

CURRICULUM VITAE

Olena Isaeva PhD

Assistant Professor
Department of Cell Biology, Neurobiology and Anatomy

OFFICE ADDRESS:

Basic Science Building
8701 Watertown Plank Rd
Milwaukee, WI 53226
Phone: 414-955-8646
Email: oisaeva@mcw.edu

EDUCATION:

1989 - 1994 MS, Dnepropetrovsk State University, Dnypro, Ukraine
1995 - 1998 PhD, Bogomoletz Institute of Physiology, Kyiv, Ukraine
2015 - 2016 Doctor of Science, Bogomoletz Institute of Physiology, Kyiv, Ukraine

POSTGRADUATE TRAINING AND FELLOWSHIP APPOINTMENTS:

2001 - 2003 Postdoctoral Fellow, Pharmacology and Physiology, New Jersey Medical School, Newark, NJ
2004 - 2006 Postdoctoral Fellow, Neurology, Geisel School of Medicine at Dartmouth, Hanover, NH
2018 Postdoctoral Fellow, Physiology, Medical College of Wisconsin, Milwaukee, WI

FACULTY APPOINTMENTS:

2010 - 2013 Adjunct Assistant Professor, Neurology, Geisel School of Medicine at Dartmouth, Hanover, NH
2010 - 2018 Senior/Leading Scientific Researcher, Cellular Membranology, Bogomoletz Institute of Physiology, Kyiv, Ukraine
10/2018 - 09/2021 Visiting Assistant Professor, Physiology, Medical College of Wisconsin, Milwaukee, WI
09/2021 - Present Assistant Professor, Cell Biology, Neurobiology and Anatomy, Medical College of Wisconsin, Milwaukee, WI

AWARDS AND HONORS:

1996 President of Ukraine Scholarship for Talented Young Scientists, Government Fund of Ukraine
2000 Scholarship against BrainDrain, International Brain Research Organization
2008 Travel Award, The International League Against Epilepsy
2012 Travel Award, The International League Against Epilepsy
2013 State Prize of Ukraine in Science and Technology, Government Fund of Ukraine
2017 President of Ukraine Award for Young Doctors of Science, State Fund for Fundamental Research of Ukraine
2019 Renal Section Research Recognition Award, American Physiological Society

MEMBERSHIPS IN HONORARY AND PROFESSIONAL SOCIETIES:

1999 - Present Ukrainian Society for Neuroscience (member)
2001 - 2003 American Biophysical Society (member)
2001 - Present American Society for Neuroscience (member)
2004 - 2006 American Epilepsy Society (member)
2007 - Present The Federation of European Neuroscience Societies (member)
2019 - 2021 American Physiological Society (member)

EDITORSHIPS/EDITORIAL BOARDS/JOURNAL REVIEWS:

Editorial Board

2021 - Present Frontiers in Physiology (Renal and Epithelial Physiology)
Journal Review
Scientific Reports; Frontiers in Neuroanatomy; Frontiers in Neurology; Experimental Neurology; PloS ONE; Brain Research Bulletin; Neurological Research; Neuroscience Letters

INTERNATIONAL ELECTED/APPOINTED LEADERSHIP AND COMMITTEE POSITIONS:

2010 Reviewer, Committee for Medical and Biological Sciences, Czech Science Foundation
2017 - 2018 Program Secretary, Executive Committee, Ukrainian Society for Neuroscience

RESEARCH GRANTS/AWARDS/CONTRACTS/PROJECTS:

Active

Peer Review

Title: Pain Mechanisms in Fabry Disease
Source: NIH
Role & Effort: co-investigator
PI: Cheryl Stucky
Dates: 04/01/2023 - 03/31/2026

Title: Targeting epidermal TRPV4 to alleviate neuropathy following cancer chemotherapy treatment
Source: Advancing a Healthier Wisconsin
Role & Effort: PI
Dates: 01/01/2024 - 12/31/2024

Title: Nociceptive Mechanisms Underlying Sickle Cell Pain
Source: NIH
Role & Effort: co-investigator
PI: Cheryl Stucky
Dates: 03/25/2024 - 12/31/2028

Pending

Peer Review

Title: Unlocking Relief: Targeting Epidermal TRPV4 to Alleviate Taxol-Induced Neuropathy and Alopecia
Source: NIH
Role & Effort: PI
PI: Olena Isaeva

