

Farbod Bahreini

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Research Interests

-Molecular mechanisms underlying cancer development and therapies

-Modulation of T cell responses to influence autoimmune diseases

Research & Professional Experience

2025-Present: Postdoctoral Research Assistant, *Department of Anatomy, University of Lübeck, Germany*

-Research the role of Integrins in prostate cancer

2022–2025: Ph.D. Candidate Research Assistant, *Department of Anatomy, University of Lübeck, Germany*

-Conducted research on autoimmune skin blistering diseases and mentored students

2019–2021: Research Assistant, *Department of Biochemistry, Tarbiat Modares University, Iran*

-Focused on hyaluronic acid extraction from rooster comb, including sample preparation and data analysis.

2018–2019: Research Assistant, *Department of Biochemistry, Tarbiat Modares University, Iran,*

-Worked on cloning and expression of GDNF protein, along with sample preparation and analysis.

Education

2022-2025: Ph.D. Candidate, Immunology, University of Luebeck, Luebeck, Germany, Thesis: CD4+ T cell receptor sequences during progression towards experimental pemphigoid.

Supervisor: Prof. Dr. Kathrin Kalies

2018-2021: M.Sc., Biochemistry, Tarbiat Modares University, Tehran, Iran, Thesis: Investigation of structural, activity, and stability alterations of lactate dehydrogenase in the presence of different additives.

Supervisor: Prof. Dr. Khosro Khajeh

2014-2018: B.Sc., Cell and Molecular Biology, Guilan University, Rasht, Iran, Thesis: The relation between miR-559 gene polymorphism and the incidence of breast and gastric cancers.

Supervisors: Prof. Dr. Zivar Salehi, Dr. Shirin Shahangian

Selected Publications (H-index: 7)

1. Raudszus, L., **Bahreini, F.**, Allan, S., Kalies, K., Caldwell, C. C., & Kalies, K. (2025). Nanoparticles containing intracellular proteins modulate neutrophil functional and phenotypic heterogeneity. *Frontiers in Immunology*, 15, 1494400.

2. Niebuhr, M.*, **Bahreini, F.***, Fähnrich, A., Bomholt, C., Bieber, K., Schmidt, E., ... & Kalies, K. (2022). Analysis of T cell repertoires of CD45RO CD4 T cells in cohorts of patients with bullous pemphigoid: A pilot study. *Frontiers in Immunology* (*equal contribution)

3. **Bahreini F**, Niebuhr M, Belde J, Bieber K, Westermann J, Kalies K. Protocol to Induce Follicular T Helper Cells, Germinal Centers, and Skin Lesions in Mouse Models for Skin Blistering Diseases. *Bio-protocol*. 2022 May 20;12(10):e4414-.

4. **Bahreini F**, Niebuhr M, Belde J, Westermann J, Kalies K. Protocol to Isolate Germinal Centers by Laser Microdissection. Bio-protocol. 2022 Jun 5;12(11):e4431
5. Azari, M., **Bahreini, F.**, Uversky, V. N., & Rezaei, N. (2023). Current therapeutic approaches and promising perspectives of using bioengineered peptides in fighting chemoresistance in triple-negative breast cancer. Biochemical Pharmacology
6. **Bahreini, F.**, Rayzan, E., & Rezaei, N. (2021). microRNA-related single-nucleotide polymorphisms and breast cancer. Journal of cellular physiology, 236(3), 1593-1605.
7. Additional publications available on [Google Scholar](#)

Technical Skills

Laboratory Techniques

Next-generation sequencing, Laser microdissection, Cloning, Gene expression, Protein stability, Enzyme kinetics, ELISA, Western Blot, Chromatography, PCR, Real-time PCR, Flow Cytometry, DNA/RNA extraction, Animal Handling (Certified FELASA handler), ZetaView, Nanosight, Cell Cultures, UV vis spectroscopy, Fluorescence spectroscopy

Data Analysis Tools

GraphPad Prism, FlowJo, MedCalc, Microsoft Office, Excel, PowerPoint, Adobe Photoshop

Programming:

- R (Intermediate): Analyzed NGS results of T cell receptor repertoire diversity using packages like ggplot2, vegan, dplyr, and immunarch for statistical analysis and visualization.
- C (Intermediate): Developed problem-solving and algorithmic skills through coursework applicable to bioinformatics tasks like data processing and simulations.
- Python (Familiar): Learned data science basics, including data manipulation (pandas), visualization (matplotlib), and introductory machine learning.

Soft skills

- Certified Reviewer for Elsevier
- Reviewer for Heliyon, Cancer Genetics, Archives of Community Medicine and Public Health, SCIOl, Biomedicine, Archives of Pathology and Clinical Research, PeerJ
- Proficient in establishing and fostering scientific networks, including facilitating collaborations within the RTG and beyond (USERN)

Grants and Funding

DAAD-RISE Program Funding (2024): Co-authored DAAD-RISE application, securing funding for a 3-month internship. Supervised an international research student from Massachusetts Institute of Technology (MIT)

Languages

- Persian (Native), English (Fluent), German (Active learner)

References

- 1- Prof Dr. Kathrin Kalies, Institute of Anatomy University of Luebeck, Email: kathrin.kalies@uni-luebeck.de
- 2- Prof. Dr. Ralf Ludwig, Lübeck Institute of Experimental Dermatology, UKSH Email: Ralf.Ludwig@uksh.de