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Education

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

Teaching

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

IBCh positions

2017–to date	Principal research fellow
	Senior research fellow

IBCh memberships

Scientific council

Language Proficiency

Russian, English

Awards

2016	Премия Правительства Москвы молодым ученым

Titles

Doctor of Philosophy (Chemistry)

Grants and projects

2022–to date	-Модуляторы мутантных натриевых каналов
2020–2022	-
2020–2022	-Лиганды ионных каналов с уникальной селективностью
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,

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2. 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
3. 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
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
5. Oparin PB, Nikodimov SS, **Vassilevski AA** (2023). Venoms with oral toxicity towards insects. *Toxicon* 235, 107308, 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
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
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
9. 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
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
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
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
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
14. 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
15. 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
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
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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

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 α-Latrotoxin From the Mediterranean Black Widow Spider (Latrodectus tredecimguttatus). *Front Immunol* 11, 587825, 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
22. **(conference) Vassilevski A** (2020). P2X3 receptor antagonists from spider venom. *Toxicon* 177 Suppl 1, S3, 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
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
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35. Männikkö R, Shenkarev ZO, Thor MG, Berkut AA, Myshkin MY, Paramonov AS, Kulbatskii DS, Kuzmin DA,

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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
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
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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
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52. 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

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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 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
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