

Caffeic acid as active principle from the fruit of *Xanthium strumarium* to lower plasma glucose in diabetic rats.

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Abstract

The antihyperglycemic effect of caffeic acid, one of the phenolic compounds contained in the fruit of *Xanthium strumarium*, was investigated. After an intravenous injection of caffeic acid into diabetic rats of both streptozotocin-induced and insulin-resistant models, a dose-dependent decrease of plasma glucose was observed. However, a similar effect was not produced in normal rats. An insulin-independent action of caffeic acid can thus be considered. Otherwise, this compound reduced the elevation of plasma glucose level in insulin-resistant rats receiving a glucose challenge test. Also, glucose uptake into the isolated adipocytes was raised by caffeic acid in a concentration-dependent manner. Increase of glucose utilization by caffeic acid seems to be responsible for the lowering of plasma glucose.