Резюме: Константинова Ирина Дмитриевна



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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Работа в ИБХ

2021–наст.вр.	Ведущий научный сотрудник	
2026–наст.вр.	Доцент	

Научные интересы

Группа биосинтеза модифицированных нуклеозидов

Одним из основных направлений работ являются разработка фундаментальных и прикладных аспектов биотехнологии получения *препаратов на основе модифицированных нуклеозидов* для последующего внедрения в производство биофармацевтических препаратов. Разработка биокаталитических технологий получения новых модифицированных нуклеозидов для изучения их противовирусной и противоопухолевой активности.

Нами созданы технологии синтеза субстанций препаратов, используемых в современной клинической практике для терапии онкогематологических заболеваний:

Кладрибин - волосатоклеточный лейкоз, лечение рассеянного склероза рецидивирующего (ремиттирующего) течения (таблет. форма).

Флудара - В-клеточный хронический лимфолейкоз, неходжкинские лимфомы низкой степени злокачественности, а также фолликулярные В-клеточные лимфомы и лимфомы из клеток мантийной зоны (при приеме внутрь).

Неларабин - Т-клеточный острый лимфобластный лейкоз и Т-клеточная лимфобластная лимфома (у пациентов с рефрактерным к химиотерапии или рецидивирующим заболеванием).

Клофарабин - лечение острого лимфобластного лейкоза у детей старше 1 года с рецидивом или рефрактерностью к терапии после применения, по крайней мере, двух предшествующих схем химиотерапии и при отсутствии иных способов достижения стойкой ремиссии.

Технологии масштабированы и апробированы в условиях фармпроизводства компаний ОАО «Фармсинтез» (С.-Петербург) и ЗАО «Р-Фарм» (Москва).

Внедрение технологий на этих предприятиях сдерживается необходимостью проведения клинических исследований полученных субстанций и небольшой потребностью препаратов на рынке РФ (от 0.5 до 2 кг).

Получены метаболически устойчивые аналоги нуклеозидного антибиотика **кордицепина**, которые представляют огромный интерес для терапии Африканского трипаносомоза человека [Human African trypanosomiasis (HAT)].

Разработаны биотехнологическте способы получения фармацевтических субстанций противовирусных препаратов – **рибавирина**, **видарабина**, **диданозина**. Синтезирован новый нуклеозид - рибозид 2-амино-5,6-дифторбензимидазола, обладающий высокой активностью против вируса герпеса человека 2 типа и низкой цитотоксичностью.

Партнеры:

- Институт органического синтеза им. И.Я.Постовского (ИОС УрОРАН) – синтез новых оснований бензимидазола.
- Институт тонких химических технологий им. М.В.Ломоносова Московского технологического университета, лаб. Биотехнологии – синтез новых оснований 1,2,4-триазола.
- Институт Биоорганической химии Национальной академии наук Беларуси – совместные работы в области каскадной полиферментативной технологии получения модифицированных нуклеозидов
- Институт молекулярной биологии им. В.А.Энгельгардта - синтез флексимерных гетероциклических оснований для получения новых нуклеозидов
- НИИ Экспериментальной диагностики и терапии опухолей РОНЦ им. Н.Н.Блохина - изучение цитотоксичности серии новых модифицированных нуклеозидов в лаборатории М.В.Киселевского
- Институт вирусологии им. Д.И.Ивановского (ФНИЦЭМ им.Н.Ф.Гамалеи Минздрава РФ) - тестирование противовирусной активности новых модифицированных нуклеозидов на моделях *in vitro* и *in vivo*

Степени и звания

2025	Доктор наук (Химические науки, 1.4.9 - Биоорганическая химия)
	Кандидат наук (Химические науки)

Гранты и проекты

2021–2023	Разработка средств профилактики и лечения COVID-19 и сопутствующих инфекционных заболеваний с использованием генетических технологий

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