

Letter from the Editors

Dear readers of *Acta Naturae*,
We are celebrating a kind of anniversary: we are bringing to your attention the tenth issue of our journal with the hope that you will not be disappointed. The issue opens with a review article penned by a researcher from M.V. Lomonosov Moscow State University under the guidance of M.B. Gottikh. It discusses the prospects in developing drugs with a specific inhibiting activity of HIV-integrase. Since the stage of integration of viral DNA into cellular DNA is catalyzed by viral integrase, blocking the activity of this enzyme could result in termination of viral replication and open rather favorable ways for therapeutic use. Integrase inhibitors have not been used as components of the conventional “cocktail” consisting of the inhibitors of reverse transcriptase and protease. Moreover, the problems related to the stability of mutant forms require that researchers pay close attention to new enzyme targets. Existing data are reassuring. The siRNA technology is an efficient method for “switching off” regulatory pathways, which is an alternative to the above-mentioned chemical approach. Researchers from Novosibirsk Academgorodok, under the guidance of Professor M.A. Zenkova, used this approach on cell lines in order to reduce their proliferation rate. This fundamental work has significant clinical potential. The study conducted by a group of researchers from Moscow State University under the guidance of Academician I.G. Atabekov is devoted to the *in vitro* assembly of potato virus X protein complexes. The proposed method has demonstrated the fundamental possibility of packaging foreign genetic material into virus-like particles. Two groups of authors from N.I. Pirogov Medical University (Moscow, professor O.A. Favorova) and the Fox Chase Cancer Center, Philadelphia, USA (professor J.R. Testa and professor E.P. Henske) publish pioneering studies in this issue. In one of them, the DLX5 transcriptional factor is described as a new target for anticancer therapy; the role of the rabin8 protein in the functioning of the mTORC1 protein kinase complex and the protein biosynthesis associated with it are considered in the second study. Both articles have a pronounced potential clinical orientation. The article by authors from the Ufa, Novosibirsk,

and Yakutsk Academic centers was written under the guidance of E.K. Khusnutdinova and aimed to perform a population analysis using mutations of the *GJB2-35delG* gene linked to hereditary hearing loss. The authors arrive at a rather interesting conclusion on the time-frame of population migrations. Several studies are usually devoted to various aspects of bioengineering. Thus, a team of authors under the guidance of Academician of the Russian Academy of Medical Sciences A.L. Gintsburg presents a study devoted to nanoantibody expression using an adenoviral vector. The article by a group of authors under the guidance of Academician M.P. Kirpichnikov focuses on the important problem of the expression of membrane proteins. The study carried out under the guidance of Academician of the Russian Academy of Medical Sciences A.M. Egorov is devoted to the technology of expression of the antibody-peroxidase detection of recombinant conjugate in the yeast system. Targeted gene delivery, another problem that is topical both in the sense of fundamentality and application, is also discussed in this issue. This direction is required for advances in gene therapy. An efficient method for interleukin-2 gene delivery into hematopoietic cells is described in the article by a group of authors from the N.F. Gamaleya Institute of Epidemiology and Microbiology. The study by a team of authors from Moscow State University and the Institute of Molecular Genetics of the Russian Academy of Sciences is devoted to the investigation of the structural features of cytoskeletal morphology by atomic force microscopy. Our intention is to continue to seek to publish studies associated with new methods of biological imaging.

The article by Doctor of Chemistry P.V. Sergiev published in the “Forum” section is devoted to the role of high performance sequencing in genome analysis. We are looking forward to your response to this publication. In future, we plan to pay the closest attention to problems related to the development of novel analytical technologies in Russia. Today, the equipment at the disposal of many institutions in the Russian Federation is worthy of admiration. Our hope is that in the nearest future Russian researchers will manage to produce breakthrough results. ●