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Адрес

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Образование

1999–2004	Россия, Москва	МГУ им. М.В. Ломоносова, биологический факультет, кафедра биоорганической химии	Диплом по специальности «биохимия» с отличием

Преподавание

2005–наст.вр.	Россия, Москва	МГУ им. М.В. Ломоносова, биологический факультет, кафедра биоорганической химии	Молекулярные механизмы мембранного транспорта

Работа в ИБХ

2017–наст.вр.	Главный научный сотрудник
	Старший научный сотрудник
2026–2026	Доцент

Членство в советах и комиссиях ИБХ

Ученый совет

Владение языками

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Награды

2016	Премия Правительства Москвы молодым ученым	За изучение разнообразия природных блокаторов калиевых каналов и создание молекулярных инструментов для фундаментальных исследований и скрининговых систем на их основе

Степени и звания

Кандидат наук (Химические науки, 02.00.10 — Биоорганическая химия)

Гранты и проекты

2014–2016	Молекулярные основы действия животных ядов
2022–2024	Модуляторы мутантных натриевых каналов

2020–2022	Получение селективных блокаторов калиевого канала человека Kv1.3
2020–2022	Лиганды ионных каналов с уникальной селективностью
2019–2022	Токсины из природных ядов модулируют болевую сенситизацию в чувствительных нейронах посредством механизмов, не зависящих от деполяризации

Публикации

1. Tikhonova TB, Sharkov AA, Murtazina AF, Mashkovtseva NV, Zhorov BS, **Vassilevski AA** (2026). Missense mutation causes multiple defects in Nav1.4 channel gating and leads to an SCN4A-associated overlap phenotype. *J Gen Physiol* 158 (3), , 10.1085/jgp.202413706
2. Iunusova VA, Orlov NA, Nekrasova OV, Feofanov AV, **Vassilevski AA**, Kuzmenkov AI (2025). Targeting prokaryotic ion channel by a chimera of fluorescent protein and artificial peptide toxin. *BIOCHIM BIOPHYS ACTA* 1867 (8), 184458, 10.1016/j.bbamem.2025.184458
3. Mozhaeva VA, **Vassilevski AA**, Starkov VG, Kudryavtsev DS, Prokhorov KA, Garnov SV, Utkin YN (2025). Identification of animal venoms by Raman spectroscopy combined with principal component analysis. *Microchem J* 219, , 10.1016/j.microc.2025.115966
4. Kuzmenkov AI, Chudetsky IS, Kudryavtsev DS, Kasheverov IE, Tsetlin VI, **Vassilevski AA** (2025). Molecular Probes for the Visualization of Nicotinic Acetylcholine Receptors Based on Snake Three-Finger Toxins and Red Fluorescent Protein. *Russ. J. Bioorganic Chem.* 51 (5), 1936–1944, 10.1134/S1068162025601673
5. Kuzmenkov AI, Iunusova VA, Lushpa VA, Deyev YA, Babenko VV, Osipov DV, Berkut AA, Tytgat J, Bocharov EV, Adams DJ, Finol-Urdaneta RK, **Vassilevski AA** (2025). Spider venom peptides with unique fold selectively block Shaker-type potassium channels. *Cell Mol Life Sci* 82 (1), 300, 10.1007/s00018-025-05778-7
