

Сведения об официальных оппонентах
по кандидатской диссертации Плетнёва Филиппа Игоревича
«Новые особенности регуляции аппарата экспрессии генов в стационарной фазе бактериальной культуры *E. coli*»

1. Ф.И.О.: Малыгин Алексей Аркадьевич

Ученая степень: доктор химических наук

Ученое звание: доцент

Научная(ые) специальность(и): 03.01.04 — Биохимия

Должность: ведущий научный сотрудник Лаборатории структуры и функции рибосом

Место работы: Институт химической биологии и фундаментальной медицины Сибирского отделения Российской академии наук

Адрес места работы: 630090, г. Новосибирск, пр. Лаврентьева, 8

Тел.: +7 (383)- 363-5139

E-mail: malygin@niboch.nsc.ru

Список основных научных публикаций по специальности 03.01.04 – «Биохимия» за последние 5 лет:

1. Gopanenko, A.V., Malygin, A.A., Kossinova, O.A., Tupikin, A.E., Kabilov, M.R., Karpova, G.G. Degenerate consensus sequences in the 3'-untranslated regions of cellular mRNAs as specific motifs potentially involved in the YB-1-mediated packaging of these mRNAs (2020) *Biochimie*, 170, pp. 152-162.
2. Babaylova, E.S., Gopanenko, A.V., Bulygin, K.N., Tupikin, A.E., Kabilov, M.R., Malygin, A.A., Karpova, G.G. mRNA regions where 80S ribosomes pause during translation elongation in vivo interact with protein uS19, a component of the decoding site (2020) *Nucleic acids research*, 48 (2), pp. 912-923.
3. Bulygin, K., Malygin, A., Gopanenko, A., Graifer, D., Karpova, G. The functional role of the C-terminal tail of the human ribosomal protein uS19 (2020) *Biochimica et Biophysica Acta - Gene Regulatory Mechanisms*, статья № 194490.
4. Malygin, A.A., Krumkacheva, O.A., Graifer, D.M., Timofeev, I.O., Ochkasova, A.S., Meschaninova, M.I., Venyaminova, A.G., Fedin, M.V., Bowman, M., Karpova, G.G., Bagryanskaya, E.G. Exploring the interactions of short RNAs with the human 40S ribosomal subunit near the mRNA entry site by EPR spectroscopy (2019) *Nucleic acids research*, 47 (22), pp. 11850-11860.
5. Vasilyeva, A.E., Yanshina, D.D., Karpova, G.G., Malygin, A.A. Mutations Preventing the Phosphorylation of Human Ribosomal Protein uS15 at Y38 and S48 Reduce the Efficiency of its Transfer into the Nucleolus (2019) *Russian Journal of Bioorganic Chemistry*, 45 (6), pp. 758-765.
6. Babaylova, E., Malygin, A., Gopanenko, A., Graifer, D., Karpova, G. Tetrapeptide 60–63 of human ribosomal protein uS3 is crucial for translation initiation (2019) *Biochimica et Biophysica Acta - Gene Regulatory Mechanisms*, 1862 (9), статья № 194411.
7. Graifer, D., Malygin, A., Karpova, G. Hydroxylation of protein constituents of the human translation system: Structural aspects and functional assignments (2019) *Future Medicinal Chemistry*, 11 (4), pp. 357-369.
8. Ivanov, A.V., Gopanenko, A.V., Malygin, A.A., Karpova, G.G. The eS26 protein is involved in the formation of a nucleophosmin binding site on the human 40S ribosomal subunit (2018) *Biochimica et Biophysica Acta - Proteins and Proteomics*, 1866 (5-6), pp. 642-650.
9. Babaylova, E.S., Graifer, D.M., Malygin, A.A., Karpova, G.G. Arrangements of nucleotides flanking the start codon in the IRES of the hepatitis C virus in the IRES binary complex with the human 40S ribosomal subunit (2018) *Biochimie*, 148, pp. 72-79.
10. Malygin, A.A., Graifer, D.M., Meschaninova, M.I., Venyaminova, A.G., Timofeev, I.O., Kuzhelev, A.A., Krumkacheva, O.A., Fedin, M.V., Karpova, G.G., Bagryanskaya, E.G. Structural rearrangements in mRNA upon its binding to human 80S ribosomes revealed by EPR spectroscopy (2018) *Nucleic Acids Research*, 46 (2), pp. 897-904.