Prior

Peer Review

Title: Effect of Isoflurane as an anticonvulsant during early brain development.
Source: American Epilepsy Society
Role & Effort: PI
PI: Isaeva Olena
Dates: 2005 - 2006

Title: Postanaesthetic Effects of Isoflurane on the Neuronal Activity of Rat Hippocampus
Source: NATO

Role & Effort:	PI
PI:	Olena Isaeva
Dates:	2007 - 2009
Title:	Charged nanoparticles as regulators of excitability of nerve cells: a new approach for epilepsy treatment
Source:	Science and Technology Center in Ukraine
Role & Effort:	Co-PI
PI:	Krishtal Oleg
Dates:	2010 - 2012
Title:	Development of new antiepileptic leads to suppress hippocampal epileptic seizures
Source:	State Agency on Science, innovations and Information of Ukraine
Role & Effort:	PI
PI:	Isaeva Elena
Dates:	2012 - 2014
Title:	The impact of protease-activated receptors in the pathogenesis of behavioral disorders in epilepsy
Source:	State Agency on Science, innovations and Information of Ukraine
Role & Effort:	PI
PI:	Isaeva Olena
Dates:	2017 - 2018

INVITED LECTURES/WORKSHOPS/PRESENTATIONS:

International

- Isaeva E, The role of endogenous neuraminidase in regulation of neuronal activity of rat hippocampus, Department of General Physiology Seminar, Bogomoletz Institute of Physiology, Kiev, Ukraine, 2009
- Isaeva E, Regulation of neuronal excitability, synaptogenesis, and synaptic plasticity by sialic acids, Invited Lecture, Birla Institute of Technology & Science, Pilani-Hyderabad, India, 2012
- Isaeva E, Long-term consequences of neonatal epileptic seizures on neuronal activity of rat cerebral cortex, Department of General Physiology Seminar, Bogomoletz Institute of Physiology, Kiev Ukraine, 2012
- Isaeva E, The role of thrombin receptor in seizures and epilepsy associated with blood-brain barrier dysfunction, Ukrainian Society for Neuroscience Meeting, Bogomoletz Institute of Physiology, Kiev, Ukraine, 2017
- Isaeva E, Charged nanoparticles as regulators of excitability of nerve cells: a new approach for epilepsy treatment, NanoBSR meeting, Uppsala University, Uppsala, Sweden, 2017
- Isaeva E, Drug discovery and development process, First-Year Student Ceremony, Invited Lecture, Igor Sikorsky Kyiv Polytechnic Institute, Kiev Ukraine, 2018

Regional

- Isaeva E, Fedoriuk M, Bohovyk R, Levchenko V, Palygin O, Staruschenko A., New vibro-dissociation method for isolation of defined nephron segments and small renal vessels, Experimental Biology, Orlando, FL, 2019

Local

- Isaeva E, Contribution of Protease-Activated Receptor 1 to acquired epilepsy and its behavioral complications, Department Seminar, Medical College of Wisconsin, Milwaukee, WI, 2019
- Olena Isaeva, New insight into paclitaxel-induced mechanical hypersensitivity: focus on the epidermal Piezo1

channel, Pain Collaboration Conversations, Medical College of Wisconsin, 2023

PEER REVIEWED WORKSHOPS/PRESENTATIONS:

Local

Olena isaeva, New insight into paclitaxel-induced mechanical hypersensitivity: focus on the epidermal Piezo1 channel, NRC Collaboration Conversations: Pain, Medical College of Wisconsin, 06/29/2023

MCW TEACHING ACTIVITIES:

Graduate Student Education

11/18/2022 Lecture: Representation of Pain in the Brain.