6. Aleksandrova EV, Syroegin EA, Basu RS, **Vassilevski AA**, Gagnon MG, Polikanov YS (2025). Mechanism of release factor–mediated peptidyl-tRNA hydrolysis on the ribosome. *Science* 388 (6753), eads9030, 10.1126/science.ads9030
7. Nikolaev M, Gataulina E, Fedorova I, Baleeva N, Baranov M, **Vassilevski A**, Tikhonov D (2025). Optical control of calcium-permeable AMPA receptors by azobenzene–spermines. *Br J Pharmacol* 182 (21), 5173–5191, 10.1111/bph.70111
8. Trofimov YA, Chugunov AO, **Vassilevski AA** (2025). Secondary chelation through shared water provides ion selectivity in bacterial sodium channels. *Structure* 33 (8), 1446–1456.e3, 10.1016/j.str.2025.05.010
9. Egorkin NA, Aleksin AM, Sedlov IA, Zhiganov NI, Bodunova DV, Varfolomeeva LA, Slonimskiy YB, Ziganshin RH, Popov VO, Boyko KM, **Vassilevski AA**, Maksimov EG, Sluchanko NN (2025). A green dichromophoric protein enabling foliage mimicry in arthropods. *Proc Natl Acad Sci U S A* 122 (23), e2502567122, 10.1073/pnas.2502567122
10. Gigolaev AM, Iureva DA, Lagosha SV, Brazhe AR, Zhorov BS, **Vassilevski AA** (2025). Golden Gate cloning enables efficient concatemer construction for biophysical analysis of heterozygous potassium channel variants from patients with epilepsy. *Int J Biol Macromol* 307 (Pt 3), 141802, 10.1016/j.ijbiomac.2025.141802
11. Volkov AE, Gigolaev AM, Iunusova VA, Ziganshin RH, Kuzmenkov AI, **Vassilevski AA** (2025). High-affinity blocker of insect potassium channels from the venom of the scorpion Orthochirus scrobiculosus. *J Evol Biochem Physiol* 61 (1), 177–186, 10.1134/S0022093025010144
12. Scherbakov KA, **Vassilevski AA**, Chugunov AO (2025). Potassium channel selectivity is determined by square antiprismatic ion chelation. *Int J Biol Macromol* 305 (Pt 1), 140690, 10.1016/j.ijbiomac.2025.140690
13. Oparin P, Khokhlova O, Cherkashin A, Nadezhdin K, Palikov V, Palikova Y, Korolkova Y, Mosharova I, Rogachevskaja O, Baranov M, Shaidullova K, Ermakova E, Lushpa V, Bruter A, Deykin A, Ivanova E, Silaeva Y, Dyachenko I, Bocharov E, Sitdikova G, Andreev-Andrievskiy A, Poteryaev D, Shuster A, Murashev A, Kolesnikov S, Stepanenko V, Grishin E, **Vassilevski AA** (2025). Potent painkiller from spider venom antagonizes P2X3 receptors without dysgeusia. *Mol Ther* 33 (2), 771–785, 10.1016/j.ymthe.2024.12.036
14. Tikhonova TB, Sharkov AA, Zhorov BS, **Vassilevski AA** (2024). Diverse biophysical mechanisms in voltage-gated sodium channel Nav1.4 variants associated with myotonia. *FASEB J* 38 (16), e23883,

