Genotoxicity of Euphorbia hirta: An Allium cepa Assay

Type:

Article

Abstract:

The potential genotoxic effects of methanolic extracts of Euphorbia hirta which is commonly used in traditional medicine to treat a variety of diseased conditions including asthma, coughs, diarrhea and dysentery was investigated using Allium cepa assay. The extracts of 125, 250, 500 and 1,000 mu g/mL were tested on root meristems of A. cepa. Ethylmethanesulfonate was used as positive control and distilled water was used as negative control. The result showed that mitotic index decreased as the concentrations of E. hirta extract increased. A dose-dependent increase of chromosome aberrations was also observed. Abnormalities scored were stickiness, c-mitosis, bridges and vagrant chromosomes. Micronucleated cells were also observed at interphase. Result of this study confirmed that the methanol extracts of E. hirta exerted significant genotoxic and mitodepressive effects at 1,000 mu g/mL.

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Genotoxicity,Allium cepa,ethylmethane sulfonate, mitotic index,chromosome aberrations,medicinal-plants,chromosome stickiness, root-tips,aberrations Mitosis,water

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