

## Curriculum Vitae

**MIKAS SADAUSKAS**

**Research associate**

**Vilnius University Life Sciences Center,  
Institute of Biochemistry**

Address: Saulėtekio av. 7, Vilnius LT-10257, Lithuania

Telephone: +370 62230055 / e-mail: [mikas.sadauskas@bchi.vu.lt](mailto:mikas.sadauskas@bchi.vu.lt)

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**DATE AND PLACE OF BIRTH:** 15-12-1990, Vilnius, Lithuania

### EDUCATION

2013 – Bachelor of Molecular Biology, Vilnius University

2015 – Master of Microbiology and Biotechnology, Vilnius University

2015-2019 – doctoral studies, physical sciences (Biochemistry); Vilnius University

### WORK EXPERIENCE

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2017	Institute of Biochemistry, Vilnius, Lithuania	Junior research associate
2019-2021	Institute of Biochemistry, Vilnius, Lithuania	Junior research associate
2021-present	Institute of Biochemistry, Vilnius, Lithuania	Research associate

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### SCIENTIFIC AND TEACHING ACTIVITIES:

- “Bioactive Compounds” teaching course for Microbiology Master students at Vilnius University;
- “Microbiology and Microorganisms in Industrial Processes” teaching course for Molecular Biotechnology Bachelor students at Vilnius University;
- Supervision of 2 bachelor and 1 master students;
- Academic consultant of 1 PhD student.

### SCIENTIFIC INTERESTS

Research activities are carried out in Natural Sciences N 000, Research field - N 004 Biochemistry:

- microbial degradation of *N*-heterocyclic compounds;
- construction of novel screening systems for enzyme selection;
- bioconversion and biotransformation of xenobiotic compounds into value-added products;

## RESEARCH PROJECTS

- 2012-2013 - Lithuanian Research Council project “Support of Students’ scientific activities”, project No. SMT 12 / 087 / SMT 12R-207, participant.
- 2013 - Lithuanian Research Council project “Support of Students’ scientific activities”, project No. VP1-3.1-ŠMM-01-V-02-003, participant.
- 2017 - HORIZON 2020: “INMARE: Innovative screening and expression platforms to discover and use the functional protein diversity from the sea”, investigator – Junior research associate.
- 2019 - Lithuanian Research Council project “Support of Students’ scientific activities”, project theme – “Enzymatic Synthesis of Water-Soluble Indigoids”, project No. 09.3.3.-LMT-K-712-15-0023, project leader.
- 2020-2021 – Lithuanian Research Council project “a Healthy Microbiota for a Healthy Brain ageing”, project No. P-SEN-20-35, primary investigator – Junior research associate.
- 2020-2023 – The European Social Fund under Investment Operational Program for 2014–2020 “Promotion of Competence Centers and Innovation and Technology Transfer Centers”, Priority 1 “Promotion of Research, Experimental Development and Innovation” project “New Generation Industrial Enzyme Engineering Center”, Grant No. 01.2.2-CPVA-K-703-03-0023, Junior research associate.
- 2020-2023 – European Regional Development Fund project “Biomarkers of Microbiota in Autism Spectrum Disorder”, project no. 01.2.2-LMT-K-718-03-0099, Research associate.
- 2022-2023 – European Regional Development Fund project “Selective enzymatic system for prodrug activation” (No. 01.2.2-LMT-K-718-03-0082), Research associate.

