Antioxidant Effect of Chlorella vulgaris on Physiological Response of Rat Induced by Carbon Tetrachloride

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Abstract	Chlorella vulgaris is an algae with high nutrition content. Carbon tetrachloride (CCl4) is a hepatotoxic chemical.The aims of this study were to determine the effect of C. vulgaris extract on the physiological response of liver such as MDA, SOD and GPx activity on rat after induced by CCl4 exposure as well as to determine the effective dose of C. vulgaris Ã‚Â extract as antioxidant that can neutralize CCl4 exposure.Ã‚Â This research was conducted experimentally with Completely Randomized Design that consists of 6 treatment and 5 times repetition. The doses of C. vulgaris extract used were 3, 4, and 5 mg per /100 g of ratÃ¢Â€Â™sbody weight (BW).The administration of C. vulgaris extract was performed within 30 days, while the CCl4 (0.25 ml/100 g BW) was administered orally on the day 9, 12, 16, 19, 23, and 26. Parameters measured were levels of MDA, SOD and GPx of rat blood serum.The results showed that the administration of C. vulgaris extract can inhibit lipid peroxidation indicated by decrease in MDA activities and oxidative stress by increasing SOD and GPx activity. In conclusion, 5 mg/100 g BW of C.vulgaris extract is an effective dose to be uses as endogenous antioxidant to protect the liver cell from damage caused by CCl4exposure. The benefit of C. vulgaris as a supplement for antihepatotoxin in humans.
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