

Mutagenic properties of modified hydrothermal nanotitania extract

ABSTRACT

Backgrounds: The mutagenic properties of modified hydrothermal nanotitania extract were carried out using the Ames test (genotoxicity). Materials and methods: The Ames test was performed on Salmonella strains (TA98, TA100, TA1535, TA1537 and TA 102) which contain mutations in several genes with and without S9 metabolic activation from rat liver using the standard assay. The materials were extracted in distilled water and the serial dilutions of concentration ranging from 313 to 5000 µg/mL were used after the incubation period of 24 h at 37° C. Results: These results suggested that all tested concentrations of the material extracts did not produce mutagenic effect in all the strains tested. Conclusions: Findings from this study showed that the modified hydrothermal nanotitania extract was non-mutagenic under present conditions.

Keyword: Mutagenicity; Ames test; Genotoxicity