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## **Pronounced inhibition by a natural anthocyanin, purple corn color, of 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP)-associated colorectal carcinogenesis in male F344 rats pretreated with 1,2-dimethylhydrazine**

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### **Abstract**

The potential of purple corn color (PCC), a natural anthocyanin, to modify colorectal carcinogenesis was investigated in male F344/DuCrj rats, initially treated with 1,2-dimethylhydrazine (DMH), receiving 2-amino-1-methyl-6-phenylimidazo[4,5-*b*]pyridine (PhIP) in the diet. After DMH initiation, PCC was given at a dietary level of 5.0% in combination with 0.02% PhIP until week 36. No PCC-treatment-related changes in clinical signs, body weight and food consumption were found. Incidences and multiplicities of colorectal adenomas and carcinomas in rats initiated with DMH were clearly increased by PhIP. In contrast, lesion development was suppressed by PCC administration. Furthermore, in the non-DMH initiation groups, induction of aberrant crypt foci by PhIP tended to be decreased by the PCC supplementation. The results thus demonstrate that while PhIP clearly exerts promoting effects on DMH-induced colorectal carcinogenesis, these can be reduced by 5.0% PCC in the diet, under the present experimental conditions.

**Keywords:** [Anthocyanin](#), [Purple corn color](#), [Colorectal carcinogenesis](#), [F344 rats](#), [Inhibition](#), [2-Amino-1-methyl-6-phenylimidazo\[4,5-\*b\*\]pyridine](#), [1,2-Dimethylhydrazine](#)

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