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**IN VITRO AND IN VIVO EVALUATION OF THE  
GENOTOXIC EFFECT OF 2-BROMOPROPANE BY THE  
ALKALINE SINGLE-CELL GEL ELECTROPHORESIS  
(COMET) ASSAY**

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The alkaline single cell gel electrophoresis (comet) assay was used to clarify in vitro and in vivo genotoxicity of 2-bromopropane (2-BP). For in vitro studies, fresh medium containing 2-BP (2.50, 1.00, 0.50, 0.25, 0.10, 0.05, 0.01 mM, and vehicle control) were added in human lymphocytes. The proportions of cells with undamaged DNA was decreased significantly and those with different grades of damaged DNA were increased significantly in the cells exposed to 0.01 and 2.50 mM of 2-BP. For in vivo studies, ICR mice were sacrificed at 3, 8, 24 h after treatment and the induction of DNA strand breaks was assessed in bone marrow and liver. Three hours after administration, 2-BP induced alkaline labile DNA lesions in all of the organs studied, but their effect was the greatest in the liver. These results show that exposure to 2-BP induces DNA damage.

Keyword : 2-bromopropane, Comet assay