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**Record 1 of 1****Title:** Impact of aqueous doash extract on urinary mutagenicity in rats exposed to heterocyclic amines**Author(s):** Khan, JA (Khan, Jehan A.); Jalal, JA (Jalal, Jalaluddin A.); Ioannes, C (Ioannes, C.); Moselhy, SS (Moselhy, Said S.)**Source:** TOXICOLOGY AND INDUSTRIAL HEALTH **Volume:** 29 **Issue:** 2 **Pages:** 142-148 **DOI:** 10.1177/0748233711427053 **Published:** MAR 2013**Times Cited in Web of Science Core Collection:** 0**Total Times Cited:** 1**Usage Count (Last 180 days):** 0**Usage Count (Since 2013):** 6**Cited Reference Count:** 21

**Abstract:** Doash (*Origanum majorana*) is a herbaceous plant found commonly in Saudi Arabia. It is used as a food flavor and a folk remedy to treat a number of diseases. The 2-amino-3-methylimidazo[4,5-f]quinoline (IQ) and 2-amino-1-methyl-6-phenylimidazo[4,5-b]pyridine (PhIP) are the most abundant of the heterocyclic amine carcinogens present in cooked food. In the present study, the potential of doash tea to influence carcinogen metabolism was investigated indirectly using heterocyclic amines as model mutagens, IQ and PhIP. Results obtained showed that doash tea had no influence on body weight in both the studies. Rats were treated with different doses of IQ (1, 3, 5 and 10 mg/kg) or PhIP (1, 5, 10 and 20 mg/kg). The selected dosage was 5 mg/kg for both heterocyclic amines. Results obtained revealed that rats treated with doash tea and given a single dose of the heterocyclic amines, whether for 1 day (short-term) or for 1 month (long term), showed a statistically significant decrease in their excretion of indirect mutagens (IQ or PhIP). Following treatment of the rats with a single oral dose of IQ or PhIP, the highest mutagenic activity determined in the presence of an activation system was excreted in the urine after 24 h, with much lower levels of mutagenicity being excreted during subsequent elimination from the body. No mutagenicity was observed in the absence of an activation system that is direct-acting mutagenicity using (IQ and PhIP). Statistical analysis revealed that, in comparison with the control group, the aqueous doash extract significantly reduced the mutagenic response after 24 h. It was concluded that doash extract significantly decreased the excretion of mutagens in comparison with the control group (water only).

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