

Phytochemical component and toxicological evaluation of purple sweet potato leaf extract in male Sprague–Dawley rats

ABSTRACT

This study assessed the toxicity of lutein-rich purple sweet potato leaf (PSPL) extract in male Sprague–Dawley rats. Methods and study design: A total of 54 adult male Sprague–Dawley rats were used. For the acute toxicity study, three rats in the acute control group were fed 2,000 mg/kg of PSPL for 14 days. The subacute toxicity study included six rats each in four groups administered 50, 250, 500, or 1,000 mg/kg for 28 days and observed for further 14 days without treatment in the subacute control and subacute satellite groups. Changes in body weight; blood biochemistry; hematological parameters; relative organ weight; and histological sections of the heart, kidney, liver, pancreas, aorta, and retina were observed for signs of toxicity. Results: The gradual increase in weekly body weight, normal level full blood count, normal liver and kidney profile, relative organ weight, and histological sections of all stained organ tissue in the treated group compared with the acute, subacute, and satellite control groups demonstrated the absence of signs of toxicity. Conclusion: Lutein-rich PSPL extract shows no signs of toxicity up to 2,000 mg/kg/day.