

Резюме: Водовозова Елена Львовна



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

2007	Россия, Москва	Институт биоорганической химии им. академиков М.М. Шемякина и Ю.А. Овчинникова РАН (ИБХ)	Диплом доктора химических наук
1985	Россия, Москва	Институт биоорганической химии имени М.М. Шемякина АН СССР (ИБХ)	Диплом кандидата химических наук по специальности «биохимия»
1976– 1981	Россия, Москва	Московский государственный университет имени М.В. Ломоносова (МГУ), химический факультет	Диплом химика (с отличием)

Преподавание

Работа в ИБХ

2008–наст.вр.	Заведующий лабораторией
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Членство в советах и комиссиях ИБХ

Ученый совет

Научные интересы

Более 20 лет одним из главных направлений работы Е. Л. Водовозовой являются исследования в области создания систем направленной доставки лекарств на основе липосом, липидных производных противоопухолевых химиотерапевтических средств (липофильных пролекарств) и липофильных гликоконъюгатов (молекулярных адресов). Другое направление исследований, которое развивает Е. Л. Водовозова — это разработка фотоаффинных зондов с новым высокоэффективным фотофором (диазоциклопентадиен-2-илкарбонильной меткой).

Степени и звания

2007	Доктор наук (Химические науки, 03.00.04 — Биохимия)
1985	Кандидат наук (Химические науки, Биохимия)

Гранты и проекты

2021– 2023	Разработка средств профилактики и лечения COVID-19 и сопутствующих инфекционных заболеваний с использованием генетических технологий
2021– наст.вр.	Белковая корона липосом и ее влияние на взаимодействия с клетками кровеносного русла

2020– 2022	Разработка прототипа вакцинной конструкции для лечения и профилактики новой коронавирусной инфекции COVID-19 на основе липосом с набором Т-клеточных эпитопов
2019– 2021	Взаимодействия противоопухолевых липосом, несущих в бислое липофильные пролекарства, с эндотелиальными клетками и белками плазмы в динамических условиях: биомоделирование в микроканале микрофлюидного устройства

Публикации

1. **Vodovozova EL** (2024). Editorial for Special Issue: Liposomal and Lipid-Based Drug Delivery Systems and Vaccines. *Pharmaceutics* 16 (2), , [10.3390/pharmaceutics16020238](#)
2. Shchegravina ES, Tretiakova DS, Sitdikova AR, Usova SD, Boldyrev IA, Alekseeva AS, Svirshchevskaya EV, **Vodovozova EL**, Fedorov AY (2023). Design and preparation of pH-sensitive cytotoxic liposomal formulations containing antitumor colchicine analogues for target release. *J Liposome Res* , 1–17, [10.1080/08982104.2023.2274428](#)
3. Tretiakova DS, Azhikina TL, Boldyrev IA, Svirshchevskaya EV, **Vodovozova EL** (2023). Synthesis of Liposomes Conjugated with CpG-Oligonucleotide and Loaded with a Set of T-Cell Epitopes of the SARS-CoV-2 Virus. *Russ. J. Bioorganic Chem.* 49 (4), 905–911, [10.1134/S1068162023040210](#)
4. Tretiakova D, Kobanenko M, Alekseeva A, Boldyrev I, Khaidukov S, Zgoda V, Tikhonova O, **Vodovozova E**, Onishchenko N (2023). Protein Corona of Anionic Fluid-Phase Liposomes Compromises Their Integrity Rather than Uptake by Cells. *Membranes (Basel)* 13 (7), 681, [10.3390/membranes13070681](#)
5. Onishchenko NR, Moskovtsev AA, Kobanenko MK, Tretiakova DS, Alekseeva AS, Kolesov DV, Mikryukova AA, Boldyrev IA, Kapkaeva MR, Shcheglovitova ON, Bovin NV, Kubatiev AA, Tikhonova OV, **Vodovozova EL** (2023). Protein Corona Attenuates the Targeting of Antitumor Sialyl Lewis X-Decorated Liposomes to Vascular Endothelial Cells under Flow Conditions. *Pharmaceutics* 15 (6), 1754, [10.3390/pharmaceutics15061754](#)
6. Boldyrev IA, Shendrikov VP, Vostrova AG, **Vodovozova EL** (2023). A Route to Synthesize Ionizable Lipid ALC-0315, a Key Component of the mRNA Vaccine Lipid Matrix. *Russ. J. Bioorganic Chem.* 49 (2), 412–415, [10.1134/S1068162023020061](#)
7. Gretskeya N, Akimov M, Andreev D, Zalygin A, Belitskaya E, Zinchenko G, Fomina-Ageeva E, Mikhalyov I, **Vodovozova E**, Bezuglov V (2023). Multicomponent Lipid Nanoparticles for RNA Transfection. *Pharmaceutics* 15 (4), , [10.3390/pharmaceutics15041289](#)
8. Tretiakova DS, Alekseeva AS, Onishchenko NR, Boldyrev IA, Egorova NS, Vasina DV, Gushchin VA, Chernov AS, Telegin GB, Kazakov VA, Plokhikh KS, Konovalova MV, Svirshchevskaya EV, **Vodovozova EL** (2023). Proof-of-Concept Study of Liposomes with a Set of SARS-CoV-2 Viral Peptidic T-Cell Epitopes as a Vaccine. *Russ. J. Bioorganic Chem.* 48 (S1), S23–S37, [10.1134/S1068162022060255](#)
9. Semyachkina-Glushkovskaya O, Bragin D, Bragina O, Socolovski S, Shirokov A, Fedosov I, Ageev V, Blokhina I, Dubrovsky A, Telnova V, Terskov A, Khorovodov A, Elovenko D, Evsukova A, Zhoy M, Agranovich I, **Vodovozova E**, Alekseeva A, Kurths J, Rafailov E (2023). Low-Level Laser Treatment Induces the Blood-Brain Barrier Opening and the Brain Drainage System Activation: Delivery of Liposomes into Mouse Glioblastoma. *Pharmaceutics* 15 (2), 567, [10.3390/pharmaceutics15020567](#)
10. Semyachkina-Glushkovskaya O, Shirokov A, Blokhina I, Telnova , **Vodovozova E**, Alekseeva A, Boldyrev I, Fedosov I, Dubrovsky A, Khorovodov A, Terskov A, Evsukova A, Elovenko D, Adushkina V, Tzoy M, Kurthz J, Rafilov E (2023). Intranasal Delivery of Liposomes to Glioblastoma by Photostimulation of the Lymphatic System. *Pharmaceutics* 15 (1), 36, [10.3390/pharmaceutics15010036](#)
11. Tretiakova DS, **Vodovozova EL** (2022). Liposomes as Vaccine Delivery Systems and Adjuvants. *BIOL MEMBRANE* 39 (2), 85–106, [10.31857/S0233475522020074](#)
12. Tretiakova D, Kobanenko M, Le-Deygen I, Boldyrev I, Kudryashova E, Onishchenko N, **Vodovozova E** (2022). Spectroscopy Study of Albumin Interaction with Negatively Charged Liposome Membranes: Mutual Structural Effects of the Protein and the Bilayers. *Membranes (Basel)* 12 (11), , [10.3390/membranes12111031](#)
13. Tretiakova DS, **Vodovozova EL** (2022). Liposomes as Adjuvants and Vaccine Delivery Systems.

