

• 系統編號	RA8910-0425		
• 計畫中文名稱	土壤分離菌 <i>Streptomyces</i> sp.No. AMS-1110 所生產天然抗氧化成分之性狀分析研究		
• 計畫英文名稱	Study on the Natural Antioxidants Secreted by the Soil-Born Isolate of <i>Streptomyces</i> sp. AMS-1110		
• 主管機關	行政院國家科學委員會	• 計畫編號	NSC88-2113-M038-003
• 執行機構	台北醫學院醫學研究所		
• 本期期間	8708 ~ 8807		
• 報告頁數	0 頁	• 使用語言	中文
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• 中文關鍵字	抗氧化劑; 鏈黴菌; 抗氧化活性; 脂質過氧化物; 抗氧化機制		
• 英文關鍵字	Antioxidant; <i>Streptomyces</i> ; Antioxidant activity; Lipid peroxide; Antioxidative mechanism		
• 中文摘要	<p>自由基以及油脂過氧化物是造成細胞損害、組織老化甚至生物體發生各種病變的主因之一。這樣的過氧化傷害非常廣泛,在生物體內有時需藉由外在抗氧化劑的適時補充以維持生理機能之正常運轉。在從微生物資源篩選天然抗氧化物的過程中,我們篩得一抗氧化物生產性之土壤分離株 AMS-1110,並從菌種發酵培養液中分離得一抗氧化物 AMS-1110-TS-A (sample No. SY815-A)。該物質經質譜分析(MS)和核磁共振(¹H 及 ¹³C-NMR)等有機光譜的分析,以及 IR 直接比對的結果證實,其構造是屬於酪胺酸代謝中間體之 2,5-二羥苯乙酸(homogentisic acid)。抗氧化活性測試的結果發現,AMS-1110-TS-A 無論在紅血球空細胞膜 (RBC ghost membrane)以及在老鼠肝微粒體 (rat liver microsome) 的抗氧化評估系統中,均可顯示有效抑制脂質過氧化反應的進行,其效果雖不如合成抗氧化物 BHT 但與天然抗氧化物維生素 E(.alpha.-tocopherol) 具有幾乎對等的活性。</p>		
• 英文摘要	<p>Free radicals and lipid peroxides have been implicated as the causative factors in cell injury, aging and the pathogenesis of numerous diseases. Since such kinds of oxidative damage are widely existing in biological systems, it is necessary to compensate sufficient antioxidants in time through diet to keep our physiological function in progress normally. As a part of our screening program on natural antioxidants from microbial sources, we have isolated an antioxidants, designed AMS-1110-TS-A (sample No. SY815-A). The chemical structure of this metabolite was elucidated to be identical with homogentisic acid, a tyrosine-derived metabolic intermediate, on the basis of its MS, ¹H and ¹³C-NMR spectral data followed by the direct IR comparison. The antioxidant activity of AMS-1110-TS-A was investigated in vitro. As a results, AMS-1110-TS-A showed equal inhibitory activity to vitamin E but weaker effect than butylated hydroxytoluene (BHT) against lipid peroxidation in erythrocyte ghost membrane and rat liver microsome systems.</p>		