10.1096/fj.202400867R
15. Chernykh MA, Duzheva MA, Kuldyushev NA, Peigneur S, Berkut AA, Tytgat J, **Vassilevski AA**, Chugunov AO (2024). Scorpion Neurotoxin BeM9 Derivative Uncovers Unique Interaction Mode with Nav1.5 Sodium Channel Isoform. *Russ. J. Bioorganic Chem.* 50 (4), 1341–1350, 10.1134/S1068162024040083
16. Zavarzina II, Kuzmenkov AI, Dobrokhotov NA, Maleeva EE, Korolkova YV, Peigneur S, Tytgat J, Krylov NA, **Vassilevski AA**, Chugunov AO (2024). The scorpion toxin BeKm-1 blocks hERG cardiac potassium channels using an indispensable arginine residue. *FEBS Lett* 598 (8), 889–901, 10.1002/1873-3468.14850
17. Ojomoko LO, Kryukova EV, Egorova NS, Salikhov AI, Epifanova LA, Denisova DA, Khomutov AR, Sukhov DA, **Vassilevski AA**, Khomutov MA, Tsetlin VI, Shelukhina IV (2023). Inhibition of nicotinic acetylcholine receptors by oligoarginine peptides and polyamine-related compounds. *Front Pharmacol* 14 (14), 1327603, 10.3389/fphar.2023.1327603
18. Oparin PB, Nikodimov SS, **Vassilevski AA** (2023). Venoms with oral toxicity towards insects. *Toxicon* 235, 107308, 10.1016/j.toxicon.2023.107308
19. Krylov NA, Tabakmakher VM, Yureva DA, **Vassilevski AA**, Kuzmenkov AI (2023). Kalium 3.0 is a comprehensive depository of natural, artificial, and labeled polypeptides acting on potassium channels. *Protein Sci* 32 (11), e4776, 10.1002/pro.4776
20. Kuzmenkov AI, Gigolaev AM, Pinheiro-Junior EL, Peigneur S, Tytgat J, **Vassilevski AA** (2023). Methionine-isoleucine dichotomy at a key position in scorpion toxins inhibiting voltage-gated potassium channels. *Toxicon* 231, 107181, 10.1016/j.toxicon.2023.107181
21. Mineev KS, Chernykh MA, Motov VV, Prudnikova DA, Pavlenko DM, Kuzmenkov AI, Peigneur S, Tytgat J, **Vassilevski AA** (2023). A scorpion toxin affecting sodium channels shows double cis–trans isomerism. *FEBS Lett* 597 (18), 2358–2368, 10.1002/1873-3468.14705
22. Gigolaev AM, Tabakmakher VM, Peigneur S, Tytgat J, **Vassilevski AA** (2023). Structural Optimization of an α-Hairpinin Blocking Potassium Channels KV1.3. *J Evol Biochem Physiol* 59 (1), 192–199, 10.1134/S0022093023010167
23. Gigolaev AM, Pinheiro-Junior EL, Peigneur S, Tytgat J, **Vassilevski AA** (2022). KV1.2-Selective Peptide with High Affinity. *J Evol Biochem Physiol* 58 (12), 2048–2057, 10.1134/S002209302206031X
24. Kuzmenkov AI, Peigneur S, Nasburg JA, Mineev KS, Nikolaev MV, Pinheiro-Junior EL, Arseniev AS, Wulff H, Tytgat J, **Vassilevski AA** (2022). Apamin structure and pharmacology revisited. *Front Pharmacol* 13, 977440, 10.3389/fphar.2022.977440
25. Gigolaev AM, Lushpa VA, Pinheiro-Junior EL, Tabakmakher VM, Peigneur S, Ignatova AA, Feofanov AV, Efremov RG, Mineev KS, Tytgat J, **Vassilevski AA** (2022). Artificial pore blocker acts specifically on voltage-gated potassium channel isoform KV1.6. *J Biol Chem* 298 (11), 102467, 10.1016/j.jbc.2022.102467
26. Kasheverov IE, Kuzmenkov AI, Kudryavtsev DS, Chudetskiy IS, Shelukhina IV, Barykin EP, *Иванов*Ivanov IA, Siniavin AE, Ziganshin RH, Baranov MS, Tsetlin VI, **Vassilevski AA**, Utkin YN (2021). Snake Toxins Labeled by Green Fluorescent Protein or Its Synthetic Chromophore are New Probes for Nicotinic acetylcholine Receptors. *Front Mol Biosci* 8 (8), 753283, 10.3389/fmolb.2021.753283
27. Chernykh MA, Kuldyushev NA, Peigneur S, Berkut AA, Tytgat J, Efremov RG, **Vassilevski AA**, Chugunov AO (2021). Derivative of Scorpion Neurotoxin BeM9 Is Selective for Insect Voltage-Gated Sodium Channels. *Russ. J. Bioorganic Chem.* 47 (4), 854–863, 10.1134/S1068162021040063
28. Tabakmakher VM, Gigolaev AM, Peigneur S, Krylov NA, Tytgat J, Chugunov AO, **Vassilevski AA**, Efremov RG (2021). Potassium channel blocker crafted by α-hairpinin scaffold engineering. *Biophys J* 120 (12), 2471–2481, 10.1016/j.bpj.2021.04.020
29. Tabakmakher VM, Kuzmenkov AI, Gigolaev AM, Pinheiro-Junior EL, Peigneur S, Efremov RG, Tytgat J, **Vassilevski AA** (2021). Artificial Peptide Ligand of Potassium Channel KV1.1 with High Selectivity. *J Evol Biochem Physiol* 57, 386–403, 10.1134/S0022093021020186
30. van Cann M, Kuzmenkov A, Isensee J, Andreev-Andrievskiy A, Peigneur S, Khusainov G, Berkut A, Tytgat J, **Vassilevski A**, Hucho T (2021). Scorpion toxin MeuNaTxα-1 sensitizes primary nociceptors by selective modulation of voltage-gated sodium channels. *FEBS J* 288 (7), 2418–2435, 10.1111/febs.15593
31. Mineev KS, Kuzmenkov AI, Arseniev AS, **Vassilevski AA** (2021). Structure of MeuNaTxα-1 toxin from scorpion venom highlights the importance of the nest motif. *Proteins* 89 (8), 1055–1060, 10.1002/prot.26074
32. 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