14. Kobanenko MK, Tretiakova DS, Shchegravina ES, Antipova NV, Boldyrev IA, Fedorov AY, **Vodovozova EL**, Onishchenko NR (2022). Liposomal Formulation of a PLA2-Sensitive Phospholipid–Allocholchicinoid Conjugate: Stability and Activity Studies In Vitro. *Int J Mol Sci* 23 (3), 1034, [10.3390/ijms23031034](https://doi.org/10.3390/ijms23031034)
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18. (конференция) Tretiakova DS, Le-Deygen I, Kudryashova E, **Vodovozova EL** (2021). Serum albumin penetration in the fluid lipid bilayer of liposomes loaded with a melphalan lipophilic prodrug can be prevented by inclusion of phosphatidylinositol or ganglioside GM1. *FEBS Open Bio* 11 (Suppl. 1) 2021, 256 11, 256, [10.1002/2211-5463.13205](https://doi.org/10.1002/2211-5463.13205)
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21. Tretiakova D, Le-Deigen I, Onishchenko N, Kuntsche J, Kudryashova E, **Vodovozova E** (2021). Phosphatidylinositol stabilizes fluid-phase liposomes loaded with a melphalan lipophilic prodrug. *Pharmaceutics* 13 (4), , [10.3390/pharmaceutics13040473](https://doi.org/10.3390/pharmaceutics13040473)
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23. Tretiakova D, Svirshchevskaya E, Onishchenko N, Alekseeva A, Boldyrev I, Kamysinsky R, Natykan A, Lokhmotov A, Arantseva D, Shobolov D, **Vodovozova E** (2020). Liposomal Formulation of a Melphalan Lipophilic Prodrug: Studies of Acute Toxicity, Tolerability, and Antitumor Efficacy. *Curr Drug Deliv* 17 (4), 312–323, [10.2174/1567201817666200214105357](https://doi.org/10.2174/1567201817666200214105357)
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35. Privalova AM, Uglanova SV, Kuznetsova NR, Klyachko NL, Golovin YI, Korenkov VV, **Vodovozova EL**, Markvicheva EA (2015). Microencapsulated multicellular tumor spheroids as a tool to test novel anticancer nanosized drug delivery systems in vitro. *J Nanosci Nanotechnol* 15 (7), 4806–4814, [10.1166/jnn.2015.10508](https://doi.org/10.1166/jnn.2015.10508)
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- containing colchicine analogue in liposomes: biological effects on human tumor cells. *Bioorg Khim* 39 (5), 609–618, [10.7868/S0132342313050102](https://doi.org/10.7868/S0132342313050102)
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