## MEMBERSHIPS

- Member of Lithuanian Microbiological Society

## ADDITIONAL INFORMATION

- 2009 Honour of Lithuanian Genetics Society for an essay in a national contest of the DNA Day
- 2013 Honour of prof. Karolis Jankevičius for successful defense of bachelor thesis
- 2014 Erasmus placement at INRA, France, supervisor – dr. Saulius Kulakauskas
- 2018 Article in non-scientific literature “Spalvos bakterijų gyvenime”, M. Sadauskas, R. Meškys. // Literatūra ir menas, 2018-12-21.
- 2019-2022 Academic consultation of students at Lithuanian Centre of Non-Formal Youth Education
- 2019 Participation in “International Day of Microorganisms”

## LIST OF PUBLICATIONS

1. Gudiukaitė, R., A. Gegeckas, **M. Sadauskas**, D. Citavicius, Detection of Asp371, Phe375, and Tyr376 Influence on GD-95-10 Lipase Using Alanine Scanning Mutagenesis. *Applied Biochemistry and Biotechnology*, 2016, vol. 178, 654–669.
2. Solopova, A., C. Formosa-Dague, P. Courtin, S. Furlan, P. Veiga, C. Péchoux, J. Armalytė, **M. Sadauskas**, J. Kok, P. Hols, Y.F. Dufrene, O.P. Kuipers, M.P. Chapot-Chartier, S. Kulakauskas. Regulation of cell wall plasticity by nucleotide metabolism in *Lactococcus lactis*. *Journal of Biological Chemistry*, 2016, vol. 291(21), 11323-11336.

3. Gudiukaite, R., **M. Sadauskas**, A. Gegeckas, V. Malunavicius, D. Citavicius. Construction of a novel lipolytic fusion biocatalyst GDEst-lip for industrial application. *Journal of Industrial Microbiology and Biotechnology*, 2017, vol. 44, 799-815.
4. **Sadauskas, M.**, J. Vaitekūnas, R. Gasparavičiūtė, R. Meškys. Indole Biodegradation in *Acinetobacter* sp. Strain O153: Genetic and Biochemical Characterization. *Applied and Environmental Microbiology*, 2017, doi:10.1128/AEM.01453-17.
5. Malunavicius, V., G. Druteika, **M. Sadauskas**, A. Veteikyte, I. Matijosyte, E. Lastauskiene, A. Gegeckas, R. Gudiukaite. Usage of GD-95 and GD-66 lipases as fusion partners leading to improved chimeric enzyme LipGD95-GD66. *International Journal of Biological Macromolecules*, 2018, vol. 118, 1594-603.
6. Casaite, V., **M. Sadauskas**, J. Vaitekunas, R. Gasparaviciute, R. Meskiene, I. Skikaite, M. Sakalauskas, J. Jakubovska, D. Tauraite, R. Meskys. Engineering of a chromogenic enzyme screening system based on an auxiliary indole-3-carboxylic acid monooxygenase. *Microbiology Open*, 2019, vol. 8, e795.
7. **Sadauskas, M.**, R. Statkevičiūtė, J. Vaitekūnas, V. Petkevičius, V. Časaitė, R. Gasparavičiūtė, R. Meškys. Enzymatic synthesis of novel water-soluble indigoid compounds. *Dyes and Pigments*, 2020, vol. 173, 107882.
8. Druteika, G., **M. Sadauskas**, V. Malunavicius, E. Lastauskiene, L. Taujenis, A. Gegeckas, R. Gudiukaite. Development of a new *Geobacillus* lipase variant GDlip43 via directed evolution leading to identification of new activity-regulating amino acids. *International Journal of Biological Macromolecules*, 2020, In Press.
9. Kumar, A., R. Gudiukaite, A. Gricajeva, **M. Sadauskas**, V. Malunavicius, H. Kamyab, S. Sharma, T. Sharma, D. Pant. Microbial lipolytic enzymes – promising energy-efficient biocatalysts in bioremediation. *Energy*, 2020, vol. 192, 116674.
10. Druteika, G., **Sadauskas, M.**, Malunavicius, V. *et al.* New engineered *Geobacillus* lipase GD-95RM for industry focusing on the cleaner production of fatty esters and household washing product formulations. *World J Microbiol Biotechnol* **36**, 41 (2020).
11. **Sadauskas M**, Statkevičiūtė R, Vaitekūnas J, Meškys R. Bioconversion of Biologically Active Indole Derivatives With Indole-3-Acetic Acid-Degrading Enzymes From *Caballeronia glathei* DSM50014. *Biomolecules*, 10(4):663, (2020).
12. Savickaite A, Druteika G, **Sadauskas M**, Malunavicius V, Lastauskiene E, Gudiukaite R. Study of individual domains' functionality in fused lipolytic biocatalysts based on *Geobacillus* lipases and esterases. *Int J Biol Macromol.* 168:261-71 (2021).
13. Savickaite A, **Sadauskas M**, Gudiukaite R. Immobilized GDEst-95, GDEst-lip and GD-95RM lipolytic enzymes for continuous flow hydrolysis and transesterification reactions. *Int J Biol Macromol.* 173:421-34 (2021).

