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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
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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

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

1. Akulinichev SV, Glukhov SI, Efremenko AV, Kokontsev DA, Kuznetsova EA, Martynova VV, **Feofanov AV**, Yakovlev IA (2024). The Cellular Response to Exposure to Ionizing Radiation and Light in the Presence of a Photosensitizer. *Biophysics (Oxf)* 68 (5), 783–791, [10.1134/S0006350923050044](#)
2. Kost V, Sukhov D, Ivanov I, Kasheverov I, Ojomoko L, Shelukhina I, Mozhaeva V, Kudryavtsev D, **Feofanov A**, Ignatova A, Utkin Y, Tsetlin V (2023). Comparison of Conformations and Interactions with Nicotinic Acetylcholine Receptors for E. coli-Produced and Synthetic Three-Finger Protein SLURP-1. *Int J Mol Sci* 24 (23), 16950, [10.3390/ijms242316950](#)
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4. Maluchenko NV, Korovina AN, Saulina AA, Studitsky VM, **Feofanov AV** (2023). The Role of the WGR Domain in the Functions of PARP1 and PARP2. *Mol Biol* 57 (5), 782–791, [10.1134/S0026893323050114](#)
5. Andreeva TV, Maluchenko NV, Efremenko AV, Lyubitelev AV, Korovina AN, Afonin DA, Kirpichnikov MP, Studitsky VM, **Feofanov AV** (2023). Epigallocatechin Gallate Affects the Structure of Chromatosomes, Nucleosomes and Their Complexes with PARP1. *Int J Mol Sci* 24 (18), , [10.3390/ijms241814187](#)
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7. Orlov NA, Kryukova EV, Efremenko AV, Yakimov SA, Toporova VA, Kirpichnikov MP, Nekrasova OV, **Feofanov AV** (2023). Interactions of the Kv1.1 Channel with Peptide Pore Blockers: A Fluorescent Analysis on Mammalian Cells. *Membranes (Basel)* 13 (7), 645, [10.3390/membranes13070645](#)
8. Primak AL, Orlov NA, Peigneur S, Tytgat J, Ignatova AA, Denisova KR, Yakimov SA, Kirpichnikov MP, Nekrasova OV, **Feofanov AV** (2023). AgTx2-GFP, Fluorescent Blocker Targeting Pharmacologically Important Kv1.x (x = 1, 3, 6) Channels. *Toxins (Basel)* 15 (3), 229, [10.3390/toxins15030229](#)
9. Petrunina NA, Shtork AS, Lukina MM, Tsvetkov VB, Khodarovich YM, **Feofanov AV**, Moysenovich AM, Maksimov EG, Shipunova VO, Zatsepin TS, Bogomazova AN, Shender VO, Aralov AV, Lagarkova MA, Varizhuk AM (2023). Ratiometric i-Motif-Based Sensor for Precise Long-Term Monitoring of pH Micro Alterations in the Nucleoplasm and Interchromatin Granules. *ACS Sens* 8 (2), 619–629,

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11. Sidorova MV, Bibilashvili RS, Avdeev DV, Kozhokar US, Palkeeva ME, Ovchinnikov MV, Molokoedov AS, Shirokov DA, Semyonova AV, Uvarova VI, Kulyaev PO, Khvatov EV, Ignatova AA, **Feofanov AV**, Osolodkin DI, Porozov YB, Kozlovskaya LI, Ishmukhametov AA, Parfyonova YV, Egorov AM (2022). Properties and Activity of Peptide Derivatives of ACE2 Cellular Receptor and Their Interaction with SARS-CoV-2 S Protein Receptor-Binding Domain. *Dokl Biochem Biophys* 507 (1), 1–5, [10.1134/S1607672922060126](https://doi.org/10.1134/S1607672922060126)
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13. 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](https://doi.org/10.3390/toxins14120858)
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33. Andreeva TV, Lyubitelev AV, Malyuchenko NV, Studitsky VM, Kirpichnikov MP, **Feofanov AV** (2021). Influence of Linker DNA on Nucleosome Structure according to Single-Particle Fluorescence Microscopy Data. *Moscow Univ Biol Sci Bull* 76 (3), 118–122, [10.3103/S0096392521030019](https://doi.org/10.3103/S0096392521030019)
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36. Maluchenko NV, Koshkina DO, **Feofanov AV**, Studitsky VM, Kirpichnikov MP (2021). Poly(ADP-Ribosyl) Code Functions. *Acta Naturae* 13 (2), 58–69, [10.32607/actanaturae.11089](https://doi.org/10.32607/actanaturae.11089)
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