

## Curriculum vitae: Alexander Vassilevski



### Address

Shemyakin–Ovchinnikov Institute of  
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## Education

1999– 2004	Russia, Moscow	Lomonosov Moscow State University, biological faculty, department of bioorganic chemistry	Major: Biochemistry. Graduated with honors.
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## Teaching

2005– to date	Russia, Moscow	Lomonosov Moscow State University, biological faculty, department of bioorganic chemistry	Molecular mechanisms of membrane transport
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## IBCh positions

2017–to date	Principal research fellow
	Senior research fellow

## IBCh memberships

Scientific council
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## Language Proficiency

Russian, English

## Awards

2016	Премия Правительства Москвы молодым ученым
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## Titles

Doctor of Philosophy (Chemistry)
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## Grants and projects

2014–2016	<a href="#">-Молекулярные основы действия животных ядов</a>
2022–2024	<a href="#">-Модуляторы мутантных натриевых каналов</a>
2020–2022	-
2020–2022	<a href="#">-Лиганды ионных каналов с уникальной селективностью</a>
2019–2022	-

## Publications

1. 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](https://doi.org/10.1096/fj.202400867R)

2. Chernykh MA, Duzheva MA, Kuldyshev 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](https://doi.org/10.1134/S1068162024040083)
3. Zavarzina II, Kuzmenkov AI, Dobrokhoto 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](https://doi.org/10.1002/1873-3468.14850)
4. 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](https://doi.org/10.3389/fphar.2023.1327603)
5. Oparin PB, Nikodimov SS, **Vassilevski AA** (2023). Venoms with oral toxicity towards insects. *Toxicon* 235, 107308, [10.1016/j.toxicon.2023.107308](https://doi.org/10.1016/j.toxicon.2023.107308)
6. 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](https://doi.org/10.1002/pro.4776)
7. 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](https://doi.org/10.1016/j.toxicon.2023.107181)
8. 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](https://doi.org/10.1002/1873-3468.14705)
9. Gigolaev AM, Tabakmakher VM, Peigneur S, Tytgat J, **Vassilevski AA** (2023). Structural Optimization of an  $\alpha$ -Hairpinin Blocking Potassium Channels KV1.3. *J Evol Biochem Physiol* 59 (1), 192–199, [10.1134/S0022093023010167](https://doi.org/10.1134/S0022093023010167)
10. 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](https://doi.org/10.1134/S002209302206031X)
11. 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](https://doi.org/10.3389/fphar.2022.977440)
12. 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](https://doi.org/10.1016/j.jbc.2022.102467)
13. 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](https://doi.org/10.3389/fmolb.2021.753283)
14. Chernykh MA, Kuldyshev 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](https://doi.org/10.1134/S1068162021040063)
15. Tabakmakher VM, Gigolaev AM, Peigneur S, Krylov NA, Tytgat J, Chugunov AO, **Vassilevski AA**, Efremov RG (2021). Potassium channel blocker crafted by  $\alpha$ -hairpinin scaffold engineering. *Biophys J* 120 (12), 2471–2481, [10.1016/j.bpj.2021.04.020](https://doi.org/10.1016/j.bpj.2021.04.020)
16. 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](https://doi.org/10.1134/S0022093021020186)
17. van Cann M, Kuzmenkov A, Isensee J, Andreev-Andrievskiy A, Peigneur S, Khusainov G, Berkut A, Tytgat J, **Vassilevski AA**, Hucho T (2021). Scorpion toxin MeuNaTx $\alpha$ -1 sensitizes primary nociceptors by selective modulation of voltage-gated sodium channels. *FEBS J* 288 (7), 2418–2435, [10.1111/febs.15593](https://doi.org/10.1111/febs.15593)
18. Mineev KS, Kuzmenkov AI, Arseniev AS, **Vassilevski AA** (2021). Structure of MeuNaTx $\alpha$ -1 toxin from scorpion venom highlights the importance of the nest motif. *Proteins* 89 (8), 1055–1060, [10.1002/prot.26074](https://doi.org/10.1002/prot.26074)

