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• 計畫英文名稱	Effect of Various Fatty Acids on Body Fat Accumulation	
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• 中文關鍵字	單元不飽和脂肪酸; 多元不飽和脂肪酸/飽和脂肪酸比值; 脂質代謝; 肥胖; 倉鼠	
• 英文關鍵字	Monounsaturated fatty acid; Polyunsaturated to saturated fatty acid ratio; Lipid metabolism; Obesity; Hamster	
• 中文摘要	<p>膳食油脂中的高單元不飽和脂肪酸(MUFA)和多元不飽和脂肪酸(PUFA)對體脂蓄積之影響目前仍有許多值得探討的問題。本次實驗餵食倉鼠 15%不同之調和油，其為 60%高 MUFA 比例且同時具有高或低的多元不飽和脂肪酸／飽和脂肪酸(P/S)的比值(分別為 HMHR 或 HMLR)；另為 30%低 MUFA 比例且同時具有高或低的多元不飽和脂肪酸／飽和脂肪酸(P/S)比值(分別為 LMHR 或 LMLR)，給予 15%(w/w)黃豆油作為對照組。經過 12 週的餵飼實驗發現五組攝食量並無差異，餵食 HMHR 油之倉鼠有較小量的體重、白色脂肪組織重、血漿胰島素濃度及肝臟脂質合成酵素活性，且肝臟脂質氧化酵素活性顯著高於對照組。LMLR 則有相反之結果。根據本實驗結果可推論，高 MUFA 和高 P/S 比值之油脂可能藉由降低血漿胰島素濃度、減少脂質合成及促進脂質氧化，而避免體重增加和體脂肪蓄積。未來，可以提供國人在體重控制或是維持理想體重時，有更多的資訊選擇適當的油脂來源。</p>	
• 英文摘要	<p>It is no coincidence that effect of oil high in monounsaturated fatty acid (MUFA) and polyunsaturated fatty acid (PUFA) intake on body fat accumulation and body weight gain in several animal studies and clinical trials. In this 12-week study, hamsters were fed mixed oils in which the total fatty acid content consisted of 60% MUFA (HM), with either high or low polyunsaturated to saturated fatty acid ratio (HMHR or HMLR, respectively), or 30% MUFA (LM), with either high or low P/S ratio (LMHR or LMLR, respectively). 15% (w/w) soybean oil was used as a control diet. While no differences were observed in food intake, hamsters on the HMHR diet exhibited reduced epididymal and retroperitoneal fat weight, as well as lower body weight and plasma insulin levels. Hepatic acetyl</p>	

CoA carboxylase activity was also reduced in HMHR hamsters, while hepatic carnitine palmitoyltransferase-I and acyl CoA oxidase activities were significantly higher. On the other hand, LMLR appeared to increase body weight, as well as hepatic acetyl CoA carboxylase and malic enzyme activities. Overall, in the hamsters studied, high-MUFA and high P/S ratio diets appeared to help prevent the weight gain and white adipose tissue accumulation associated with high fat diets by decreasing plasma insulin levels and improving hepatic lipolytic enzyme activity.