01/03/2024 - 02/21/2024 Lecture: Calcium Channels (Course: Ion Channels and Signal Transduction)

EXTRAMURAL TEACHING:

Medical Student Education

2016 - 2018 Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine, Course: Mechanisms of cell regulation

2017 Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine, Course: Molecular and systemic mechanisms of action of medicinal products

2018 Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine, Course: Neurobiophysics

Graduate Student Education

2017 - 2018 Bogomoletz Institute of Physiology, Kiev, Ukraine, Course: Experimental epilepsy studies

MCW STUDENTS, FACULTY, RESIDENTS AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

05/31/2023 - 08/04/2023 Megan Pahl, SPUR student mentorship, Medical College of Wisconsin, presentation at the Summer Program Symposium

05/29/2024 - 08/02/2024 Vivien Blecking, SPUR student mentorship, Medical College of Wisconsin, presentation at the Summer Program Symposium

Graduate Students

PhD Committees

01/2022 - Present Christina Mecca, Medical College of Wisconsin

EXTRAMURAL STUDENTS, FACULTY, RESIDENTS, AND CLINICAL/RESEARCH FELLOWS MENTORED:

Undergraduate Students

09/2013 - 06/2014 Alexey Komarov, academic mentorship, Moscow Institute of Physics and Technology

09/2014 - 06/2016 Anastasia Vlasyuk, academic mentorship, Moscow Institute of Physics and Technology

09/2014 - 06/2016 Ganna Semenets, academic mentorship, Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine

09/2016 - 06/2018 Hanna Goncharova, academic mentorship, Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine

09/2017 - 06/2018 Maria Klymenko, instructor, Biology and Medicine Institute Science Educational Center of Taras Shevchenko National University of Kyiv, Ukraine

Medical Students

07/2014 - 06/2017 Ahmad Dzhuma, academic mentorship, Bogomolets National Medical University

Graduate Students

PhD Students Advised

11/2010 - 12/2012 Alina Savotchenko, Bogomoletz Institute of Physiology, Kiev, Ukraine
11/2016 - 07/2020 Marharyta Semenikhina, Bogomoletz Institute of Physiology, Kiev, Ukraine

PhD Committees

2011 - 2013 Amanda Hernan, Geisel School of Medicine at Dartmouth

Students Advised

05/2016 - 10/2018 Oleksii Lunko, Bogomoletz Institute of Physiology, Kiev, Ukraine

11/2018 - 09/2023 Oksana Nikolaienko, Bogomoletz Institute of Physiology, Kiev, Ukraine

