Abstract

Noni, a Hawaiian name for the fruit of *Morinda citrifolia* L., is a traditional medicinal plant from Polynesia *Morinda citrifolia* L., widely used for the treatment of many diseases including arthritis, diabetes, asthma, hypertension and cancer. Here, a commercial noni juice (TNJ) was evaluated for its protective activities against the lesions induced by mitomycin C (MMC) and doxorubicin (DXR) using the Somatic Mutation and Recombination Test (SMART) in *Drosophila melanogaster*. Three-day-old larvae, trans-heterozygous for two genetic markers (*mwh* and *fl r 3*), were co-treated with TNJ plus MMC or DXR. We have observed a reduction in genotoxic effects of MMC and DXR caused by the juice. TNJ provoked a marked decrease in all kinds of MMC- and DXR-induced mutant spots, mainly due to its antirecombinagenic activity. The TNJ protective effects were concentration-dependent, indicating a dose-response correlation, that can be attributed to a powerful antioxidant and/or free radical scavenger ability of TNJ.

Keywords

Antigenotoxicity, doxorubicin, mitomycin C, SMART, noni juice.