimethylhydrazine (DMH)-induced colorectal carcinogenesis in rats. Colons will be examined for preneoplastic aberrant crypt foci (ACF), mucin secretion, and tumors after 8, 16, and 24 weeks of induction. The optimum experimental protocol will be selected as the formal assessment method. The second experiment was designed to evaluate the application of this established method using potential chemopreventive cereals and piroxicam, a nonsteroidal anti-inflammatory drug (NSAID) with anti-colon tumor activity. This study will contribute to provide an efficient animal model of chemically induced colorectal cancer, to elucidate the role of high-fat diets and cereals in colorectal carcinogenesis, and to establish a referential assessment method of health food on prevention of colorectal cancer.