BIBLIOGRAPHY

Refereed Journal Publications/Original Papers

1. Vasil'yev DV, Isaeva EV, Fedulova SA, Veselovskii NS. Potassium channel blocker-induced presynaptic modulation of inhibitory synaptic transmission in hippocampal neurons of rats *Neurophysiology*. July/October 1998;30(4-5):275-278.
2. Isaeva EV, Fedulova SA, Veselovskii NS. Voltage-dependent calcium channels in cultivated neurons of the rat hippocampus *Neurophysiology*. July/October 1998;30(4-5):297-300.
3. Isaeva EV, Sidorenko VG, Fedulova SA, Veselovskii NS. Evoked inhibitory postsynaptic currents in the dynamics of development of cultured hippocampal neurons of rats *Neurophysiology*. September/October 1999;31(5):304-309.
4. Isaeva EV. Effect of nifedipine in high concentrations on inhibitory synaptic transmission *Neurophysiology*. January/February 1999;31(1):53-55.
5. Fedulova SA, Vasilyev DV, Isaeva EV, Romanyuk SG, Veselovsky NS. Possibility of multiquantal transmission at single inhibitory synapse in cultured rat hippocampal neurons. *Neuroscience*. 1999;92(4):1217-30.
6. Fedulova SA, Isaeva EV, Veselovsky NS. Involvement of different types of Ca²⁺ currents in the control of the efficiency of inhibitory synaptic transmission between cultured hippocampal neurons *Neurophysiology*. 2000;32(6):355-359.
7. Isaeva EV, Shirokova N. Metabolic regulation of Ca²⁺ release in permeabilized mammalian skeletal muscle fibres. *J Physiol*. 2003 Mar 01;547(Pt 2):453-62. PMID: PMC2342647
8. Isaeva EV, Shkryl VM, Shirokova N. Mitochondrial redox state and Ca²⁺ sparks in permeabilized mammalian skeletal muscle. *J Physiol*. 2005 Jun 15;565(Pt 3):855-72. PMID: PMC1464560
9. Isaev D, Isaeva E, Khazipov R, Holmes GL. Anticonvulsant action of GABA in the high potassium-low magnesium model of ictogenesis in the neonatal rat hippocampus in vivo and in vitro. *J Neurophysiol*. 2005 Oct;94(4):2987-92.
10. Isaeva E, Isaev D, Khazipov R, Holmes GL. Selective impairment of GABAergic synaptic transmission in the flurothyl model of neonatal seizures. *Eur J Neurosci*. 2006 Mar;23(6):1559-66.
11. Isaev D, Isaeva E, Khazipov R, Holmes GL. Shunting and hyperpolarizing GABAergic inhibition in the high-potassium model of ictogenesis in the developing rat hippocampus. *Hippocampus*. 2007;17(3):210-9.
12. Isaev D, Isaeva E, Shatskih T, Zhao Q, Smits NC, Shworak NW, Khazipov R, Holmes GL. Role of extracellular sialic acid in regulation of neuronal and network excitability in the rat hippocampus. *J Neurosci*. 2007 Oct 24;27(43):11587-94. PMID: PMC6673228
13. Isaeva E, Isaev D, Holmes GL. Anesthetic and postanesthetic effects of isoflurane on neuronal activity in the rat hippocampus *Neurophysiology*. 2007;39(4-5):325-326.
14. Isaeva EV. Effects of isoflurane on hippocampal seizures at immature rats in vivo. *Fiziol Zh (1994)*. 2008;54(5):40-5.
15. Isaeva EV. Mechanism of antiseizure effect of isoflurane in the immature rat hippocampus. *Fiziol Zh (1994)*. 2009;55(1):57-60.
16. Isaeva E, Isaev D, Khazipov R, Holmes GL. Long-term suppression of GABAergic activity by neonatal seizures in rat somatosensory cortex. *Epilepsy Res*. 2009 Dec;87(2-3):286-9. PMID: PMC2788005
17. Savrasova AV, Lushnikova IV, Isaeva EV, Skibo GG, Isaev DS, Kostyuk PG. The effect of neuraminidase blocker on gabazine-induced seizures in rat hippocampus. *Fiziol Zh (1994)*. 2010;56(4):14-8.
18. Isaeva E, Isaev D, Savrasova A, Khazipov R, Holmes GL. Recurrent neonatal seizures result in long-term increases in neuronal network excitability in the rat neocortex. *Eur J Neurosci*. 2010 Apr;31(8):1446-55. PMID: PMC3148010
19. Isaeva E, Lushnikova I, Savrasova A, Skibo G, Holmes GL, Isaev D. Blockade of endogenous neuraminidase leads to an increase of neuronal excitability and activity-dependent synaptogenesis in the rat

