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# Genetic features of NO generating systems and resistant to Ehrlich carcinoma

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**Introduction:** An important factor of antitumor immune defence is macrophage NO. We hypothesized that the tumor vulnerability can be predetermined by genetic features of NO generating systems.

**Methods:** The content of NO in tumor was changed by the iNOS inhibitor ITU, NO traps c-PTIO and NO donor. NO production was evaluated by nitrites. Macrophage phenotype was assessed by iNOS and CD markers.

**Results:** The lifespan of mice C57BL/6N with carcinoma was 25% more than C57BL/6J. NO content reduction decreased lifespan of high-resistant to tumor subline C57BL/6N by 23%. NO content rise increased lifespan of low-resistant subline C57BL/6J by 26%. C57BL/6N M1 macrophages had a higher NO production, than C57BL/6J M2 macrophages.

**Discussion:** Thus, the carcinoma vulnerability is determined by genetic features of macrophage NO generating systems. C57BL/6J and C57BL/6N have differences in SNP and NNT (nicotinamide nucleotide transhydrogenase) gene. NO, NNT and SNP deserve attention in developing methods for anticancer therapy.

## Biography

Malyshev I is a Head of the Department of Pathophysiology and Head of the Laboratory of Cell Biotechnology, Medical School at the Moscow State University of Medicine and Dentistry. He is also the Head of the Laboratory of Stress at the Institute of General Pathology and Pathophysiology, Moscow and Adjunct Professor of Biomedical Sciences at University of North Texas Health Science Center, USA. He is a Member of the Board of directors of the International Society for Adaptive Medicine and an Editorial Board Member of *Journal of Biosciences and Medicines*. He has published 3 books and monographs and 146 full length articles.

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