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SCREENING OF IN-VITRO ANTI-MUTAGENIC ACTIVITY OF SELECTED PLANTS

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ABSTRACT

Any agent, which increases DNA damage or cell proliferation, can cause increased rate of mutation also increase the probability of cancer. A mutagen is considered an agent capable of destroying the integrity of hereditary mechanism of the cell or organism. Majority of known cancer causing agents are mutagens. The rate of tumor evolution and progression is accelerated by mutagenic agents. Mutation is now a day's increase in human being. Here screening of in vitro anti-mutagenic activity of selected plants *Spheranthus indicus*, *Asteracantha longifolia*, *Jateorhiza palmata*, *Mucuna Pruriens*, *Tecomella undulate*, *Picrorhiza kurroa*, *Grewia tiliifolia*, *Myristica fragrans*, *Oroxylum indicum*, *Gymnosporia montana* were investigated. The activity was assayed by Ames Salmonella mutagenicity test using histidine mutants of Salmonella typhimurium tester strains, MTCC 98, MTCC 1251 and MTCC 1252. The hydroalcoholic extract of the plants significantly inhibited ($P < 0.001$) the *in vitro* by direct mutagens sodium azide (NaN_3), 4-nitro-o-phenylenediamine (NPD), and indirect mutagens benzo[a]pyrene (B[a]P) 2-aminoflourene(2-AF) induced his revertants in adose dependent manner. The results indicated that the hydroalcoholic extract of *Spheranthus indicus* occurring in India possessed significant antimutagenic activity.

Keywords: In-vitro, Anti-mutagenic, Salmonella typhimurium, mutagens

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