19. 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](https://doi.org/10.32607/actanaturae.11279)
20. 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  $\alpha$ -Latrotoxin From the Mediterranean Black Widow Spider (*Latrodectus tredecimguttatus*). *Front Immunol* 11, 587825, [10.3389/fimmu.2020.587825](https://doi.org/10.3389/fimmu.2020.587825)
21. 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](https://doi.org/10.3389/fphar.2020.01010)
22. **(conference) Vassilevski A** (2020). P2X3 receptor antagonists from spider venom. *Toxicon* 177 Suppl 1, S3, [10.1016/j.toxicon.2019.10.017](https://doi.org/10.1016/j.toxicon.2019.10.017)
23. **(conference) 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](https://doi.org/10.1016/j.toxicon.2019.10.049)
24. **(book) 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](https://doi.org/10.1016/B978-0-12-818553-7.00036-X)
25. 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*. *Russ Fiziol Zh Im I M Sechenova* 105 (11), 1452–1462, [10.1134/S0869813919110074](https://doi.org/10.1134/S0869813919110074)
26. 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](https://doi.org/10.1074/jbc.RA119.010494)
27. 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](https://doi.org/10.3389/fphar.2019.00953)
28. 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](https://doi.org/10.1002/1873-3468.13530)
29. 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](https://doi.org/10.1038/s41597-019-0074-x)
30. 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](https://doi.org/10.1134/S1607672919010034)
31. 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](https://doi.org/10.3389/fphar.2019.00423)
32. 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](https://doi.org/10.1016/j.neuropharm.2018.09.030)
33. 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](https://doi.org/10.1002/prot.25583)
34. 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](https://doi.org/10.1016/j.neuron.2018.07.027)

35. 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](https://doi.org/10.1073/pnas.1720185115)
36. 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](https://doi.org/10.1016/j.toxicon.2017.08.013)
37. 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](https://doi.org/10.1016/j.neulet.2017.10.050)
38. Kuldyshev 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](https://doi.org/10.1002/1873-3468.12839)
39. 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](https://doi.org/10.1016/j.bbapap.2017.02.001)
40. 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](https://doi.org/10.1002/pro.3101)
41. 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](https://doi.org/10.1038/srep33314)
42. 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](https://doi.org/10.1042/BCJ20160573)
43. 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](https://doi.org/10.1093/database/baw056)
44. Kuzmenkov AI, Sachkova MY, Kovalchuk SI, Grishin EV, **Vassilevski AA** (2016). Lachesana tarabaei, an expert in membrane-Active toxins. *Biochem J* 473 (16), 2495–2506, [10.1042/BCJ20160436](https://doi.org/10.1042/BCJ20160436)
45. 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](https://doi.org/10.1134/S0006297915130118)
46. Dubovskii PV, **Vassilevski AA**, Kozlov SA, Feofanov AV, Grishin EV, Efremov RG (2015). Latarecins: Versatile spider venom peptides. *Cell Mol Life Sci* 72 (23), 4501–4522, [10.1007/s00018-015-2016-x](https://doi.org/10.1007/s00018-015-2016-x)
47. 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](https://doi.org/10.1074/jbc.M115.637611)
48. **(conference)** 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](https://doi.org/10.1007/978-3-319-16919-4_32)
49. 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 Heriades 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](https://doi.org/10.1074/jbc.M114.595678)
50. 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](https://doi.org/10.1074/jbc.M113.530477)
51. 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](https://doi.org/10.1016/j.febslet.2014.01.018)
52. Sachkova MY, Slavokhotova AA, Grishin EV, **Vassilevski AA** (2014). Structure of the yellow sac spider Cheiracanthium puncturum genes provides clues to evolution of insecticidal two-domain knottin toxins. *Insect*