- hippocampus. *Eur J Neurosci*. 2010 Dec;32(11):1889-96.
20. Isaeva E, Lushnikova I, Savrasova A, Skibo G, Holmes GL, Isaev D. Effect of neuraminidase treatment on persistent epileptiform activity in the rat hippocampus *Pharmacological Reports*. 2011;63(3):840-844.
 21. Isaeva EV, Isaev DS. Anaesthetic and postanaesthetic effect of isoflurane on the multiple-unit activity of the immature rat hippocampus. *Fiziol Zh (1994)*. 2011;57(1):17-20.
 22. Isaev D, Zhao Q, Kleen JK, Lenck-Santini PP, Adstamongkonkul D, Isaeva E, Holmes GL. Neuroaminidase reduces interictal spikes in a rat temporal lobe epilepsy model. *Epilepsia*. 2011 Mar;52(3):e12-5. PMID: PMC3265164
 23. Isaeva E, Lushnikova I, Savrasova A, Skibo G, Holmes GL, Isaev D. Effect of neuraminidase treatment on persistent epileptiform activity in the rat hippocampus. *Pharmacol Rep*. 2011;63(3):840-4.
 24. Isaev D, Ivanchick G, Khmyz V, Isaeva E, Savrasova A, Krishtal O, Holmes GL, Maximyuk O. Surface charge impact in low-magnesium model of seizure in rat hippocampus. *J Neurophysiol*. 2012 Jan;107(1):417-23. PMID: PMC3349697
 25. Isaev DS, Isaeva EV, Savrasova AV, Holmes GL. Effect of neonatal epileptic attacks on the activity of neocortical neurons *Neurophysiology*. November 2011;43(3):227-228.
 26. Talnov AN, Isaeva E, Savotchenko AV, Dovgalets GV, Ochoa JG, Holmes GL, Isaev D. Electrolyte therapy reduces spike-and-wave discharges in the WAG/Rij rat model of absence epilepsy. *Epilepsy Behav*. 2012 Aug;24(4):399-402. PMID: PMC3408819
 27. Isaeva E, Hernan A, Isaev D, Holmes GL. Thrombin facilitates seizures through activation of persistent sodium current. *Ann Neurol*. 2012 Aug;72(2):192-8. PMID: PMC3430976
 28. Hernan AE, Holmes GL, Isaev D, Scott RC, Isaeva E. Altered short-term plasticity in the prefrontal cortex after early life seizures. *Neurobiol Dis*. 2013 Feb;50:120-6. PMID: PMC3534893
 29. Isaeva E, Isaev D, Holmes GL. Alteration of synaptic plasticity by neonatal seizures in rat somatosensory cortex. *Epilepsy Res*. 2013 Sep;106(1-2):280-3. PMID: PMC3758912
 30. Hernan AE, Alexander A, Jenks KR, Barry J, Lenck-Santini PP, Isaeva E, Holmes GL, Scott RC. Focal epileptiform activity in the prefrontal cortex is associated with long-term attention and sociability deficits. *Neurobiol Dis*. 2014 Mar;63:25-34. PMID: PMC4397918
