

## Curriculum vitae: Sergey Kozlov



### Address

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## IBCh positions

2017–to date                      Principal research fellow

## IBCh memberships

Scientific council

## Language Proficiency

Russian, English

## Titles

Doctor of Science (Chemistry)

## Grants and projects

2014– [-Молекулярные технологии управления нейросигнализацией](#)  
2016

2020– [-](#)  
2022

2017– [-](#)  
2019

2018– [-Изучение фармакологических свойств эндогенных и экзогенных модуляторов](#)  
2020 [кислоточувствительных ионных каналов на экспрессированных рецепторах и на животных моделях in vivo](#)

## Publications

1. Sintsova O, Peigneur S, Kalina R, Otstavnykh N, Garbuz M, Klimovich A, Priymenko N, Shamatova M, Pavlenko A, **Kozlov S**, Gladkikh I, Isaeva M, Tytgat J, Leychenko E (2025). The major component of *Heteractis magnifica* sea anemone venom, RplII, exhibits strong subtype selectivity for insects over mammalian voltage-gated sodium channels. *Neuropharmacology* 274, 110466, [10.1016/j.neuropharm.2025.110466](#)
2. Osmakov DI, Khasanov TA, Maleeva EE, Pavlov VM, Palikov VA, Belozero OA, Koshelev SG, Korolkova YV, Dyachenko IA, **Kozlov SA**, Andreev YA (2025). Two Amino Acid Substitutions Improve the Pharmacological Profile of the Snake Venom Peptide Mambalgina. *Toxins (Basel)* 17 (3), 101, [10.3390/toxins17030101](#)
3. Khasanov TA, Mineev KS, Kalinovskii AP, Korolkova YV, Palikov VA, Palikova YA, Dyachenko IA, **Kozlov SA**, Andreev YA, Osmakov DI (2025). Sea anemone Cys-ladder peptide Ms13-1 induces a pain response as a positive modulator of acid-sensing ion channel 1a. *FEBS J* , , [10.1111/febs.70032](#)

4. Khasanov TA, Maleeva EE, Koshelev SG, Palikov VA, Palikova YA, Dyachenko IA, **Kozlov SA**, Andreev YA, Osmakov DI (2024). Mutagenesis of the Peptide Inhibitor of ASIC3 Channel Introduces Binding to Thumb Domain of ASIC1a but Reduces Analgesic Activity. *Mar Drugs* 22 (9), 382, [10.3390/md22090382](https://doi.org/10.3390/md22090382)
5. Kalinovskii AP, Logashina YA, Palikova YA, Palikov VA, Osmakov DI, Mineev KS, Belozero OA, Shmygarev VI, **Kozlov SA**, Dyachenko IA, Korolkova YV, Andreev YA (2024). A Diterpenoid of the Medicinal Plant *Andrographis paniculata* Targets Cutaneous TRPV3 Channel and Relieves Itch. *J. Nat. Prod.* 87 (7), 1852–1859, [10.1021/acs.jnatprod.4c00626](https://doi.org/10.1021/acs.jnatprod.4c00626)
6. Osmakov DI, Onoprienko LV, Kalinovskii AP, Koshelev SG, Stepanenko VN, Andreev YA, **Kozlov SA** (2024). Opioid Analgesic as a Positive Allosteric Modulator of Acid-Sensing Ion Channels. *Int J Mol Sci* 25 (3), 1413, [10.3390/ijms25031413](https://doi.org/10.3390/ijms25031413)
7. Osmakov DI, Tarasova NV, Nedorubov AA, Palikov VA, Palikova YA, Dyachenko IA, Andreev YA, **Kozlov SA** (2023). Nocistatin and Products of Its Proteolysis Are Dual Modulators of Type 3 Acid-Sensing Ion Channels (ASIC3) with Algesic and Analgesic Properties. *Biochemistry (Mosc)* 88 (12-13), 2137–2145, [10.1134/S0006297923120155](https://doi.org/10.1134/S0006297923120155)
8. Wu J, Xiong W, Li J, Liao H, Chai J, Huang X, Lai S, **Kozlov S**, Chu X, Xu X (2023). Peptide TK-HR from the Skin of Chinese Folk Medicine Frog *Hoplobatrachus rugulosus* Accelerates Wound Healing via the Activation of the Neurokinin-1 Receptor. *J Med Chem* 66 (23), 16002–16017, [10.1021/acs.jmedchem.3c01434](https://doi.org/10.1021/acs.jmedchem.3c01434)
9. Korolkova Y, Mikov A, Lobas A, Solovyeva E, Surin A, Andreev Y, Gorshkov M, **Kozlov S** (2023). Venom-gland transcriptomics and venom proteomics of the *Tibellus oblongus* spider. *Sci Data* 10 (1), 820, [10.1038/s41597-023-02703-0](https://doi.org/10.1038/s41597-023-02703-0)
10. Tsetlin V, Shelukhina I, **Kozlov S**, Kasheverov I (2023). Fifty Years of Animal Toxin Research at the Shemyakin–Ovchinnikov Institute of Bioorganic Chemistry RAS. *Int J Mol Sci* 24 (18), 13884, [10.3390/ijms241813884](https://doi.org/10.3390/ijms241813884)
11. Kalinovskii AP, Pushkarev AP, Mikhailenko AD, Kudryavtsev DS, Belozero OA, Shmygarev VI, Yatskin ON, Korolkova YV, **Kozlov SA**, Osmakov DI, Popov A, Andreev YA (2023). Dual Modulator of ASIC Channels and GABAA Receptors from Thyme Alters Fear-Related Hippocampal Activity. *Int J Mol Sci* 24 (17), , [10.3390/ijms241713148](https://doi.org/10.3390/ijms241713148)
12. Danilevich VN, **Kozlov SA**, Sorokin VV, Mulyukin AL (2023). Highly purified DNA-containing cell envelopes from fungi for direct use in PCR. *Anal Chim Acta* 1273, 341528, [10.1016/j.aca.2023.341528](https://doi.org/10.1016/j.aca.2023.341528)
13. Gladkikh IN, Klimovich AA, Kalina RS, Kozhevnikova YV, Khasanov TA, Osmakov DI, Koshelev SG, Monastyrnaya MM, Andreev YA, Leychenko EV, **Kozlov SA** (2023). Anxiolytic, Analgesic and Anti-Inflammatory Effects of Peptides Hmg 1b-2 and Hmg 1b-4 from the Sea Anemone *Heteractis magnifica*. *Toxins (Basel)* 15 (5), 341, [10.3390/toxins15050341](https://doi.org/10.3390/toxins15050341)
14. Khudina OG, Burgart YV, Malkova NA, Shchegolkov EV, Krasnykh OP, Triandafilova GA, Malysheva KO, Solodnikov SY, Dubodel ES, Korolkova YV, **Kozlov SA**, Borisevich SS, Mozhaitsev ES, Saloutin V (2023). 5-Alkoxy-1-aryl-3-polyfluoroalkylpyrazoles with Antinociceptive Activity: Partial Agonists of TRPV1 Ion Channels. *ChemMedChem* 18 (12), e202300063, [10.1002/cmdc.202300063](https://doi.org/10.1002/cmdc.202300063)
15. Pislyagin EA, Menchinskaya ES, Gladkikh IN, Kvetkina AN, Sintsova OV, Popkova DV, Kozlovskiy SA, Gorpenchenko TY, Likhatskaya GN, Kaluzhskiy LA, Ivanov AS, Andreev YA, **Kozlov SA**, Dmitrenok PS, Aminin DL, Leychenko EV (2023). Recombinant Analogs of Sea Anemone Kunitz-Type Peptides Influence P2X7 Receptor Activity in Neuro-2a Cells. *Mar Drugs* 21 (3), , [10.3390/md21030192](https://doi.org/10.3390/md21030192)
16. Burgart YV, Elkina NA, Shchegolkov EV, Krasnykh OP, Makhaeva GF, Triandafilova GA, Solodnikov SY, Boltneva NP, Rudakova EV, Kovaleva NV, Serebryakova OG, Ulitko MV, Borisevich SS, Gerasimova NA, Evstigneeva NP, **Kozlov SA**, Korolkova YV, Minin AS, Belousova AV, Mozhaitsev ES, Klabukov AM, Saloutin VI (2023). Powerful Potential of Polyfluoroalkyl-Containing 4-Arylhydrazinylidenepyrzazol-3-ones for Pharmaceuticals. *Molecules* 28 (1), 59, [10.3390/molecules28010059](https://doi.org/10.3390/molecules28010059)
17. Kalina RS, Gladkikh IN, Klimovich AA, Kozhevnikova YV, Kvetkina AN, Rogozhin EA, Koshelev SG, **Kozlov SA**, Leychenko EV (2022). First Anti-Inflammatory Peptide AnmTX Sco 9a-1 from the Swimming Sea Anemone *Stomphia coccinea*. *Biomolecules* 12 (11), , [10.3390/biom12111705](https://doi.org/10.3390/biom12111705)
18. Tereshin MN, Komyakova AM, Stepanenko VN, Myagkikh IV, Shoshina NS, Korolkova YV, Leychenko EV, **Kozlov SA** (2022). Optimized method for the recombinant production of a sea anemone's peptide. *MENDELEEV COMMUN* 32 (6), 745–746, [10.1016/j.mencom.2022.11.012](https://doi.org/10.1016/j.mencom.2022.11.012)

