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關鍵字(英)	Young Barley Leaf Essence (YBLE) Antioxidant Serum Lipid Atherosclerosis Hamster
摘要(中)	本研究分體外及體內實驗兩部份，體外實驗主要探討各種大麥苗粉萃取物對脂質的抗氧化效果。大麥苗以正己烷、乙醇或水單獨或連續萃取方式分別得其抽出物及區分物，以抑制亞麻油酸過氧化作用方式檢測其抗氧化能

	<p>力。體內實驗部分將倉鼠隨機分成六組，分別為控制組、1%、3%、5%大麥苗組、維生素 E 組及低油組，飼養期四週期滿後，取得血液及肝臟樣本，進行各項血脂質檢測及抗氧化能力分析。由體外實驗結果可知，以連續萃取方式所得的大麥苗乙醇區分物，具有最高的抑制亞麻油酸氧化能力（71.1%）。而體內實驗結果指出，5%的大麥苗的餵予可顯著降低血清總膽固醇、三酸甘油酯、LDL-C 濃度；1%的大麥苗粉或每公斤飼料 150 mg 維生素 E 的給予，可顯著延長透析或未透析 LDL 的氧化遲滯期約 50%；3%大麥苗飼料組明顯使倉鼠 50% 紅血球的溶血時間從 73.33 分鐘延緩至 82.33 分鐘，並降低倉鼠血清 TBARS 含量；在肝臟方面，不論是 1%、3%、5%大麥苗粉或每公斤飼料 150 mg 維生素 E 的給予均可顯著減少其 TBARS 值。因此由本研究之結果顯示大麥苗的攝取具有降血脂及延緩 LDL 氧化的能力，應可減少趨動脈粥狀硬化之危險因子，但在適當之使用劑量方面，尚未獲得明確之結果。</p>
<p>摘要 (英)</p>	<p>The study, including in vitro and in vivo experiments, was investigated the effect of young barley leaf essence (YBLE) on serum lipids and antioxidative activities. In the in vitro study, YBLE was extracted with n-hexane (H), ethanol (E), water (W) alone or continuously. The antioxidative activities of various extracted fractions were determined by the protection of linoleic acid oxidation. In the in vivo study, Syrian hamsters were randomly divided into 6 groups. Besides blank and low fat diet groups, the remaining four groups were fed with a high fat diet separately containing 1%, 3%, 5% YBLE or α-tocopherol (150mg/kg diet). Blood and liver samples were obtained after 4 weeks feeding. Serum lipid levels, TBARS of serum and livers, 50% hemolysis of red blood cells (RBC), and the susceptibility of LDL oxidation were determined. Results showed that the ethanol extract from the residues of n-hexane had highest antioxidative activity (71.1%). It indicated that treatment of 5% YBLE in the diet significantly reduced serum triacylglycerols, total cholesterol, LDL-C. The results further demonstrated animals fed 1% YBLE and α-tocopherol (150 mg /kg diet) had longest lag phase of dialysis or undialysis LDL oxidation induced with Cu²⁺. RBC from 3% YBLE feeding group had significantly prolonged 50% RBC hemolysis time from 73.33 mins to 82.33 mins and lower serum TBARS. Besides, the levels of liver TBARS were decreased in all three groups fed with YBLE, and group fed with α-tocopherol (150 mg /kg diet). In conclusion, the study demonstrated that YBLE containing diet decreased serum lipids and prolonged the oxidation of LDL. Therefore, supplementation of YBLE may reduce the risk factors of atherosclerosis.</p>
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