33. Føns S, Ledsgaard L, Nikolaev MV, **Vassilevski AA**, Sørensen CV, Chevalier MK, Fiebig M, Laustsen AH (2020). Discovery of a Recombinant Human Monoclonal Immunoglobulin G Antibody Against α-Latrotoxin From the Mediterranean Black Widow Spider (Latrodectus tredecimguttatus). *Front Immunol* 11, 587825, 10.3389/fimmu.2020.587825
34. Gigolaev AM, Kuzmenkov AI, Peigneur S, Tabakmakher VM, Pinheiro-Junior EL, Chugunov AO, Efremov RG, Tytgat J, **Vassilevski AA** (2020). Tuning Scorpion Toxin Selectivity: Switching From KV1.1 to KV1.3. *Front Pharmacol* 11, 1010, 10.3389/fphar.2020.01010
35. **(конференция) Vassilevski A** (2020). P2X3 receptor antagonists from spider venom. *Toxicon* 177 Suppl 1, S3, 10.1016/j.toxicon.2019.10.017
36. **(конференция)** Kasheverov IE, Oparin PB, **Vassilevski AA**, Ivanov IA, Tsetlin VI, Utkin YN (2020). Channel blockers from scorpion venoms inhibit nicotinic acetylcholine receptors. *Toxicon* 177 Suppl 1, S11, 10.1016/j.toxicon.2019.10.049
37. **(книга)** Dunaevsky YE, Khadeeva NV, **Vassilevski AA**, Domash VI, Belozersky MA (2020). Proteinase Inhibitors From Buckwheat (Fagopyrum esculentum Moench) Seeds. , 521–532, 10.1016/B978-0-12-818553-7.00036-X
38. Кузьменков АИ, Пеньёр С, Титгат Я, **Василевский АА** (2019). Фармакологическая характеристика пептидных лигандов калиевых каналов MeKTx13-2 и MeKTx13-3 из яда скорпиона Mesobuthus eupeus. *Ross Fiziol Zh Im I M Sechenova* 105 (11), 1452–1462, 10.1134/S0869813919110074
39. Berkut AA, Chugunov AO, Mineev KS, Peigneur S, Tabakmakher VM, Krylov NA, Oparin PB, Lihonosova AF, Novikova EV, Arseniev AS, Grishin EV, Tytgat J, Efremov RG, **Vassilevski AA** (2019). Protein Surface Topography as a tool to enhance the selective activity of a potassium channel blocker. *J Biol Chem* 294 (48), 18349–18359, 10.1074/jbc.RA119.010494
40. 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
41. Kasheverov IE, Oparin PB, Zhmak MN, Egorova NS, Ivanov IA, Gigolaev AM, Nekrasova OV, Serebryakova MV, Kudryavtsev DS, Prokopev NA, Hoang AN, Tsetlin VI, **Vassilevski AA**, Utkin YN (2019). Scorpion toxins interact with nicotinic acetylcholine receptors. *FEBS Lett* 593 (19), 2779–2789, 10.1002/1873-3468.13530
42. Tabakmakher VM, Krylov NA, Kuzmenkov AI, Efremov RG, **Vassilevski AA** (2019). Kalium 2.0, a comprehensive database of polypeptide ligands of potassium channels. *Sci Data* 6 (1), 73, 10.1038/s41597-019-0074-x
43. 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
44. Utkin Y, **Vassilevski A**, Kudryavtsev D, Undheim EAB (2019). Editorial: Animal Toxins as Comprehensive Pharmacological Tools to Identify Diverse Ion Channels. *Front Pharmacol* 10 (APR), 423, 10.3389/fphar.2019.00423
45. Kuzmenkov AI, Nekrasova OV, Peigneur S, Tabakmakher VM, Gigolaev AM, Fradkov AF, Kudryashova KS, Chugunov AO, Efremov RG, Tytgat J, Feofanov AV, **Vassilevski AA** (2018). K1.2 channel-specific blocker from Mesobuthus eupeus scorpion venom: Structural basis of selectivity. *Neuropharmacology* 143, 228–238, 10.1016/j.neuropharm.2018.09.030
46. Kuldyushev NA, Mineev KS, Berkut AA, Peigneur S, Arseniev AS, Tytgat J, Grishin EV, **Vassilevski AA** (2018). Refined structure of BeM9 reveals arginine hand, an overlooked structural motif in scorpion toxins affecting sodium channels. *Proteins* 86 (10), 1117–1122, 10.1002/prot.25583
47. Twomey EC, Yelshanskaya MV, **Vassilevski AA**, Sobolevsky AI (2018). Mechanisms of Channel Block in Calcium-Permeable AMPA Receptors. *Neuron* 99 (5), 956–968.e4, 10.1016/j.neuron.2018.07.027
48. 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

