

# Letter from the Editors

**D**ear friends,  
We are delighted to present the sixth volume of *Acta Naturae*. As has become the custom, we are continuing to publish review articles on promising aspects of life sciences, as well as experimental papers and the Forum section. The problem of achieving a balance between innate and adaptive immunity in the body's fight against infection has been of concern to the scientific community since the mid-1990s. In the past few years, it has become evident that the innate immunity factor has been underestimated. Many new factors highlighting the significance of the work of Russian Nobel Prize laureate Ilya Metchnikov have come to light. In this respect, we would like to note the review by D.V. Scheblyakov, dedicated to the role of innate immunity and, more specifically, that of Toll-like receptors in tumor progression. We also deemed it necessary to continue the discussion around pluripotent stem cells (see the review by S.P. Medvedev, A.I. Shevchenko, S.M. Zakiyan). It is indeed possible that in the foreseeable future medicine will become more personalized. High-throughput genome sequencing, detection of the distinct genes responsible for the expression of certain disease-related proteins will provide for efficient treatment and individual-targeted drugs. It will become possible, soon, to forecast an individual's response to therapeutic influence, which is of crucial importance in the case of drugs that can have negative side effects on an individual. The editors are also paying attention to biochemistry and enzymology; suffice to note the major importance of penicillin-specific enzymes. Their role in biotechnological and pharmaceutical advances can hardly be overestimated (the review by V.I. Tishkov, S.S. Savin, A.S. Yasnaya).

Experimental papers in the current issue cover a breadth of materials in the field of physico-chemical biology, from the physiological role of peptide structures (N.I. Minkevich, V.M. Lipkin, I.A. Kostanyan) to the structural peculiarities of "nano-antibodies" (S.V. Tillib, T.I. Ivanov, L.A. Vasiliev). The editors also offer readers an article on the molecular physiology of the cell (A.V. Shalyguin *et al.*),

which describes the role of Homer-proteins in the regulation of store-operated calcium channels. Some articles are dedicated to innovative approaches in diagnostics and drug design (O.B. Bekker *et al.*, M.M. Ulyashova *et al.*). The editors embrace the idea of publishing material on serious advances in biopharmaceutics.

In the Forum section, readers will find an interview with the laureates of state prizes in science and technology for 2009, which was announced in the fifth issue of *Acta Naturae*. In addition, we also want to inform you on the targeted actions of the Russian government in bolstering science at universities, a step that has sparked a lively debate in the professional community. After selecting the leading universities – both research and federal which, apart from gaining the status were also awarded extra funds – the Ministry of Education and Science announced a new competition meant to encourage cooperation with business, beef up the innovative infrastructure, and attract the world's leading scientists. In the Forum section readers will find a review article, as well as comments by officials of the Ministry on the results of the latter competition (RF Government decree №218 and №219). Sergey Ivanets, director of the Department of International Integration (Ministry of Education and Science), explains how grant applications are evaluated. These grants are aimed at attracting leading scientists, in accordance with the Decree of the Government of the Russian Federation, entitled On Measures for Attracting Leading Scientists to Russian Higher educational Institutions."

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**We wish you every success  
in your scientific endeavors!  
The Editorial Board**