## LIST OF CONFERENCES

1. Malunavicius V, Gricajeva A, Lastauskiene E, **Sadauskas M**, Gegeckas A, Gudiukaite R. Lipolytic enzymes of *Geobacillus* sp. 95: potential for industrial application. 46 th World congress on Microbiology, 2017, Dublin, Ireland. Poster presentation.
2. **Sadauskas M**, Vaitekūnas J, Gasparavičiūtė R, Meškys R. 2016. Biochemical characterization of indole degradation in *Acinetobacter* sp. O153. 3rd Congress of Baltic Microbiologists, Vilnius, Lithuania. Poster presentation.
3. Gudiukaite R, **Sadauskas M**, Malunavicius V, Gegeckas A, Citavicius D. Directed evolution of *Geobacillus* lipases leading to production of new biocatalyst with improved properties. 13th International symposium on Biocatalysis and Biotransformations BioTrans 2017, Budapest, Hungary. Poster presentation.
4. **Sadauskas M**, Časaitė V, Vaitekūnas J, Gasparavičiūtė R, Meškys R. Isolation, expression and stability improvement of indole-3-carboxylic acid oxygenase. 12th Conference on Protein Stabilization. 2018, Vilnius, Lithuania. Poster presentation.
5. Gudiukaite R., Malunavicius V., Szczesniak A., **Sadauskas M.**, Druteika G., Blekaitis K., Gegeckas A., Lastauskiene E. *Geobacillus* sp. 95 as a source of enzymes with special characteristics: characterization of thermostable lipases, esterases, ureases and nitrate reductases. 18th European Congress of Biotechnology ECB2018, 1-4 July, 2018, Geneva, Switzerland. Poster presentation.
6. Statkevičiūtė R., **Sadauskas M.**, Vaitekūnas J., Gasparavičiūtė R., Meškys R. Biocatalytic Synthesis of Indigo Dimethanols and Indigo Dicarboxaldehydes. TheCoins 2019, Vilnius, Lithuania. Poster presentation.
7. **Sadauskas M**, Vaitekūnas J, Gasparavičiūtė R, Meškys R. Similarities and peculiarities between bacterial degradation of indole and indole-3-acetic acid. VAAM 2019, Mainz, Germany. Oral presentation.
8. Statkevičiūtė R., **Sadauskas M.**, Vaitekūnas J., Gasparavičiūtė R., Meškys R. Enzymatic Synthesis of Novel Indigoid Pigments. Open Readings 2019, Vilnius, Lithuania. Poster presentation.
9. **Sadauskas M**, Statkevičiūtė R, Vaitekūnas J, Petkevičius V, Meškienė R, Gasparavičiūtė R, Meškys R. Biocatalytic Synthesis of Indigoid Pigments. EuropaCat2019, Aachen, Germany. Poster Presentation.
10. **Sadauskas M**, Meškys R, Burokas A. Bacteria-Based System for Regulation of Metabolite Concentration *In Vivo*. 13th ECCE and 6th ECAB 2021. Virtual event. Poster presentation.
11. **Sadauskas M**, Meškys R. Unlocking the potential of indole: to dye or not to dye. Mikrobiologija 2022, Birštonas. Oral presentation.