49. Andreev-Andrievskiy A, Popova A, Lagereva E, Osipov D, Berkut A, Grishin E, **Vassilevski A** (2017). Pharmacological analysis of Poecilotheria spider venoms in mice provides clues for human treatment. *Toxicon* 138, 59–67, 10.1016/j.toxicon.2017.08.013
50. Kuzmenkov AI, **Vassilevski AA** (2017). Labelled animal toxins as selective molecular markers of ion channels: Applications in neurobiology and beyond. *Neurosci Lett* 679, 15–23, 10.1016/j.neulet.2017.10.050
51. Kuldyushev NA, Berkut AA, Peigneur S, Tytgat J, Grishin EV, **Vassilevski AA** (2017). Design of sodium channel ligands with defined selectivity – a case study in scorpion alpha-toxins. *FEBS Lett* 591 (20), 3414–3420, 10.1002/1873-3468.12839
52. Kuzmenkov AI, Peigneur S, Chugunov AO, Tabakmakher VM, Efremov RG, Tytgat J, Grishin EV, **Vassilevski AA** (2017). C-Terminal residues in small potassium channel blockers OdK1 and OSK3 from scorpion venom fine-tune the selectivity. *BIOCHIM BIOPHYS ACTA* 1865 (5), 465–472, 10.1016/j.bbapap.2017.02.001
53. Nadezhdin KD, Romanovskaia DD, Sachkova MY, Oparin PB, Kovalchuk SI, Grishin EV, Arseniev AS, **Vassilevski AA** (2017). Modular toxin from the lynx spider Oxyopes takobius: Structure of spiderine domains in solution and membrane-mimicking environment. *Protein Sci* 26 (3), 611–616, 10.1002/pro.3101
54. Kuzmenkov AI, Nekrasova OV, Kudryashova KS, Peigneur S, Tytgat J, Stepanov AV, Kirpichnikov MP, Grishin EV, Feofanov AV, **Vassilevski AA** (2016). Fluorescent protein-scorpion toxin chimera is a convenient molecular tool for studies of potassium channels. *Sci Rep* 6, 33314, 10.1038/srep33314
55. Oparin PB, Nadezhdin KD, Berkut AA, Arseniev AS, Grishin EV, **Vassilevski AA** (2016). Structure of purotoxin-2 from Wolf spider: Modular design and membrane-Assisted mode of action in arachnid toxins. *Biochem J* 473 (19), 3113–3126, 10.1042/BCJ20160573
56. Kuzmenkov AI, Krylov NA, Chugunov AO, Grishin EV, **Vassilevski AA** (2016). Kalium: A database of potassium channel toxins from scorpion venom. *Database (Oxford)* 2016, baw056, 10.1093/database/baw056
57. Kuzmenkov AI, Sachkova MY, Kovalchuk SI, Grishin EV, **Vassilevski AA** (2016). Lachesana tarabaevi, an expert in membrane-Active toxins. *Biochem J* 473 (16), 2495–2506, 10.1042/BCJ20160436
58. Kuzmenkov AI, Grishin EV, **Vassilevski AA** (2015). Diversity of Potassium Channel Ligands: Focus on Scorpion Toxins. *Biochemistry (Mosc)* 80 (13), 1764–1799, 10.1134/S0006297915130118
59. Dubovskii PV, **Vassilevski AA**, Kozlov SA, Feofanov AV, Grishin EV, Efremov RG (2015). Latarcins: Versatile spider venom peptides. *Cell Mol Life Sci* 72 (23), 4501–4522, 10.1007/s00018-015-2016-x
60. Kuzmenkov AI, **Vassilevski AA**, Kudryashova KS, Nekrasova OV, Peigneur S, Tytgat J, Feofanov AV, Kirpichnikov MP, Grishin EV (2015). Variability of potassium channel blockers in Mesobuthus eupeus scorpion venom with focus on Kv1.1: An integrated transcriptomic and proteomic study. *J Biol Chem* 290 (19), 12195–12209, 10.1074/jbc.M115.637611
61. **(конференция)** Feofanov AV, Kudryashova KS, Nekrasova OV, **Vassilevski AA**, Kuzmenkov AI, Korolkova YV, Grishin EV, Kirpichnikov MP (2015). Quantitative confocal microscopy analysis as a basis for search and study of potassium kv1.X channel blockers. *Springer Proceedings in Physics* 164 (6), 249–254, 10.1007/978-3-319-16919-4_32
62. 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
63. Berkut AA, Usmanova DR, Peigneur S, Oparin PB, Mineev KS, Odintsova TI, Tytgat J, Arseniev AS, Grishin EV, **Vassilevski AA** (2014). Structural similarity between defense peptide from wheat and scorpion neurotoxin permits rational functional design. *J Biol Chem* 289 (20), 14331–14340, 10.1074/jbc.M113.530477
64. Sachkova MY, Slavokhotova AA, Grishin EV, **Vassilevski AA** (2014). Genes and evolution of two-domain toxins from lynx spider venom. *FEBS Lett* 588 (5), 740–745, 10.1016/j.febslet.2014.01.018
65. Sachkova MY, Slavokhotova AA, Grishin EV, **Vassilevski AA** (2014). Structure of the yellow sac spider Cheiracanthium punctorium genes provides clues to evolution of insecticidal two-domain knottin toxins. *Insect Mol Biol* 23 (4), 527–538, 10.1111/imb.12097

