

Oxidative stress and antioxidant capacity in barley grown under space environment

Shagimardanova E., Gusev O., Bingham G., Levinskikh M., Sychev V., Tiansu Z., Kihara M., Ito K., Sugimoto M.

Kazan Federal University, 420008, Kremlevskaya 18, Kazan, Russia

Abstract

The gene expression and enzyme activity of superoxide dismutase, catalase, and ascorbate peroxidase in the space-grown barley were not significantly different from those of the ground-grown barley. Cu²⁺ reducing and radical scavenging activities in an extract of the space-grown barley were lower than those of the ground-grown barley by 0.7 fold, suggesting that the space environment does not induce oxidative stress, and reduces antioxidant capacity in plants.

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Keywords

Antioxidant activity, Barley, International space station, Oxidative stress, Space radiation