## THE INFLUENCE OF PURINE NUCLEOTIDES ON THE UNCOUPLING EFFECT OF REACTIVE OXYGENE SPECIES IN MITOCHONDRIA

M.N. Tutukina, O.Yu. Fomenko, V.N. Popov

The mechanisms of uncoupling effect of Fatty Acids in mitochondria and possible role of uncoupling proteins in the cellular antioxidant defense were studied. It was shown, that purine nucleotides, added after the ATP/ADP-antiporter inhibitor - carboxyatractilate – cannot cause further recoupling. This fact can lead us to the conclusion, that nucleotide-sensitive  $H^+$ -conductance in potato mitochondria is provided preferently by the operation of ATP/ADP-antiporter. On plant and animal mitochondria, it was shown, that the addition of  $H_2O_2$  in small concentrations is resulted in the significant decrease in aconitase activity. ATP works as the aconitase protector. The addition of GDP increases the inhibitory effect of  $H_2O_2$ , suggesting the key role of uncoupling proteins in cell protection against ROS.