66. Slavokhotova AA, Rogozhin EA, Musolyamov AK, Andreev YA, Oparin PB, Berkut AA, **Vassilevski AA**, Egorov TA, Grishin EV, Odintsova TI (2014). Novel antifungal α-hairpinin peptide from Stellaria media seeds: Structure, biosynthesis, gene structure and evolution. *Plant Mol Biol* 84 (12), 189–202, 10.1007/s11103-013-0127-z
67. Slavokhotova AA, Naumann TA, Price NPJ, Rogozhin EA, Andreev YA, **Vassilevski AA**, Odintsova TI (2014). Novel mode of action of plant defense peptides - hevein-like antimicrobial peptides from wheat inhibit fungal metalloproteases. *FEBS J* 281 (20), 4754–4764, 10.1111/febs.13015
68. Arzamasov AA, **Vassilevski AA**, Grishin EV (2014). Chlorotoxin and related peptides: Short insect toxins from scorpion venom. *Russ. J. Bioorganic Chem.* 40 (4), 359–369, 10.1134/S1068162014040013
69. Pluzhnikov KA, Kozlov SA, **Vassilevski AA**, Vorontsova OV, Feofanov AV, Grishin EV (2014). Linear antimicrobial peptides from Ectatomma quadridens ant venom. *Biochimie* 107 (PB), 211–215, 10.1016/j.biochi.2014.09.012
70. **Vassilevski AA**, Sachkova MY, Ignatova AA, Kozlov SA, Feofanov AV, Grishin EV (2013). Spider toxins comprising disulfide-rich and linear amphipathic domains: A new class of molecules identified in the lynx spider Oxyopes takobius. *FEBS J* 280 (23), 6247–6261, 10.1111/febs.12547
71. Чугунов АО, **Василевский АА** (2013). Эволюционная «гонка вооружений»: нейротоксины против ионных каналов. 11, 42–48.
72. Utkina LL, Andreev YA, Rogozhin EA, Korostyleva TV, Slavokhotova AA, Oparin PB, **Vassilevski AA**, Grishin EV, Egorov TA, Odintsova TI (2013). Genes encoding 4-Cys antimicrobial peptides in wheat Triticum kiharae Dorof. et Migush.: Multimodular structural organization, instraspecific variability, distribution and role in defence. *FEBS J* 280 (15), 3594–3608, 10.1111/febs.12349
73. Chugunov AO, Koromyslova AD, Berkut AA, Peigneur S, Tytgat J, Polyansky AA, Pentkovsky VM, **Vassilevski AA**, Grishin EV, Efremov RG (2013). Modular organization of α-toxins from scorpion venom mirrors domain structure of their targets, sodium channels. *J Biol Chem* 288 (26), 19014–19027, 10.1074/jbc.M112.431650
74. Kudryashova KS, Nekrasova OV, Kuzmenkov AI, **Vassilevski AA**, Ignatova AA, Korolkova YV, Grishin EV, Kirpichnikov MP, Feofanov AV (2013). Fluorescent system based on bacterial expression of hybrid KcsA channels designed for Kv1.3 ligand screening and study. *Anal Bioanal Chem* 405 (7), 2379–2389, 10.1007/s00216-012-6655-6
75. Lazarev VN, Shkarupeta MM, Polina NF, Kostrjukova ES, **Vassilevski AA**, Kozlov SA, Grishin EV, Govorun VM (2013). Antimicrobial peptide from spider venom inhibits Chlamydia trachomatis infection at an early stage. *Arch Microbiol* 195 (3), 173–179, 10.1007/s00203-012-0863-5
76. Kuzmenkov AI, Fedorova IM, **Vassilevski AA**, Grishin EV (2013). Cysteine-rich toxins from Lachesana tarabaevi spider venom with amphiphilic C-terminal segments. *BIOCHIM BIOPHYS ACTA* 1828 (2), 724–731, 10.1016/j.bbamem.2012.10.014
77. Polyansky AA, Chugunov AO, **Vassilevski AA**, Grishin EV, Efremov RG (2012). Recent advances in computational modeling of α-Helical membrane-active peptides. *Curr Protein Pept Sci* 13 (7), 644–657, 10.2174/138920312804142147
78. Kabanova NV, **Vassilevski AA**, Rogachevskaja OA, Bystrova MF, Korolkova YV, Pluzhnikov KA, Romanov RA, Grishin EV, Kolesnikov SS (2012). Modulation of P2X3 receptors by spider toxins. *BIOCHIM BIOPHYS ACTA* 1818 (11), 2868–2875, 10.1016/j.bbamem.2012.07.016
79. Polina NF, Shkarupeta MM, Popenko AS, **Vassilevski AA**, Kozlov SA, Grishin EV, Lazarev VN, Govorun VM (2012). Cyto-Insectotoxin 1a from Lachesana tarabaevi Spider Venom Inhibits Chlamydia trachomatis Infection. *Probiotics Antimicrob Proteins* 4 (3), 208–216, 10.1007/s12602-012-9108-9
80. Oparin PB, Mineev KS, Dunaevsky YE, Arseniev AS, Belozersky MA, Grishin EV, Egorov TA, **Vassilevski AA** (2012). Buckwheat trypsin inhibitor with helical hairpin structure belongs to a new family of plant defence peptides. *Biochem J* 446 (1), 69–77, 10.1042/BJ20120548
81. Andreev YA, Korostyleva TV, Slavokhotova AA, Rogozhin EA, Utkina LL, **Vassilevski AA**, Grishin EV, Egorov TA, Odintsova TI (2012). Genes encoding hevein-like defense peptides in wheat: Distribution, evolution, and role in stress response. *Biochimie* 94 (4), 1009–1016, 10.1016/j.biochi.2011.12.023
82. Andreev YA, **Vassilevski AA**, Kozlov SA (2012). Molecules to selectively target receptors for treatment of pain and neurogenic inflammation. *Recent Pat Inflamm Allergy Drug Discov* 6 (1), 35–45,