 31. Lunko O, Isaev D, Maximyuk O, Ivanchick G, Sydorenko V, Krishtal O, Isaeva E. Persistent sodium current properties in hippocampal CA1 pyramidal neurons of young and adult rats. *Neurosci Lett*. 2014 Jan 24;559:30-3.
 32. Isaeva EV, Lunko OO, Romano AK, Isaev DS. [EFFECT OF NEONATAL SEIZURES ON THE SYNAPTIC PLASTICITY OF RAT SOMATOSENSORY CORTEX]. *Fiziol Zh (1994)*. 2015;61(6):11-6.
 33. Voytenko LP, Lushnikova IV, Savotchenko AV, Isaeva EV, Skok MV, Lykhmus OY, Patseva MA, Skibo GG. Hippocampal GABAergic interneurons coexpressing alpha7-nicotinic receptors and connexin-36 are able to improve neuronal viability under oxygen-glucose deprivation. *Brain Res*. 2015 Aug 07;1616:134-45.
 34. Lunko OO, Isaev DS, Krishtal OO, Isaeva EV. Thrombin modulates persistent sodium current in CA1 pyramidal neurons of young and adult rat hippocampus. *Fiziol Zh (1994)*. 2015;61(4):5-10.
 35. Isaeva E, Romanov A, Holmes GL, Isaev D. Status epilepticus results in region-specific alterations in seizure susceptibility along the hippocampal longitudinal axis. *Epilepsy Res*. 2015 Feb;110:166-70. PMID: PMC4361808
 36. Savotchenko A, Romanov A, Isaev D, Maximyuk O, Sydorenko V, Holmes GL, Isaeva E. Neuraminidase inhibition primes short-term depression and suppresses long-term potentiation of synaptic transmission in the rat hippocampus. *Neural Plast*. 2015;2015:908190. PMID: PMC4329761
 37. Buta A, Maximyuk O, Kovalskyy D, Sukach V, Vovk M, Ievglevskiy O, Isaeva E, Isaev D, Savotchenko A, Krishtal O. Novel Potent Orthosteric Antagonist of ASIC1a Prevents NMDAR-Dependent LTP Induction. *J Med Chem*. 2015 Jun 11;58(11):4449-61.
 38. Isaev D, Lushnikova I, Lunko O, Zapukhliak O, Maximyuk O, Romanov A, Skibo GG, Tian C, Holmes GL, Isaeva E. Contribution of protease-activated receptor 1 in status epilepticus-induced epileptogenesis. *Neurobiol Dis*. 2015 Jun;78:68-76. PMID: PMC4682556
 39. Zapukhliak OS, Kachanovska VO, Isaeva EV, Netsyk OV, Isaev DS. Surface charge impact in nonsynaptic model of epilepsy in rat hippocampus. *Fiziol Zh (1994)*. 2016;62(2):35-40.
 40. Sydorenko VG, Komarov OS, Sushko BS, Romanov AK, Isaeva EV, Isaev DS. Modulation of 4-aminopyridine-induced neuronal activity and local pO₂ in rat hippocampal slices by changing the flow rate of the superfusion medium. *Fiziol Zh (1994)*. 2016;62(4):3-11.
 41. Ievglevskiy O, Isaev D, Netsyk O, Romanov A, Fedoriuk M, Maximyuk O, Isaeva E, Akaike N, Krishtal O.

