

Russian Journal of Developmental Biology 2008 vol.39 N6, pages 352-356

Changes in nitric oxide in heart of intact and sympathectomized rats of different age

Andrianov V., Sitdikov F., Gainutdinov K., Yurtaeva S., Yafarova G., Muranova L., Obynochnyi A., Karimov F., Chiglintsev V., Iyudin V.

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

Abstract

Nitric oxide production in heart tissues of rats of different age in the norm and after pharmacological sympathectomy was studied by electron spin resonance spin-trapping. Rats at the age of 14, 21, 70, and 100 days were used in the experiment. The concentration of nitric oxide produced in rat heart tissues proved to considerably decrease during ontogeny. Pharmacological sympathectomy notably decreased nitric oxide production in the heart in 14- and 21-day-old rats: the nitric oxide concentration in the spin trap as well as the level of R and T conformers of hemoglobin nitrosyl complexes decreased. In 70-day-old rats, pharmacological sympathectomy had no notable effect on the level of nitric oxide-containing paramagnetic complexes. © 2008 MAIK Nauka.

<http://dx.doi.org/10.1134/S1062360408060040>

Keywords

Electron spin resonance, Heart, Nitric oxide, Ontogeny, Sympathectomy