

Characterization of Spirogyra mutant with high antioxidant activity

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In this study, Spirogyra mutant with high antioxidant activity was obtained by gamma irradiation and its biological characteristics was investigated. After serial irradiation, Spirogyra mutants with high radiation resistance were obtained, and among them mutant with high antioxidant activity was selected. Methanol extracts were prepared from Spirogyra wild-type and Mut plants, and their antioxidant activities and total phenolic content (TPC) were determined. Antioxidant parameters, including the 2-diphenyl-1-picrylhydrazyl radical-scavenging activity and ferric-reducing/antioxidant power, were higher in the Mut extract. Moreover, the TPC level was higher ($P < 0.05$) in the Mut methanol extract. Therefore, these results suggest that gamma irradiation-induced Spirogyra Mut has superior antioxidant properties.