

# CURRICULUM VITAE

## **Viktorija PREITAKAITĖ, PhD**

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Researcher at the Department of Molecular Microbiology and Biotechnology, Institute of Biochemistry, Life Science Center, Vilnius University

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## **EDUCATION**

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**2020–2025**

**PhD in Biochemistry**

Vilnius University

Exploration of anticancer compounds and enzyme-prodrug systems.  
Supervisor Prof. dr. Rolandas Meškys

**2018–2020**

**MSc in Molecular Biology, *magna cum laude***

Vilnius University

Analysis of bacterial isocytosine deaminases. Supervisor dr. Agota Aučynaitė

**2014–2018**

**BSc in Medical and Veterinary Genetics, *cum laude***

Lithuanian University of Health Sciences

*In vitro* study of Sema3C effects on angiogenesis and generation of U87 cell line coding inducible Sema3C expression system. Supervisor dr. Arūnas Kazlauskas

## **SCIENTIFIC INTERESTS & SKILLS**

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Enzyme-prodrug systems and their effects on cancer cells; strategies for identification and characterization of novel bacterial enzymes. Knowledge of common laboratory techniques in fields of biochemistry, genetic engineering, molecular biology, microbiology, cell technology.

## **PATENT APPLICATIONS AND PATENTS**

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1. Meškys, R., Urbelienė, N., Tauraitė, D., Tiškus, M., **Preitakaitė, V.** Hydrolases and uses thereof. LT 7046.
2. Meškys, R., Urbelienė, N., Tauraitė, D., Tiškus, M., **Preitakaitė, V.** Hydrolases and uses thereof. EP23168045.

## **PUBLICATIONS**

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1. **Preitakaitė, V.**, Kazlauskas, A., Aučynaitė, A., Butkutė, K., Lapinskaitė, R., Urbelienė, N., Laurynėnas, A., & Meškys, R. (2025). Bacterial cytidine deaminases as versatile activators of fluoropyrimidine nucleoside prodrugs. *European Journal of Medicinal Chemistry*, 117860.
2. **Preitakaitė, V.**, Barasa, P., Aučynaitė, A., Plakys, G., Koplūnaitė, M., Zubavičiūtė, S., & Meškys, R. (2023). Bacterial amidohydrolases and modified 5-fluorocytidine compounds: Novel enzyme-prodrug pairs. *Plos ONE*, 18(11), e0294696.
3. Sadauskas, M., Jakutis, M., Petkevičius, V., Malikėnas, M., **Preitakaitė, V.**, Vaitekūnas, J., & Meškys, R. (2023). Biocatalytic synthesis of asymmetric water-soluble indirubin derivatives. *Dyes and Pigments*, 219, 111585.
4. Vidal, S., El Motiam, A., Seoane, R., **Preitakaite, V.**, Bouzaher, Y. H., Gómez-Medina, S., ... & Rivas, C. (2019). Regulation of the Ebola virus VP24 protein by SUMO. *Journal of Virology*, 94(1), 10-1128.
5. Valiulyte, I., **Preitakaite, V.**, Tamasauskas, A., & Kazlauskas, A. (2018). Importance of the putative furin recognition site 742 RNRR 745 for antiangiogenic Sema3C activity in vitro. *Brazilian Journal of Medical and Biological Research*, 51.

## **PROJECTS**

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1. 2024 Rational design of new prodrug and enzyme pairs for gene-directed enzyme-prodrug therapy. Research Council of Lithuania (No. S-MIP-24-114). Junior researcher.
2. 2020–2023 Selective enzymatic system for prodrug activation. Research Council of Lithuania (No. 01.2.2-LMT-K-718-03-0082). Junior researcher.
3. 2020–2023 Optimization of the network of higher education institutions and improvement of the quality of studies by merging Šiauliai University and Vilnius University. European Social Fund (No. 09.3.1-ESFA-V-738-03-0001). Project expert.

## **GRANTS**

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1. Federation of European Biochemical Societies awarded a grant to attend the Young Scientists' Forum 2023 (YSF 2023) in Tours, France, 6–8 July 2023.
2. On 26 April 2024, the Life Sciences Center of Vilnius University awarded a nominal scholarship for excellent scientific results, active scientific, science popularizing and organizational activities.

## **ORGANIZATION OF SCIENTIFIC CONGRESSES**

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1. Conference of Lithuanian Microbiological Society „Microbiology 2022“, 28-29 April 2022, Birštonas, Lithuania. Communications manager, press design specialist, abstract book layout.
2. The 5th Congress of Baltic Microbiologists “CBM2023”, 11-13 October 2023, Vilnius, Lithuania. Communications manager, press design specialist, abstract book layout.

## **EMPLOYMENT**

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**September 2025–Present**

**Researcher**

Identification and characterisation of novel enzymes for selective activation of prodrugs. Department of Molecular Microbiology and Biotechnology, Institute of Biochemistry, Life Sciences Center, Vilnius University.

**September 2025–Present**

**Assistant**

Laboratory work and lectures for undergraduate students: enzymology, genetic engineering, microbiology. Institute of Biochemistry, Life Sciences Center, Vilnius University.

**October 2022–August 2025**

**Junior Assistant**

Laboratory work and lectures for undergraduate students: enzymology, genetic engineering, microbiology. Institute of Biochemistry, Life Sciences Center, Vilnius University.

**September 2024–August 2025**

**Junior Researcher**

Identification and characterisation of novel enzymes for selective activation of prodrugs. Department of Molecular Microbiology and Biotechnology, Institute of Biochemistry, Life Sciences Center, Vilnius University.

**September 2024–December2024**

**Junior Researcher**

Rational design of new prodrug and enzyme pairs for gene-directed prodrug therapy. Institute of Biochemistry, Life Sciences Center, Vilnius University.

