Curriculum vitae: Mikhail Myshkin



Address

Shemyakin–Ovchinnikov Institute of bioorganic chemistry RAS, Moscow, Russia

Contacts

https://www.ibch.ru/en/users/1048

Education

2014–2018	Moscow region, Dolgoprudnyi	MIPT (SU)	Ph.D. student
2007–2014	Moscow region, Dolgoprudnyi	MIPT (SU)	B.Sc., M.Sc.

Teaching

2021–to date	Russia, Moscow	Pirogov Russian National Research Medical University	Bioinformatics practical tutorials, Master's programs "Medical Bioinformatics" and "Molecular Immunology"
2020–2022	Russia, Moscow	M. V. Lomonosov MSU	Practical tutorials in structural biology (protein structure calculation using NMR spectroscopy, working in Pymol program), Master's program "Structural Biology"

IBCh positions

2025–to date	Research fellow	
	Engineer-researcher	
2021–2025	Junior research fellow	
2021	Junior research fellow	

Language Proficiency

Russian, English

Grants and projects

2025–to date	-Анализ разнообразия Т-клеточных популяций у пациентов с преждевременным старением (прогероидный синдром Хатчинсона-Гилфорда) для оценки их иммунологического возраста
2021–2023	Chemical structure and metabolism of luciferin from luminous enchytraeidae Henlea sp.
2019–2022	Structural biology of membrane proteins for the development of new drugs and diagnostics

Publications

1. **Myshkin MY**, Leyn SA, Egorov ES, Shelyakin PV, Staroverov DB, Shagina IA, Kan NE, Lupyr KR, Barsova EV, Dzyubinskaya EV, Ventura-Carmenate Y, Tyutyunnik VL, Rebrikov DV, Chudakov DM, Britanova OV (2026). TCR repertoire shaping of naïve T cell subsets in human ontogeny.*Front Immunol* 17, 1738633, 10.3389/fimmu.2026.1738633
2. Shagina IA, Turchaninova MA, Golovina OA, Bufeeva LS, Zhurina TI, Saifullin RF, **Myshkin MY**, Mutovina ZY, Britanova OV (2025). Panel of IFN-I-induced genes in systemic scleroderma: a stratification biomarker potential. *Bulletin of Russian State Medical University*2025 September-October (5), 12–21, 10.24075/brsmu.2025.047
3. Sukhov DA, Kholoshenko IV, Petrova TV, Romanenko GA, **Myshkin MY**, Kost VY, Trofimov DY, Usman NY, Barsova EV (2024). LoRI, a new recombinant RNase inhibitor for in vitro applications.*Bulletin of Russian State Medical University* (5), 57–64, 10.24075/brsmu.2024.043
4. Tsareva A, Shelyakin PV, Shagina IA, **Myshkin MY**, Merzlyak EM, Kriukova VV, Apt AS, Linge IA, Chudakov DM, Britanova OV (2024). Aberrant adaptive immune response underlies genetic susceptibility to tuberculosis. *Front Immunol* 15, 1380971, 10.3389/fimmu.2024.1380971
5. Izosimova AV, Shabalkina AV, **Myshkin MY**, Shurganova EV, Myalik DS, Ryzhichenko EO, Samitova AF, Barsova EV, Shagina IA, Britanova OV, Yuzhakova DV, Sharonov GV (2024). Local Enrichment with Convergence of Enriched T-Cell Clones Are Hallmarks of Effective Peptide Vaccination against B16 Melanoma. *Vaccines (Basel)* 12 (4), 345, 10.3390/vaccines12040345
6. Vakhitova M, **Myshkin M**, Staroverov D, Shagina I, Izraelson M, Tverdova N, Britanova O, Merzlyak E (2023). A Rapid Method for Detection of Antigen-Specific B Cells. *Cells* 12 (5), , 10.3390/cells12050774
7. Paramonov AS, Shulepko MA, Makhonin AM, Bychkov ML, Kulbatskii DS, Chernikov AM, **Myshkin MY**, Shabelnikov SV, Shenkarev ZO, Kirpichnikov MP, Lyukmanova EN (2022). New Three-Finger Protein from Starfish Asteria rubens Shares Structure and Pharmacology with Human Brain Neuromodulator Lynx2. *Mar Drugs* 20 (8), , 10.3390/md20080503
8. Ryazantsev DY, **Myshkin MY**, Alferova VA, Tsvetkov VB, Shustova EY, Kamzeeva PN, Kovalets PV, Zaitseva ER, Baleeva NS, Zatsepin TS, Shenkarev ZO, Baranov MS, Kozlovskaya LI, Aralov AV (2021). Probing gfp chromophore analogs as anti-hiv agents targeting ltr-iii g-quadruplex. *Biomolecules* 11 (10), , 10.3390/biom11101409
9. Bolosov IA, Panteleev PV, Sychev SV, Sukhanov SV, Mironov PA, **Myshkin MY**, Shenkarev ZO, Ovchinnikova TV (2021). Dodecapeptide Cathelicidins of Cetartiodactyla: Structure, Mechanism of Antimicrobial Action, and Synergistic Interaction With Other Cathelicidins. *Front Microbiol* 12, 725526, 10.3389/fmicb.2021.725526
10. **Myshkin MY**, Paramonov AS, Kulbatskii DS, Surkova EA, Berkut AA, Vassilevski AA, Lyukmanova EN, Kirpichnikov MP, Shenkarev ZO (2021). Voltage-Sensing Domain of the Third Repeat of Human Skeletal Muscle NaV1.4 Channel As a New Target for Spider Gating Modifier Toxins. *Acta Naturae* 13 (1), 134–139, 10.32607/actanaturae.11279
11. **Myshkin MY**, Männikkö R, Krumkacheva OA, Kulbatskii DS, Chugunov AO, Berkut AA, Paramonov AS, Shulepko MA, Fedin MV, Hanna MG, Kullmann DM, Bagryanskaya EG, Arseniev AS, Kirpichnikov MP, Lyukmanova EN, Vassilevski AA, Shenkarev ZO (2019). Cell-Free Expression of Sodium Channel Domains for Pharmacology Studies. Noncanonical Spider Toxin Binding Site in the Second Voltage-Sensing Domain of Human Nav1.4 Channel. *Front Pharmacol* 10, 953, 10.3389/fphar.2019.00953
12. **Myshkin MY**, Dubinnyi MA, Kulbatskii DS, Lyukmanova EN, Kirpichnikov MP, Shenkarev ZO (2019). CombLabel: rational design of optimized sequence-specific combinatorial labeling schemes. Application to backbone assignment of membrane proteins with low stability. *J Biomol NMR* 73 (10-11), 531–544, 10.1007/s10858-019-00259-z
13. Shenkarev ZO, Shulepko MA, Peigneur S, **Myshkin MY**, Berkut AA, Vassilevski AA, Tytgat J, Lyukmanova EN, Kirpichnikov MP (2019). Recombinant Production and Structure-Function Study of the Ts1 Toxin from the Brazilian Scorpion Tityus serrulatus. *Dokl Biochem Biophys* 484 (1), 9–12, 10.1134/S1607672919010034

