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• 研究人員	楊素卿 Yang, Suh-Ching
• 中文關鍵字	綠藻；氧化壓力；抗氧化作用；抗氧化酵素活性；肝功能
• 英文關鍵字	Chlorella；Oxidative stress；Antioxidant effect；Antioxidant enzyme activity；Liver function
• 中文摘要	本研究延續去年「綠藻之抗氧化功能評估」之研究，利用 CCl/sub 4/誘發大白鼠產生氧化傷害後，評估氧化壓力下綠藻是否仍具有提高體內抗氧化能力之作用。實驗期間訂爲 6 週，而實驗組分爲三組：第一組前三週及後三週給予酪蛋白基礎飼料；第二組前三週給予酪蛋白基礎飼料及後三週給予 0.5%的綠藻飼料；第三組前三週及後三週給予 0.5%的綠藻飼料。另外，以 CCl/sub 4/作爲誘發氧化傷害的誘導劑(CCl/sub4/與 Olive oil 以 1:1 的比例配製)，於實驗期第四週開始每星期的星期一與星期四，給予兩次的腹腔注射(大白鼠每 100 克給予 0.05ml 的劑量)。血液樣品於第 1、3 週時，從尾靜脈抽取 2ml 的血液；肝臟及實驗末血液樣本，則由犧牲動物取得。所得之血液及肝臟樣本進行以下之分析：(1)抗氧化狀態、(2)抗氧化酵素活性、(3)抗氧化能力、(4)總抗氧化狀態、(5)肝臟功能、(6)肝臟組織病變等。結果發現，在 CCl/sub 4/誘發氧化壓力下，0.5%綠藻之添加並不會提高體內的抗氧化狀態及抗氧化力。
• 英文摘要	According to the results of our previous study in "The evaluation of the antioxidant function of chlorella", chlorella could indeed increase antioxidative capacity in rats, especially supplemented with 0.5 and 4% chlorella had the best efficiency. This study continued the study of "The evaluation of the antioxidant function of chlorella" last year to evaluate whether chlorella can improve antioxidative capacity in rats under the oxidative stress after the oxidative damage induced by CCl/sub 4/. The experimental period was six weeks and rats were divided into three groups. The first group was fed a casein-based control diet for the entire 6 weeks. The second group was fed a casein-based control diet for 3 weeks, and then supplemented with 0.5% chlorella diet for the last 3 weeks.

The third group was fed a 0.5% chlorella supplemented diet for the entire 6 weeks. Additionally, the oxidative damage was induced by ip injection of 0.05 mL/100 g body weight CCl/sub 4/, suspended in olive oil (1:1), in rats twice a day on both Monday and Thursday from week 4. Blood samples (2 ml) were collected from the tail vein of rats on week 1 and week 3. After the end of the experimental period, rats were sacrificed, and liver and blood samples were obtained. The following assays were analyzed in all liver and blood samples: (1) antioxidant status, (2) antioxidant enzyme activities, (3) antioxidative capacity, (5) total antioxidant status, (5) hepatic function, and (6) hepatic pathology. The results showed that 0.5% chlorella diets can not improve antioxidantive capacity in the rats treated with CCl/sub 4/ under oxidative stress.