**November 2022–August 2023**

**Project Expert**

Digital guides for practical activities in biology modules developed to improve the quality of pedagogical studies. Department of Development, Vilnius University.

**February 2020–August 2023**

**Junior Researcher**

Identification and characterisation of novel enzymes for selective activation of prodrugs. Department of Molecular Microbiology and Biotechnology, Institute of Biochemistry, Life Sciences Center, Vilnius University.

## CONGRESSES

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1. **Preitakaitė, V.**, Barasa, P., Koplūnaitė, M., Meškys, R. Bacterial amidohydrolases and modified 5-fluorocytidine compounds: novel enzyme-prodrug pairs. The 5th Congress of Baltic Microbiologists “CBM2023”, 11-13 October 2023, Vilnius, Lithuania (Poster).
2. **Preitakaitė, V.**, Barasa, P., Koplūnaitė, M., Meškys, R. Bacterial amidohydrolases in cancer therapy: a useful tool for selective activation of prodrugs. The 47th FEBS Congress „Together in bioscience for a better future“, 8-12 July 2023, Tours, France (Poster).
3. **Preitakaitė, V.**, Barasa, P., Koplūnaitė, M., Meškys, R. Bacterial amidohydrolases in cancer therapy: a useful tool for selective activation of prodrugs. The 22nd FEBS Young Scientists’ Forum, 6-8 July 2023, Tours, France (Poster).
4. **Preitakaitė, V.**, Stanislauskienė, R., Urbelienė, N., Meškys, R. Activation of modified cytidine-based prodrugs by bacterial amidohydrolases: application to gene-directed enzyme prodrug therapy. IUBMB-FEBS-PABMB 2022 Congress „The Biochemistry Global Summit“, 9-14 July 2022, Lisbon, Portugal (Poster).
5. **Preitakaitė, V.**, Stanislauskienė, R., Urbelienė, N., Meškys, R. Bacterial amidohydrolases for gene-directed enzyme prodrug therapy: a potential advance in geriatric oncology. Arqus Research Focus Forum „Healthy Aging from a Multidisciplinary Perspective“, 27-29 June 2022, Vilnius, Lithuania (Poster).
6. **Preitakaitė, V.**, Zubavičiūtė, S., Stanislauskienė, R., Urbelienė, N., Meškys, R. The potential of bacterial amidohydrolases as an activating enzymes in gene-directed enzyme prodrug therapy. Conference of Lithuanian Microbiological Society „Microbiology 2022“, 28-29 April 2022, Birštonas, Lithuania (Poster).
7. **Preitakaitė, V.**, Stanislauskienė, R., Urbelienė, N., Meškys, R. Bacterial amidohydrolases YqfB and RL\_D8: a novel tool for gene-directed enzyme prodrug therapy. International Conference of Life Sciences „The Coins 2022“, 28 February – 3 March 2022, Virtual Conference (Poster).
8. Valiulytė, I., **Preitakaitė, V.**, Steponaitis, G., Kazlauskas, A. The Role of Sema3C and R745A mutant on cell motility and microcapillary formation. XVth International Conference of the Lithuanian Biochemical Society, 26-29 June 2018, Dubingiai, Lithuania (Poster).
9. Valiulytė, I., Kazlauskas, A., **Preitakaitė, V.**, Steponaitis, G., Marčiulionytė, A. An in vitro study of Sema3C effects on microcapillary formation and cell motility. 1st International doctoral students’ conference “Science for Health”, 13 April 2018, Kaunas, Lithuania (Poster).
10. Valiulyte, I., **Preitakaite, V.**, Steponaitis, G., Marciulionyte, A., Tamasauskas, A., Kazlauskas, A. The Role of Sema3c Protein in vitro Angiogenesis. 9th International Conference of Lithuanian Neuroscience Association „Neurodiversity: From Theory to Clinics“, 1 December 2017, Kaunas, Lithuania (Poster).

## **INTERNSHIPS**

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<b>February 2018–May 2018</b>	<b>Center for Research in Molecular Medicine and Chronic Diseases (CiMUS), Santiago de Compostela, Spain</b>  Investigating mechanism by which Ebola virus exploits the ubiquitin and SUMO pathways.
<b>August 2017–September 2017</b>	<b>UAB “Aconitum”</b>  Investigating process of manufacturing pharmaceutical agents.
<b>September 2016–December 2016</b>	<b>Laboratory of Neurooncology and Genetics, Neuroscience Institute, Lithuanian University of Health Sciences</b>  Performing cell transfection and generation of stable selects, molecular cloning and protein detection using Western blot analysis.
<b>August 2016–September 2016</b>	<b>The Hospital of Lithuanian University of Health Sciences Kauno klinikos, Clinic of Laboratory Medicine</b>  Performing a complete blood count (CBC), blood chemistry tests, platelet aggregation test.
<b>August 2016–September 2016</b>	<b>The Hospital of Lithuanian University of Health Sciences Kauno klinikos, Clinic of Genetics and Molecular Medicine</b>  Performing DNA extraction, RNA extraction, PCR, RT-PCR.

## **MEMBERSHIPS**

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- 2022–Present** Member of Lithuanian Biochemical Society.
- 2022–Present** Member of Lithuanian Microbiological Society.

## **MENTORSHIPS**

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- 2020–2021** Supervising undergraduate student Augustas Šeporaitis. Bachelor thesis topic – Construction and characterisation of vectors encoding bifunctional deaminases.
- 2023–2025** Supervising undergraduate student Kamilė Dzisevič. Bachelor thesis topic – Optimisation of YqfB amidohydrolase for targeted enzyme-prodrug therapy.