2. Ф.И.О.: Никулин Алексей Донатович

Ученая степень: доктор химических наук

Ученое звание: нет

Научная(ые) специальность(и): 02.00.10 - Биоорганическая химия, 03.01.03 - Молекулярная биология

Должность: руководитель лаборатории структурных исследований аппарата трансляции, главный научный сотрудник, заместитель директора Института белка РАН

Место работы: Институт белка РАН

Адрес места работы: 142290, Московская область, г. Пущино, ул. Институтская, 4

Тел.: 8(4967)318425

E-mail: nikulin@vega.protres.ru

Список основных научных публикаций по специальностям 02.00.10 – «Биоорганическая химия», 03.01.03 – «Молекулярная биология» за последние 5 лет:

1. Balobanov, V., Lekontseva, N., Mikhaylina, A., Nikulin, A. Use of Fluorescent Nucleotides to Map RNA-Binding Sites on Protein Surface (2020) *Methods in Molecular Biology*, 2113, pp. 251-262.
2. Revtovich, S., Morozova, E., Kulikova, V., Koval, V., Anufrieva, N., Nikulin, A., Demidkina, T. Sulfoxides of sulfur-containing amino acids are suicide substrates of *Citrobacter freundii* methionine γ -lyase. Structural bases of the enzyme inactivation (2020) *Biochimie*, 168, pp. 190-197.
3. Bessonova, T.A., Lekontseva, N.V., Shvyreva, U.S., Nikulin, A.D., Tutukina, M.N., Ozoline, O.N. Overproduction and purification of the *Escherichia coli* transcription factors "toxic" to a bacterial cell (2019) *Protein Expression and Purification*, 161, pp. 70-77.
4. Purto, Y.A., Tutukina, M.N., Nikulin, A.D., Ozoline, O.N. The Topology of the Contacts of Potential Ligands for the UxuR Transcription Factor of *Escherichia coli* as Revealed by Flexible Molecular Docking (2019) *Biophysics (Russian Federation)*, 64 (1), pp. 49-56.
5. Raboni, S., Revtovich, S., Demitri, N., Giabbai, B., Storici, P., Cocconcelli, C., Faggiano, S., Rosini, E., Pollegioni, L., Galati, S., Buschini, A., Morozova, E., Kulikova, V., Nikulin, A., Gabellieri, E., Cioni, P., Demidkina, T., Mozzarelli, A. Engineering methionine γ -lyase from *Citrobacter freundii* for anticancer activity (2018) *Biochimica et Biophysica Acta - Proteins and Proteomics*, 1866 (12), pp. 1260-1270.
6. Nikulin, A.D. Structural Aspects of Ribosomal RNA Recognition by Ribosomal Proteins (2018) *Biochemistry (Moscow)*, 83.
7. Katina, N.S., Suvorina, M.Y., Grigorashvili, E.I., Marchenkov, V.V., Ryabova, N.A., Nikulin, A.D., Surin, A.K. Identification of Regions in Apomyoglobin that Form Intermolecular Interactions in Amyloid Aggregates Using High-Performance Mass Spectrometry (2017) *Journal of Analytical Chemistry*, 72 (13), pp. 1271-1279.
8. Katina, N.S., Balobanov, V.A., Ilyina, N.B., Vasiliev, V.D., Marchenkov, V.V., Glukhov, A.S., Nikulin, A.D., Bychkova, V.E. ApoMb Amyloid Aggregation under Nondenaturing Conditions: The Role of Native Structure Stability (2017) *Biophysical Journal*, 113 (5), pp. 991-1001.
9. Revtovich, S.V., Morozova, E.A., Kulikova, V.V., Anufrieva, N.V., Osipova, T.I., Koval, V.S., Nikulin, A.D., Demidkina, T.V. Crystal structure of mutant form Cys115His of *Citrobacter freundii* methionine γ -lyase complexed with L-norleucine (2017) *Biochimica et Biophysica Acta - Proteins and Proteomics*, 1865 (9), pp. 1123-1128.
10. Nikulin, A., Mikhailina, A., Lekontseva, N., Balobanov, V., Nikonova, E., Tishchenko, S. Characterization of RNA-binding properties of the archaeal Hfq-like protein from *Methanococcus jannaschii* (2017) *Journal of Biomolecular Structure and Dynamics*, 35 (8), pp. 1615-1628.

З. Ф.И.О.: Иванов Александр Владимирович

Ученая степень: кандидат химических наук

Ученое звание: нет

Научная(ые) специальность(и): 03.01.03 – Молекулярная биология

Должность: Ведущий научный сотрудник (заведующий лабораторией биохимии вирусных инфекций)

Место работы: Федеральное государственное бюджетное учреждение науки Институт молекулярной биологии им. В.А. Энгельгардта Российской академии наук