19. Kalina RS, Kasheverov IE, Koshelev SG, Sintsova OV, Peigneur S, Pinheiro-Junior EL, Popov RS, Chausova VE, Monastyrnaya MM, Dmitrenok PS, Isaeva MP, Tytgat J, **Kozlov SA**, Kozlovskaya EP, Leychenko EV, Gladkikh IN (2022). Nicotinic Acetylcholine Receptors Are Novel Targets of APETx-like Toxins from the Sea Anemone *Heteractis magnifica*. *Toxins (Basel)* 14 (10), , [10.3390/toxins14100697](https://doi.org/10.3390/toxins14100697)
20. Osmakov DI, Kalinovskii AP, Belozerova OA, Andreev YA, **Kozlov SA** (2022). Lignans as Pharmacological Agents in Disorders Related to Oxidative Stress and Inflammation: Chemical Synthesis Approaches and Biological Activities. *Int J Mol Sci* 23 (11), , [10.3390/ijms23116031](https://doi.org/10.3390/ijms23116031)
21. Khokhlova ON, Borozdina NA, Sadovnikova ES, Pakhomova IA, Rudenko PA, Korolkova YV, **Kozlov SA**, Dyachenko IA (2022). Comparative Study of the Aftereffect of CO<sub>2</sub> Inhalation or Tiletamine–Zolazepam–Xylazine Anesthesia on Laboratory Outbred Rats and Mice. *Biomedicines* 10 (2), , [10.3390/biomedicines10020512](https://doi.org/10.3390/biomedicines10020512)
22. Kalinovskii AP, Osmakov DI, Koshelev SG, Lubova KI, Korolkova YV, **Kozlov SA**, Andreev YA (2022). Retinoic Acid-Differentiated Neuroblastoma SH-SY5Y Is an Accessible In Vitro Model to Study Native Human Acid-Sensing Ion Channels 1a (ASIC1a). *Biology (Basel)* 11 (2), , [10.3390/biology11020167](https://doi.org/10.3390/biology11020167)
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