- Acid-sensing ion channels regulate spontaneous inhibitory activity in the hippocampus: possible implications for epilepsy. *Philos Trans R Soc Lond B Biol Sci.* 2016 Aug 05;371(1700). PMID: PMC4938031
42. Bogovyk R, Lunko O, Fedoriuk M, Isaev D, Krishtal O, Holmes GL, Isaeva E. Effects of protease-activated receptor 1 inhibition on anxiety and fear following status epilepticus. *Epilepsy Behav.* 2017 Feb;67:66-69.
 43. Semenikhina M, Bogovyk R, Fedoriuk M, Nikolaienko O, Al Kury LT, Savotchenko A, Krishtal O, Isaeva E. Inhibition of protease-activated receptor 1 ameliorates behavioral deficits and restores hippocampal synaptic plasticity in a rat model of status epilepticus. *Neurosci Lett.* 2019 Jan 23;692:64-68.
 44. Ilatovskaya DV, Levchenko V, Pavlov TS, Isaeva E, Klemens CA, Johnson J, Liu P, Kriegel AJ, Staruschenko A. Salt-deficient diet exacerbates cystogenesis in ARPKD via epithelial sodium channel (ENaC). *EBioMedicine.* 2019 Feb;40:663-674. PMID: PMC6413684
 45. Isaeva E, Fedoriuk M, Bohovyk R, Klemens CA, Khedr S, Golosova D, Levchenko V, El-Meanawy A, Palygin O, Staruschenko A. Vibrodissociation method for isolation of defined nephron segments from human and rodent kidneys. *Am J Physiol Renal Physiol.* 2019 Nov 01;317(5):F1398-F1403. PMID: PMC6879945
 46. Romanov A, Isaeva E. Experimental models in the study of the mechanisms and consequences of epileptic seizures in neonatal period of life *Fiziologichnyi Zhurnal.* 2020;66(2-3):93-100.
 47. Pavlov TS, Palygin O, Isaeva E, Levchenko V, Khedr S, Blass G, Ilatovskaya DV, Cowley AW Jr, Staruschenko A. NOX4-dependent regulation of ENaC in hypertension and diabetic kidney disease. *FASEB J.* 2020 Oct;34(10):13396-13408. PMID: PMC7722042
 48. Golosova D, Palygin O, Bohovyk R, Klemens CA, Levchenko V, Spires DR, Isaeva E, El-Meanawy A, Staruschenko A. Role of opioid signaling in kidney damage during the development of salt-induced hypertension. *Life Sci Alliance.* 2020 Dec;3(12). PMID: PMC7556751
 49. Nikolaienko O, Isaeva E, Levchenko V, Palygin O, Staruschenko A. Behavioral, metabolic, and renal outcomes of 1-month isolation in adolescent male Dahl salt-sensitive rats. *Am J Physiol Regul Integr Comp Physiol.* 2020 Dec 01;319(6):R684-R689. PMID: PMC7792816
 50. Manis AD, Palygin O, Isaeva E, Levchenko V, LaViolette PS, Pavlov TS, Hodges MR, Staruschenko A. Kcnj16 knockout produces audiogenic seizures in the Dahl salt-sensitive rat. *JCI Insight.* 2021 Jan 11;6(1). PMID: PMC7821607
 51. Bohovyk R, Fedoriuk M, Isaeva E, Shevchuk A, Palygin O, Staruschenko A. Scanning ion conductance microscopy of live human glomerulus. *J Cell Mol Med.* 2021 May;25(9):4216-4219. PMID: PMC8093965
 52. Spires DR, Palygin O, Levchenko V, Isaeva E, Klemens CA, Khedr S, Nikolaienko O, Kriegel A, Cheng X, Yeo JY, Joe B, Staruschenko A. Sexual dimorphism in the progression of type 2 diabetic kidney disease in T2DN rats. *Physiol Genomics.* 2021 Jun 01;53(6):223-234. PMID: PMC8285576
 53. Palygin O, Klemens CA, Isaeva E, Levchenko V, Spires DR, Dissanayake LV, Nikolaienko O, Ilatovskaya DV, Staruschenko A. Characterization of purinergic receptor 2 signaling in podocytes from diabetic kidneys. *iScience.* 2021 Jun 25;24(6):102528. PMID: PMC8188476
 54. Hyndman KA, Isaeva E, Palygin O, Mendoza LD, Rodan AR, Staruschenko A, Pollock JS. Role of collecting duct principal cell NOS1 β in sodium and potassium homeostasis. *Physiol Rep.* 2021 Oct;9(20):e15080. PMID: PMC8525323
 55. Isaeva E, Bohovyk R, Fedoriuk M, Shalygin A, Klemens CA, Zietara A, Levchenko V, Denton JS, Staruschenko A, Palygin O. Crosstalk between epithelial sodium channels (ENaC) and basolateral potassium channels ($K_{ir}4.1/K_{ir}5.1$) in the cortical collecting duct. *Br J Pharmacol.* 2022 Jun;179(12):2953-2968. PMID: PMC9106811
 56. Garvin J, Semenikhina M, Liu Q, Rarick K, Isaeva E, Levchenko V, Staruschenko A, Palygin O, Harder D, Cohen S. Astrocytic responses to high glucose impair barrier formation in cerebral microvessel endothelial cells. *Am J Physiol Regul Integr Comp Physiol.* 2022 Jun 01;322(6):R571-R580. PMID: PMC9109795
 57. McClenahan SJ, Kent CN, Kharade SV, Isaeva E, Williams JC, Han C, Terker A, Gresham R 3rd, Lazarenko RM, Days EL, Romaine IM, Bauer JA, Boutaud O, Sulikowski GA, Harris R, Weaver CD, Staruschenko A, Lindsley CW, Denton JS. VU6036720: The First Potent and Selective In Vitro Inhibitor of Heteromeric Kir4.1/5.1 Inward Rectifier Potassium Channels. *Mol Pharmacol.* 2022 May;101(5):357-370. PMID: PMC9092466
 58. Nikolaienko O, Isaeva EV. Adult resocialization restores sociability, reduced by adolescent social isolation in rats *Fiziologichnyi Zhurnal.* 2022;68(2):9-13.