Адрес места работы: 119991 Москва, ул. Вавилова, д.32с1

Тел.: +7-499-135-6065

E-mail: aivanov@eimb.ru

1. Shomuradova A.S., Vagida M.S., Sheetikov S.A., Zornikova K.V., Kiryukhin D., Titov A., Peshkova I.O., Khmelevskaya A., Dianov D.V., Malasheva M., Shmelev A., Serdyuk Y., Bagaev D.V., Pivnyuk A., Shcherbinin, D.S., Maleeva A.V., Shakirova N.T., Pilunov A., Malko D.B., Khamaganova E.G., Biderman, B., **Ivanov A.V.**, Shugay M., and Efimov G.A. SARS-CoV-2 epitopes are recognized by a public and diverse repertoire of human T-cell receptors. *Immunity*, 2020, in press. DOI: <https://doi.org/10.1016/j.immuni.2020.11.004>
2. Mastrodomenico V., Esin J., Qazi S., Khomutov M., **Ivanov A.V.**, Mukhopadhyay S., Mounce B. Virion-associated polyamines transmit with bunyaviruses to maintain infectivity and promote entry. *ACS Infect. Dis.* 2020, 6(9), 2490–2501.
3. Baklaushev V.P., Averyanov A.V., Sotnikova A.G., Perkina A.S., **Ivanov A.V.**, Yusubalieva G.M., Novikova O.N., Shikina V.E., Dupik N.V., Kedrova A.G., Sanzharov A.E., Shirshova E.V., Balionis O.I., Valuev-Elliston V.T., Zakirova N.F., Glazov Y.N., Panukhina I.A., Soloviev N.A., Vinokurov A.G., Ivanov Yu.V., Vasilev V.N., Klypa T.V., Troitsky A.V. Safety and efficacy of convalescent plasma for COVID-19: the preliminary results of a clinical trial. *Journal of Clinical Practice*. 2020, 11(2), 38-50.
4. Jansons J., Bayurova E., Skrastina D., Kurlanda A, Fridrihsone I, Kostyushev D., Kostyusheva A., Artyuhov A., Dashinimaev E., Avdoshina D., Kondrashova A., Valuev-Elliston V., Latyshev O., Eliseeva O., Petkov S., Abakumov M., Hippe L., Kholodnyuk I., Starodubova E., Gorodnicheva T., **Ivanov A.**, Gordeychuk I., Isaguliants M. Expression of the Reverse Transcriptase Domain of Telomerase Reverse Transcriptase Induces Lytic Cellular Response in DNA-Immunized Mice and Limits Tumorigenic and Metastatic Potential of Murine Adenocarcinoma 4T1 Cells. *Vaccines*, 2020, 8(2), 318.
5. Masalova O.N., Lesnova E.I., Klimova R.R., Momotyuk E.D., Kozlov V.V., Ivanova A.M., Payushina O.V., Butorina N.N., Zakirova N.F., Narovlyansky A.N., Pronin A.V., **Ivanov A.V.**, Kushch A.A. Genetically Modified Mouse Mesenchymal Stem Cells Expressing Non-Structural Proteins of Hepatitis C Virus Induce Effective Immune Response. *Vaccines*, 2020, 8(1), 62.
6. Chernoryzh Ya.Yu., Fedorova N.E., Yurlov K.I., Simonov R.A., Kornev A.B., Karpov D.S., Zakirova N.F., **Ivanov A.V.**, Kushch A.A., Gintsburg A.L. Resistance of THP-1 cells infected with cytomegalovirus to anti-tumor antibiotic doxorubicin and restoration the sensitivity by inhibitors of the molecular way PI3K/AKT/mTOR. *Doklady Biochemistry and Biophysics*, 2019, 489(4), 433-437.
7. Bayurova E., Jansons J., Skrastina D., Smirnova O., Mezale D., Kostyusheva A., Kostyushev D., Petkov S., Podschwadt P., Valuev-Elliston V., Sasinovich S., Korolev S., Warholm P., Latanova A., Starodubova E., Tukhvatulin A., Latyshev O., Selimov R., Metalnikov P., Komarov A., Ivanova O., Gorodnicheva T., Kochetkov S., Gottikh M., Strumfa I., **Ivanov A.**, Gordeychuk I., Isaguliants M. HIV-1 reverse transcriptase promotes tumor growth and metastasis formation via ROS-dependent upregulation of Twist. *Oxid. Med. Cell. Longev.*, 2019, vol. 2019, Article ID 6016278.
8. Kukhanova M.K., Tunitskaya V.L., Smirnova O.A., Khomich O.A., Zakirova N.F., Ivanova O.N., Ziganshin R, Bartosch B., Kochetkov S.N., **Ivanov A.V.** Hepatitis C virus RNA-dependent RNA polymerase is regulated by cysteine S-glutathionylation. *Oxid. Med. Cell. Longev.*, 2019, vol. 2019, Article ID 3196140.
9. Jansons J., Sominskaya I., Petrakova N., Starodubova E.S., Smirnova O.A., Alekseeva E., Bruvere R., Eliseeva O., Skrastina D., Kashuba E., Mikhailova M., Kochetkov S.N., **Ivanov A.V.**, Isaguliants M.G. The immunogenicity in mice of HCV core delivered as DNA is modulated by its capacity to induce oxidative stress and oxidative stress response. *Cells*, 2019, 8(3), 208.
10. Fedorova N.E., Chernoryzh Y.Y., Vinogradskaya G.R., Emelianova S.S., Zavalysheva L.E., Yurlov K.I., Zakirova N.F., Verbenko V.N., Kochetkov S.N., Kushch A.A., **Ivanov AV.** Inhibitor of polyamine catabolism MDL72.527 restores the sensitivity to doxorubicin of monocytic leukemia Thp-1 cells infected with human cytomegalovirus. *Biochimie.*, 2019, 158, 82-89.