10.2174/187221312798889266
83. **Vassilevski AA**, Grishin EV (2011). Novel active principles from spider venom. *Acta Chim Slov* 58 (4), 717–723.
84. Dubovskii PV, **Vassilevski AA**, Samsonova OV, Egorova NS, Kozlov SA, Feofanov AV, Arseniev AS, Grishin EV (2011). Novel lynx spider toxin shares common molecular architecture with defense peptides from frog skin. *FEBS J* 278 (22), 4382–4393, 10.1111/j.1742-4658.2011.08361.x
85. Lazarev VN, Polina NF, Shkarupeta MM, Kostrjukova ES, **Vassilevski AA**, Kozlov SA, Grishin EV, Govorun VM (2011). Spider venom peptides for gene therapy of Chlamydia infection. *Antimicrob Agents Chemother* 55 (11), 5367–5369, 10.1128/AAC.00449-11
86. Dubovskii PV, **Vassilevski AA**, Slavokhotova AA, Odintsova TI, Grishin EV, Egorov TA, Arseniev AS (2011). Solution structure of a defense peptide from wheat with a 10-cysteine motif. *Biochem Biophys Res Commun* 411 (1), 14–18, 10.1016/j.bbrc.2011.06.058
87. Nolde SB, **Vassilevski AA**, Rogozhin EA, Barinov NA, Balashova TA, Samsonova OV, Baranov YV, Feofanov AV, Egorov TA, Arseniev AS, Grishin EV (2011). Disulfide-stabilized helical hairpin structure and activity of a novel antifungal peptide EcAMP1 from seeds of barnyard grass (Echinochloa crus-galli). *J Biol Chem* 286 (28), 25145–25153, 10.1074/jbc.M110.200378
88. Savchenko GA, Volkova TM, **Vasilevskii AA**, Korolkova YV, Grishin EV, Boichouk YA, Krishtal OA (2011). Purinergic membrane receptors as targets for the effect of purotoxin 1, a component of venom of spiders from the Geolycosa genus. *Neurophysiology* 42 (6), 387–391, 10.1007/s11062-011-9173-9
89. Andreev YA, Kozlov SA, **Vassilevski AA**, Grishin EV (2010). Cyanogen bromide cleavage of proteins in salt and buffer solutions. *Anal Biochem* 407 (1), 144–146, 10.1016/j.ab.2010.07.023
90. **Vassilevski AA**, Fedorova IM, Maleeva EE, Korolkova YV, Efimova SS, Samsonova OV, Schagina LV, Feofanov AV, Magazanik LG, Grishin EV (2010). Novel class of spider toxin: Active principle from the yellow sac spider Cheiracanthium punctorium venom is a unique two-domain polypeptide. *J Biol Chem* 285 (42), 32293–32302, 10.1074/jbc.M110.104265
91. Billen B, **Vassilevski A**, Nikolsky A, Debaveye S, Tytgat J, Grishin E (2010). Unique bell-shaped voltage-dependent modulation of Na+ channel gating by novel insect-selective toxins from the spider Agelena orientalis. *J Biol Chem* 285 (24), 18545–18554, 10.1074/jbc.M110.125211
92. Grishin EV, Savchenko GA, **Vassilevski AA**, Korolkova YV, Boychuk YA, Viatchenko-Karpinski VY, Nadezhdin KD, Arseniev AS, Pluzhnikov KA, Kulyk VB, Voitenko NV, Krishtal OO (2010). Novel peptide from spider venom inhibits P2X3 receptors and inflammatory pain. *Ann Neurol* 67 (5), 680–683, 10.1002/ana.21949
93. **Vassilevski AA**, Kozlov SA, Egorov TA, Grishin EV (2010). Purification and characterization of biologically active peptides from spider venoms. *Methods Mol Biol* 615, 87–100, 10.1007/978-1-60761-535-4_7
94. **Vassilevski AA**, Kozlov SA, Grishin EV (2009). Molecular diversity of spider venom. *Biochemistry (Mosc)* 74 (13), 1505–1534, 10.1134/S0006297909130069
95. Nikolsky AS, Billen B, **Vassilevski AA**, Filkin SY, Tytgat J, Grishin EV (2009). Voltage-gated sodium channels are targets for toxins from the venom of the spider heriaeus melloteei. *BIOL MEMBRANY* 26 (4), 249–257.
96. Nikolsky AS, Billen B, **Vassilevski AA**, Filkin SY, Tytgat J, Grishin EV (2009). Voltage-gated sodium channels are targets for toxins from the venom of the spider Heriaeus melloteei. *Biochem (Mosc) Suppl Ser A Membr Cell Biol* 3 (3), 245–253, 10.1134/S1990747809030027
97. Odintsova TI, **Vassilevski AA**, Slavokhotova AA, Musolyamov AK, Finkina EI, Khadeeva NV, Rogozhin EA, Korostyleva TV, Pukhalsky VA, Grishin EV, Egorov TA (2009). A novel antifungal hevein-type peptide from Triticum kiharae seeds with a unique 10-cysteine motif. *FEBS J* 276 (15), 4266–4275, 10.1111/j.1742-4658.2009.07135.x
98. Polyansky AA, **Vassilevski AA**, Volynsky PE, Vorontsova OV, Samsonova OV, Egorova NS, Krylov NA, Feofanov AV, Arseniev AS, Grishin EV, Efremov RG (2009). N-terminal amphipathic helix as a trigger of hemolytic activity in antimicrobial peptides: A case study in latarcins. *FEBS Lett* 583 (14), 2425–2428, 10.1016/j.febslet.2009.06.044
99. Kozlov SA, **Vassilevski AA**, Grishin EV (2009). Secreted protein and peptide biosynthesis: Precursor structures and processing mechanisms. , 225–248.

