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Адрес

Федеральное государственное бюджетное учреждение науки Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова Российской академии наук, Москва, Россия

Контакты

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Образование

1970–2006	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), биологический факультет	Присуждена учёная степень доктора биологических наук
1970–1991	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), биологический факультет	Присуждена учёная степень кандидата физ.-мат. наук
1982–1988	Россия, Москва	Московский инженерно-физический институт (МИФИ)	диплом инженера-физика

Работа в ИБХ

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

Членство в советах и комиссиях ИБХ

Ученый совет

Научные интересы

Изучение структуры и функциональных свойств биологически активных соединений с широким использованием методов оптической спектроскопии и микроскопии. Разработка новых методических подходов к изучению биологических молекул на основе методов оптической микроскопии и спектроскопии.

Основные направления исследований включают в себя:

скрининг, структурно-функциональные, доклинические и клинические исследования новых фотосенсибилизаторов для противоопухолевой и антимикробной фотодинамической терапии (ФДТ);

оптимизация структуры и изучение свойств конъюгатов хлорина е6 с наночастицами бора применительно к ФДТ, бор нейтрон-захватной терапии рака и флуоресцентной диагностике;

изучение функциональной роли трансмембранных доменов эфриновых тирозинкиназных рецепторов EphA2;

изучение свойств и механизмов действия на клетки эукариот и прокариот природных пептидов из ядов насекомых;

поиск новых лигандов потенциал-зависимых калиевых каналов, изучение их активности и свойств.

Степени и звания

Доцент

Доктор наук (Биологические науки, 03.00.02 — Биофизика)

Ссылки и контакты

Scopus: 7003518369, ResearcherID: K-3082-2012

Гранты и проекты

2022–наст.вр.	Гомо- и гетеро- тетрамерные потенциал-зависимые калиевые каналы Kv1 в клетках эукариот и их взаимодействия с поровыми блокаторами
2018–2020	Разработка флуоресцентных хемосенсоров на основе резонансного переноса энергии для определения биогенных металлов в растворах и клетках
2019–2022	Эпигенетические механизмы биологических процессов и их роль в патогенезе онкологических заболеваний
2017–2020	Механизм взаимодействия PARP-1 с хроматином
2016–2019	Магнито-плазмонные гибридные наносенсоры как многофункциональная платформа для детекции клеток рака груди
2019–2021	Полифункциональные фотосенсибилизаторы на основе гуанидиновых производных природных порфиринов

Публикации

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3. 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
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7. Efremenko AV, Kryukova EV, Kazakov OV, Kirpichnikov MP, Nekrasova OV, **Feofanov AV** (2025). Properties of Potassium Channel Kv1.1 on the Basis of Fluorescent Dimer of Alpha-Subunits mKATE2-Kv1.1-Kv1.1 in Neuro-2a Cells. *Russ. J. Bioorganic Chem.* 51 (5), 2055–2063, 10.1134/S106816202560240X
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80 (3S), 46–51, 10.55959/MSU0137-0952-16-80-3S-7
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10. Panchenko PA, Pavlova MA, Efremenko AV, Kutsevalova UA, Ustimova MA, **Feofanov AV**, Fedorov YV, Fedorova OA (2025). Selective and sensitive ratiometric fluorescent probe for copper(II) cations in an aqueous solution based on resonance energy transfer and “1,8-naphthalimide–styrylpyridine” dyad bearing dipicolylamine receptor. *FRONT CHEM SCI ENG* 19 (9), , 10.1007/s11705-025-2594-6
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15. Efremenko AV, Nekrasova OV, **Feofanov AV** (2025). Formation of Heterotetrameric Potassium Channels Kv1.1–Kv1.2 in Neuro-2A Cells: Analysis by the Förster Resonance Energy Transfer Technique. *Biophysics (Oxf)* 70 (1), 69–75, 10.1134/S0006350925700095
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38. Orlov NA, Ignatova AA, Kryukova EV, Yakimov SA, Kirpichnikov MP, Nekrasova OV, **Feofanov AV** (2022). Combining mKate2-Kv1.3 Channel and Atto488-Hongotoxin for the Studies of Peptide Pore Blockers on Living Eukaryotic Cells. *Toxins (Basel)* 14 (12), 858, 10.3390/toxins14120858
39. Efremenko A, Dyakova E, Ostroverkhov P, Ignatova A, Grin M, **Feofanov A** (2022). Photodynamic properties of lysine and arginine derivatives of bacteriopurpurinimide. *Future Med Chem* 14 (22), 1635–1647,

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41. Panchenko PA, Efremenko AV, Polyakova AS, **Feofanov AV**, Ustimova MA, Fedorov YV, Fedorova OA (2022). Fluorescent RET-Based Chemosensor Bearing 1,8-Naphthalimide and Styrylpyridine Chromophores for Ratiometric Detection of Hg2+ and Its Bio-Application. *Biosensors (Basel)* 12 (9), , 10.3390/bios12090770
42. 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
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