Nine-week detection of six genotoxic lung carcinogens using the rasH2/BHT mouse model.


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A 9-week in vivo rasH2/butylhydroxytoluene (BHT) model for the detection of genotoxic lung carcinogens was validated, using six potent positive test compounds, dimethylnitrosamine (DMN; 15 mg/kg, i.p.), diethylnitrosamine (DEN; 100 mg/kg, i.p.), ethylnitrosourea (ENU; 120 mg/kg, i.p.), 3-methylcholanthrene (MC; 100 mg/kg, i.p.), 7,12-dimethylbenz(a)anthracene (DMBA; 5 mg/kg, i.g.) and benzo(a)pyrene (B(a)P; 80 mg/kg, i.p.), each given to rasH2 mice of both genders by single administration for initiation followed by promoter BHT treatment. Statistically significant increase in the incidence and multiplicity of lung tumors was observed in rasH2 mice treated with BHT following exposure to all of the carcinogens tested. The data overall suggest the rasH2/BHT model to be a powerful screening tool for genotoxic lung carcinogens.

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