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PAPER TITLE EFFECTS OF SUPPLEMENTATION WITH SELENOUS YEAST  
ON RADIOPROTECTION

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ABSTRACT (See instructions overleaf)

## EFFECTS OF SUPPLEMENTATION WITH SELENOUS YEAST ON RADIOPROTECTION

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Ionizing radiation induced in the living system an increased production of free radicals, mainly oxygen reactive species, that could cause unreversible damage of biomolecules. Endogenous antioxidant defense system (AODS) developed in the aerobic cell with the role to protect against damaging reactivity of oxyradicals. Essential element Selenium is an important part of AODS.

In our study we investigated whether the supplementation with Se in a form of protein bound element, could exert a protective effect against harm of whole-body irradiation. A groups of male Wistar rats were exposed to gamma rays (single dose of 4.2 Gy from Co-60 source) and supplemented with Se-enriched yeast (0.5 ug/d for 4 weeks before and whole time after irradiation) or with pure yeast - controls. We analyzed the alterations in: amount of reduced (GSH), oxidized (GSSG) glutathione, Selenium, malondialdehyde-like products; activities of enzymes catalase (CAT), glutathione peroxidase (GSH-Px), superoxide dismutase (SOD) in red blood cells of rats 8, 30, 150 days and 8 months after irradiation.

The obtained results suggest that Se supplementation reduced changes in AODS, helping the organism to overcome harmful effects of ionizing radiation.