

**EXPRESSION OF CYTOCHROME P450 2E1 BY DIETARY  
GARLIC POWDER AS A TARGET FOR CHEMOPREVENTION  
AGAINST HEPATOCARCINOGENESIS IN RATS**

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The purpose of this study was to determine the effects of dietary garlic powder on preneoplastic foci and cytochrome P450 (CYP) enzymes in diethylnitrosamine (DEN)-induced rat hepatocarcinogenesis. Weaning male Sprague-Dawley rats were fed diets containing 0, 0.5, 2.0, and 5.0 % garlic powder and hepatocellular carcinogenesis was induced by medium-term bioassay system. The areas of GST-P positive foci were significantly decreased in rats fed 2.0 or 5.0 % garlic powder diets and the numbers of GST-P positive foci were significantly decreased in 2.0 % garlic powder diet-fed animals. Two percent garlic powder diet was the most effective in inhibiting hepatocarcinogenesis. The hepatic *p*-nitrophenol hydroxylase (PNPH) activity and protein level of CYP 2E1 in 2.0 or 5.0% garlic powder diets-fed groups were much lower than those of the control groups, but mRNA levels of CYP 2E1 were not influenced by the diet. The suppression of CYP 2E1 by dietary garlic may be regulated by posttranscription. Therefore, the selective modulation of CYP isozymes by usual consumption of garlic in the diet, not by excessive intake of megadose organosulfur compounds of garlic, may influence on preneoplastic foci and contribute to chemoprevention against the initiation of hepatocarcinogenesis in rats.