

## **Effect of aqueous extract of *Dicranopteris linearis* leaves against paracetamol and carbon tetrachloride-induced liver toxicity in rats**

### **ABSTRACT**

The present study aimed to determine the hepatoprotective activity of *Dicranopteris linearis* L. (family Gleicheniaceae) leaf aqueous extract (DLAE) using two models of liver injury in rats. Rats were divided into ten groups (n=6) and received dH<sub>2</sub>O (negative control), 200 mg/kg silymarin (positive control) or DLAE (50, 250 and 500 mg/kg) orally once daily for 7 consecutive days and on the 8th day subjected to the hepatotoxic induction either using carbon tetrachloride (CCl<sub>4</sub>) or paracetamol (PCM). The bloods and livers were collected and subjected to biochemical and microscopical analysis. From the data obtained, only the highest dose of DLAE significantly ( $p < 0.05$ ) reduced the ALP, ALT and AST levels in CCl<sub>4</sub>- and PCM-induced hepatotoxic rats while the other doses caused significant ( $p < 0.05$ ) reduction only in the levels of ALT and AST. The histological results obtained were in line with the biochemical analysis wherein reduction in the CCl<sub>4</sub>- and PCM-induced tissue formation of necrosis, steatosis and inflammation occurred in a dose-dependent manner. In conclusion, the DLAE possesses hepatoprotective activity, which could be attributed to its free radicals scavenging and antioxidant activities, and high flavonoids content. Thus, in-depth studies regarding the hepatoprotective activity of DLAE are warranted.

**Keyword:** *Dicranopteris linearis*; Gleicheniaceae; In vivo; Hepatoprotective activity; Aqueous extract; Leaves