*Mol Biol* 23 (4), 527–538, [10.1111/imb.12097](https://doi.org/10.1111/imb.12097)

53. Slavokhotova AA, Rogozhin EA, Musolyamov AK, Andreev YA, Oparin PB, Berkut AA, **Vassilevski AA**, Egorov TA, Grishin EV, Odintsova TI (2014). Novel antifungal  $\alpha$ -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](https://doi.org/10.1007/s11103-013-0127-z)
54. 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](https://doi.org/10.1111/febs.13015)
55. 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](https://doi.org/10.1134/S1068162014040013)
56. 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](https://doi.org/10.1016/j.biochi.2014.09.012)
57. **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](https://doi.org/10.1111/febs.12547)
58. Чугунов АО, **Вассилевский АА** (2013). Эволюционная «гонка вооружений»: нейротоксины против ионных каналов. 11, 42–48.
59. 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, intraspecific variability, distribution and role in defence. *FEBS J* 280 (15), 3594–3608, [10.1111/febs.12349](https://doi.org/10.1111/febs.12349)
60. Chugunov AO, Koromyslova AD, Berkut AA, Peigneur S, Tytgat J, Polyansky AA, Pentkovsky VM, **Vassilevski AA**, Grishin EV, Efremov RG (2013). Modular organization of  $\alpha$ -toxins from scorpion venom mirrors domain structure of their targets, sodium channels. *J Biol Chem* 288 (26), 19014–19027, [10.1074/jbc.M112.431650](https://doi.org/10.1074/jbc.M112.431650)
61. 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](https://doi.org/10.1007/s00216-012-6655-6)
62. Lazarev VN, Shkarupeta MM, Polina NF, Kostjukova 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](https://doi.org/10.1007/s00203-012-0863-5)
63. Kuzmenkov AI, Fedorova IM, **Vassilevski AA**, Grishin EV (2013). Cysteine-rich toxins from *Lachesana tarabaei* spider venom with amphiphilic C-terminal segments. *BIOCHIM BIOPHYS ACTA* 1828 (2), 724–731, [10.1016/j.bbamem.2012.10.014](https://doi.org/10.1016/j.bbamem.2012.10.014)
64. Polyansky AA, Chugunov AO, **Vassilevski AA**, Grishin EV, Efremov RG (2012). Recent advances in computational modeling of  $\alpha$ -Helical membrane-active peptides. *Curr Protein Pept Sci* 13 (7), 644–657, [10.2174/138920312804142147](https://doi.org/10.2174/138920312804142147)
65. 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](https://doi.org/10.1016/j.bbamem.2012.07.016)
66. Polina NF, Shkarupeta MM, Popenko AS, **Vassilevski AA**, Kozlov SA, Grishin EV, Lazarev VN, Govorun VM (2012). Cyto-Insectotoxin 1a from *Lachesana tarabaei* Spider Venom Inhibits *Chlamydia trachomatis* Infection. *Probiotics Antimicrob Proteins* 4 (3), 208–216, [10.1007/s12602-012-9108-9](https://doi.org/10.1007/s12602-012-9108-9)
67. 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](https://doi.org/10.1042/BJ20120548)
68. 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](https://doi.org/10.1016/j.biochi.2011.12.023)
69. 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](https://doi.org/10.2174/187221312798889266)
70. **Vassilevski AA**, Grishin EV (2011). Novel active principles from spider venom. *Acta Chim Slov* 58 (4), 717–723.
  71. 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](https://doi.org/10.1111/j.1742-4658.2011.08361.x)
  72. Lazarev VN, Polina NF, Shkarupeta MM, Kostjukova 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](https://doi.org/10.1128/AAC.00449-11)
  73. 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](https://doi.org/10.1016/j.bbrc.2011.06.058)
  74. 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](https://doi.org/10.1074/jbc.M110.200378)
  75. Savchenko GA, Volkova TM, **Vassilevskii AA**, Korolkova YV, Grishin EV, Boichouk YA, Krishtal OA (2011). Purinergic membrane receptors as targets for the effect of putoxin 1, a component of venom of spiders from the Geolycosa genus. *Neurophysiology* 42 (6), 387–391, [10.1007/s11062-011-9173-9](https://doi.org/10.1007/s11062-011-9173-9)
  76. 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](https://doi.org/10.1016/j.ab.2010.07.023)
  77. **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 puncturum* venom is a unique two-domain polypeptide. *J Biol Chem* 285 (42), 32293–32302, [10.1074/jbc.M110.104265](https://doi.org/10.1074/jbc.M110.104265)
  78. Billen B, **Vassilevski A**, Nikolsky A, Debaveye S, Tytgat J, Grishin E (2010). Unique bell-shaped voltage-dependent modulation of Na<sup>+</sup> channel gating by novel insect-selective toxins from the spider *Agelena orientalis*. *J Biol Chem* 285 (24), 18545–18554, [10.1074/jbc.M110.125211](https://doi.org/10.1074/jbc.M110.125211)
  79. 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](https://doi.org/10.1002/ana.21949)
  80. **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](https://doi.org/10.1007/978-1-60761-535-4_7)
  81. **Vassilevski AA**, Kozlov SA, Grishin EV (2009). Molecular diversity of spider venom. *Biochemistry (Mosc)* 74 (13), 1505–1534, [10.1134/S0006297909130069](https://doi.org/10.1134/S0006297909130069)
  82. 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 *Heriades melloteei*. *BIOL MEMBRANE* 26 (4), 249–257.
  83. 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 *Heriades melloteei*. *Biochem (Mosc) Suppl Ser A Membr Cell Biol* 3 (3), 245–253, [10.1134/S1990747809030027](https://doi.org/10.1134/S1990747809030027)
  84. 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](https://doi.org/10.1111/j.1742-4658.2009.07135.x)
  85. 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 laticins. *FEBS Lett* 583 (14), 2425–2428, [10.1016/j.febslet.2009.06.044](https://doi.org/10.1016/j.febslet.2009.06.044)
  86. Kozlov SA, **Vassilevski AA**, Grishin EV (2009). Secreted protein and peptide biosynthesis: Precursor