59. Semenikhina M, Bogovik R, Fedoryuk M, Lunko , Savotchenko A, Isaeva E. PHARMACOLOGICAL BLOCKADE OF PROTEASE-ACTIVATED RECEPTORS 1 NORMALIZES BEHAVIORAL HYPEREXCITABILITY OF RATS IN THE LATENT STAGE OF THE EXPERIMENTAL MODEL OF TEMPORAL LOBE EPILEPSY *Fiziologichnyi Zhurnal*. 2019;65(3):7-11.
60. Savotchenko AV, Semenikhina MO, Krasnianshchuk IV, Bogovyk RI, Honcharova AE, Isaeva EV. BEHAVIORAL CONSEQUENCES OF ENTEROBIASIS IN RATS *Fiziologichnyi Zhurnal*. 2019;65(1):20-25.
61. Xu B, Nikolaienko O, Levchenko V, Choubey AS, Isaeva E, Staruschenko A, Palygin O. Modulation of P2X₄ receptor activity by ivermectin and 5-BDBD has no effect on the development of ARPKD in PCK rats. *Physiol Rep*. 2022 Nov;10(21):e15510. PMID: PMC9647406
62. Waltz TB, Chao D, Prodoehl EK, Ehlers VL, Dharanikota BS, Dahms NM, Isaeva E, Hogan QH, Pan B, Stucky CL. Schwann cell release of p11 induces sensory neuron hyperactivity in Fabry disease. *bioRxiv*. 2023 May 28. PMID: PMC10245981
63. Nagree MS, Rybova J, Kleynerman A, Ahrenhoerster CJ, Saville JT, Xu T, Bachochin M, McKillop WM, Lawlor MW, Pshezhetsky AV, Isaeva O, Budde MD, Fuller M, Medin JA. Spinal muscular atrophy-like phenotype in a mouse model of acid ceramidase deficiency. *Commun Biol*. 2023 May 25;6(1):560. PMID: PMC10212955
64. Chulkov EG, Isaeva E, Stucky CL, Marchant JS. Use the force, fluke: Ligand-independent gating of *Schistosoma mansoni* ion channel TRPM_{PZQ}. *Int J Parasitol*. 2023 Jul;53(8):427-434. PMID: PMC10258140
65. Polat OK, Isaeva E, Sudhini YR, Knott B, Zhu K, Noben M, Suresh Kumar V, Endlich N, Mangos S, Reddy TV, Samelko B, Wei C, Altintas MM, Dryer SE, Sever S, Staruschenko A, Reiser J. The small GTPase regulatory protein Rac1 drives podocyte injury independent of cationic channel protein TRPC5. *Kidney Int*. 2023 Jun;103(6):1056-1062. PMID: PMC10200725
66. Mikesell AR, Isaeva O, Moehring F, Sadler KE, Menzel AD, Stucky CL. Keratinocyte PIEZO1 modulates cutaneous mechanosensation. *Elife*. 2022 Sep 02;11. PMID: PMC9512397
67. Nikolaienko O, Klymenko M, Isaeva E. Consequences of adolescent social isolation on behavior and synaptic plasticity in the dorsal and ventral hippocampus in male Wistar rats. *Neurol Res*. 2023 Dec;45(12):1152-1160.
68. Savotchenko AV, Isaeva EV, Isaev DS. Pharmacological blockade of neuraminidase activity does not affect paired-pulse plasticity in hippocampal CA3-to-CA1 network *Biopolymers and Cell*. 2023;39(2):146-151.
69. Savotchenko AV, Isaeva EV, Isaev DS. EFFECT OF NEURAMINIDASE INHIBITION ON VARIATION OF FIELD EXTRACELLULAR POTENTIALS IN RAT HIPPOCAMPAL NETWORK *Fiziologichnyi Zhurnal*. 2023;69(4):40-44.
70. Bohovyk R, Khedr S, Levchenko V, Stefanenko M, Semenikhina M, Kravtsova O, Isaeva E, Geurts AM, Klemens CA, Palygin O, Staruschenko A. Protease-Activated Receptor 1-Mediated Damage of Podocytes in Diabetic Nephropathy. *Diabetes*. 2023 Dec 01;72(12):1795-1808. PMID: PMC10658073
71. Waltz TB, Chao D, Prodoehl EK, Enders JD, Ehlers VL, Dharanikota BS, Dahms NM, Isaeva E, Hogan QH, Pan B, Stucky CL. Fabry disease Schwann cells release p11 to induce sensory neuron hyperactivity. *JCI Insight*. 2024 Mar 07;9(8). PMID: PMC11141882
72. Allison RL, Welby E, Ehlers V, Burand A, Isaeva O, Nieves Torres D, Highland J, Brandow AM, Stucky CL, Ebert AD. Sickle cell disease iPSC-derived sensory neurons exhibit increased excitability and sensitization to patient plasma. *Blood*. 2024 May 16;143(20):2037-2052. PMID: PMC11143522
73. Yang C, Isaeva E, Shimada S, Kurth T, Stumpf M, Zheleznova NN, Staruschenko A, Dash RK, Cowley AW Jr. Inhibition of mTORC2 promotes natriuresis in Dahl salt-sensitive rats via the decrease of NCC and ENaC activity. *Am J Physiol Renal Physiol*. 2024 Sep 01;327(3):F435-F449. PMID: PMC11460535
74. Mikesell AR, Isaeva E, Schulte ML, Menzel AD, Sriram A, Prahl MM, Shin SM, Sadler KE, Yu H, Stucky CL. Keratinocyte Piezo1 drives paclitaxel-induced mechanical hypersensitivity. *bioRxiv*. 2023 Dec 13. PMID: PMC10760029
75. Mikesell AR, Isaeva E, Schulte ML, Menzel AD, Sriram A, Prahl MM, Shin SM, Sadler KE, Yu H, Stucky CL. Increased keratinocyte activity and PIEZO1 signaling contribute to paclitaxel-induced mechanical hypersensitivity. *Sci Transl Med*. 2024 Dec 11;16(777):eadn5629.