

## Documents

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**Combinational Antidiabetic effects of Curcuma longa L. and Trigonella foenum-graecum L. extracts in alloxan induced type-1 diabetic rats**

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**Abstract**

Diabetes mellitus is a metabolic disorder that is one of the leading causes of death globally. The current study aimed to determine the combined protective effect of Curcuma longa (CL) and Trigonella foenum-graecum (TFG) on alloxan-induced oxidative stress in liver tissue of albino Wister rats. Rats were divided into 8 groups with 6 individuals each. Group I served as control, group II, III and IV were treated with CL, TFG and CL+TFG respectively. Group V, VI, VII and VIII were alloxan-induced diabetic rats, whereas group V served as negative control and group VI, VII and VIII were treated with CL, TFG and CL+TFG respectively. Blood glucose, body weight, oxidative enzymes and histopathological changes were evaluated. Group V showed significant increase in blood glucose levels after induction of alloxan, whereas, group VI, VII and VIII showed significantly decreased levels. However, the best hypoglycaemic activity was found in group VIII. The body weights were slightly increased in groups II, III and IV after the treatment of plant extracts, whereas, decreased body weights were noticed in group V. though no significant weight changes were observed in groups VI, VII and VIII. A significant decrease in oxidative enzyme levels as compared to group V were recorded. The histopathological investigation of liver tissue showed morphological alteration in group V and ameliorative effects in group VI, VII and VIII due to administration of CL, TFG and CL+TFG. Therefore, the combined administration of CL+ TFG exhibits the highest hypoglycemic activity by reducing the oxidative enzyme levels and regeneration of liver tissue. © RJPT All right reserved.

**Author Keywords**

antidiabetic activity; Curcuma longa; liver histology; oxidative enzymes; Trigonella foenum-graecum

**Index Keywords**

alloxan, Curcuma longa extract, fenugreek extract, lactate dehydrogenase, oxidoreductase, plant extract, succinate dehydrogenase; alloxan-induced diabetes mellitus, animal experiment, animal model, antidiabetic activity, Article, body weight, controlled study, diabetogenesis, glucose blood level, histopathology, hyperglycemia, immunochemistry, nonhuman, oxidative stress, rat

**Chemicals/CAS**

alloxan, 3237-50-1, 50-71-5; lactate dehydrogenase, 9001-60-9; lactate dehydrogenase A; oxidoreductase, 9035-73-8, 9035-82-9, 9037-80-3, 9055-15-6; succinate dehydrogenase, 9002-02-2, 9028-10-8

**Manufacturers**

Olympus

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