structures and processing mechanisms. , 225–248.

87. 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](https://doi.org/10.1016/j.toxicon.2008.05.018)
88. Shlyapnikov YM, Andreev YA, Kozlov SA, **Vassilevski AA**, Grishin EV (2008). Bacterial production of laticin 2a, a potent antimicrobial peptide from spider venom. *Protein Expr Purif* 60 (1), 89–95, [10.1016/j.pep.2008.03.011](https://doi.org/10.1016/j.pep.2008.03.011)
89. **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](https://doi.org/10.1042/BJ20071123)
90. **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](https://doi.org/10.2174/187221308783399261)
91. Pluzhnikov K, **Vassilevski A**, Korolkova Y, Fisyunov A, Iegorova O, Krishtal O, Grishin E (2007).  $\omega$ -Lsp-IA, a novel modulator of P-type  $\text{Ca}^{2+}$  channels. *Toxicon* 50 (7), 993–1004, [10.1016/j.toxicon.2007.07.004](https://doi.org/10.1016/j.toxicon.2007.07.004)
92. **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](https://doi.org/10.1134/S1068162007040024)
93. Kozlov SA, **Vassilevski AA**, Grishin EV (2007). Peptidomics of Short Linear Cytolytic Peptides from Spider Venom. , 55–70, [10.1002/9780470196502.ch3](https://doi.org/10.1002/9780470196502.ch3)
94. Kozlov SA, **Vassilevski AA**, Feofanov AV, Surovoy AY, Karpunin DV, Grishin EV (2006). Laticins, 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](https://doi.org/10.1074/jbc.M602168200)