Abstract

Cremophor EL is a solubilizer and emulsifier agent used in the pharmaceutical and foodstuff industries. The solvent is the principal constituent of paclitaxel’s clinical formulation vehicle. Since mitotic recombination plays a crucial role in multistep carcinogenesis, the study of the recombinagenic potential of chemical compounds is of the utmost importance. In our research genotoxicity of cremophor EL has been studied by using an uvsH/uvsH diploid strain of Aspergillus nidulans. Since it spends a great part of its cell cycle in the G2 period, this fungus is a special screening system for the study of mitotic recombination induced by chemical substances. Homozygotization Indexes (HI) for paba and bi markers from heterozygous B211//A837 diploid strain were determined for the evaluation of the recombinagenic effect of cremophor EL. It has been shown that cremophor EL induces increase in mitotic crossing-over events at nontoxic concentrations (0.05 and 0.075% v/v).

Keywords

Aspergillus nidulans; mitotic recombination; cremophor EL; Homozygotization Index; antineoplasm agents.