100. Billen B, **Vassilevski A**, Nikolsky A, Tytgat J, Grishin E (2008). Two novel sodium channel inhibitors from Heriaeus melloteei spider venom differentially interacting with mammalian channel's isoforms. *Toxicon* 52 (2), 309–317, 10.1016/j.toxicon.2008.05.018
101. Shlyapnikov YM, Andreev YA, Kozlov SA, **Vassilevski AA**, Grishin EV (2008). Bacterial production of latarcin 2a, a potent antimicrobial peptide from spider venom. *Protein Expr Purif* 60 (1), 89–95, 10.1016/j.pep.2008.03.011
102. **Vassilevski AA**, Kozlov SA, Samsonova OV, Egorova NS, Karpunin DV, Pluzhnikov KA, Feofanov AV, Grishin EV (2008). Cyto-insectotoxins, a novel class of cytolytic and insecticidal peptides from spider venom. *Biochem J* 411 (3), 687–696, 10.1042/BJ20071123
103. **Vassilevski AA**, Kozlov SA, Grishin EV (2008). Antimicrobial peptide precursor structures suggest effective production strategies. *Recent Pat Inflamm Allergy Drug Discov* 2 (1), 58–63, 10.2174/187221308783399261
104. Pluzhnikov K, **Vassilevski A**, Korolkova Y, Fisyunov A, Iegorova O, Krishtal O, Grishin E (2007). ω-Lsp-IA, a novel modulator of P-type Ca2+channels. *Toxicon* 50 (7), 993–1004, 10.1016/j.toxicon.2007.07.004
105. **Vassilevski AA**, Kozlov SA, Zhmak MN, Kudelina IA, Dubovskii PV, Shatursky OY, Arseniev AS, Grishin EV (2007). Synthetic analogues of antimicrobial peptides from the venom of the Central Asian spider Lachesana tarabaevi. *Russ. J. Bioorganic Chem.* 33 (4), 376–382, 10.1134/S1068162007040024
106. Kozlov SA, **Vassilevski AA**, Grishin EV (2007). Peptidomics of Short Linear Cytolytic Peptides from Spider Venom. , 55–70, 10.1002/9780470196502.ch3
107. Kozlov SA, **Vassilevski AA**, Feofanov AV, Surovoy AY, Karpunin DV, Grishin EV (2006). Latarcins, antimicrobial and cytolytic peptides from the venom of the spider Lachesana tarabaevi (Zodariidae) that exemplify biomolecular diversity. *J Biol Chem* 281 (30), 20983–20992, 10.1074/jbc.M602168200