14. Männikkö R, Shenkarev ZO, Thor MG, Berkut AA, **Myshkin MY**, Paramonov AS, Kulbatskii DS, Kuzmin DA, Castañeda MS, King L, Wilson ER, Lyukmanova EN, Kirpichnikov MP, Schorge S, Bosmans F, Hanna MG, Kullmann DM, Vassilevski AA (2018). Spider toxin inhibits gating pore currents underlying periodic paralysis. *Proc Natl Acad Sci U S A* 115 (17), 4495–4500, 10.1073/pnas.1720185115
15. **Myshkin MY**, Paramonov AS, Kulbatskii DS, Lyukmanova EN, Kirpichnikov MP, Shenkarev ZO (2017). “Divide and conquer” approach to the structural studies of multidomain ion channels by the example of isolated voltage sensing domains of human Kv2.1 and Nav1.4 channels. *Russ. J. Bioorganic Chem.* 43 (6), 634–643, 10.1134/S1068162017060103
16. Paramonov AS, Lyukmanova EN, **Myshkin MY**, Shulepko MA, Kulbatskii DS, Petrosian NS, Chugunov AO, Dolgikh DA, Kirpichnikov MP, Arseniev AS, Shenkarev ZO (2017). NMR investigation of the isolated second voltage-sensing domain of human Nav1.4 channel. *BIOCHIM BIOPHYS ACTA* 1859 (3), 1–33, 10.1016/j.bbamem.2017.01.004
17. Panteleev PV, **Myshkin MY**, Shenkarev ZO, Ovchinnikova TV (2017). Dimerization of the antimicrobial peptide arenicin plays a key role in the cytotoxicity but not in the antibacterial activity. *Biochem Biophys Res Commun* 482 (4), 1320–1326, 10.1016/j.bbrc.2016.12.035
18. **Мышкин МЮ**, Парамонов АС, Кульбацкий ДС, Люкманова ЕН, Кирпичников МП, Шенкарёв ЗО (2017). ПОДХОД “РАЗДЕЛЯЙ И ВЛАСТВУЙ” ДЛЯ СТРУКТУРНЫХ ИССЛЕДОВАНИЙ МУЛЬТИДОМЕННЫХ ИОННЫХ КАНАЛОВ НА ПРИМЕРЕ ИЗОЛИРОВАННЫХ ПОТЕНЦИАЛ-ЧУВСТВИТЕЛЬНЫХ ДОМЕНОВ КАНАЛОВ Kv2.1 И Nav1.4 ЧЕЛОВЕКА1. 43 (6), 608–619.
19. Lyukmanova EN, Shulepko MA, Shenkarev ZO, Kasheverov IE, Chugunov AO, Kulbatskii DS, **Myshkin MY**, Utkin YN, Efremov RG, Tsetlin VI, Arseniev AS, Kirpichnikov MP, Dolgikh DA (2016). Central loop of non-conventional toxin WTX from Naja kaouthia is important for interaction with nicotinic acetylcholine receptors. *Toxicon* 119, 274–279, 10.1016/j.toxicon.2016.06.012
20. Berkut AA, Peigneur S, **Myshkin MY**, Paramonov AS, Lyukmanova EN, Arseniev AS, Grishin EV, Tytgat J, Shenkarev ZO, Vassilevski AA (2015). Structure of membrane-active toxin from crab spider Heriaeus melloteei suggests parallel evolution of sodium channel gating modifiers in Araneomorphae and Mygalomorphae. *J Biol Chem* 290 (1), 492–504, 10.1074/jbc.M114.595678