

THE INFLUENCE OF LACTOBACILLI METABOLIC PRODUCTS ON THE PRODUCTION OF REACTIVE OXYGEN SPECIES IN VITRO

Rimantas Stakauskas, Juozas Pieškus

Summary. Reactive oxygen species (ROS) are toxic molecules of the immune system, which play important role in controlling bacterial pathogens and tumors. Bacteria of digestive microflora and their metabolic products influence ROS production. The effect of *Lactobacillus plantarum* and *Lactobacillus fermentum* metabolic products on ROS production in bovine polymorphonuclear cells *in vitro* was investigated. Dihydrorhodamin 123 was used for the detection of ROS. It is oxidized by ROS into rhodamin, which has green fluorescence. The ROS production was evaluated by the intensity of green fluorescence. Metabolic products of *Lactobacillus plantarum* and *Lactobacillus fermentum* stimulated ROS production in bovine polymorphonuclear cells *in vitro*. The effect of stimulation depends on the concentration of metabolic products.

Keywords: lactobacilli, polymorphonuclear cells (PMNC), reactive oxygen species (ROS)