

Curriculum Vitae

Personal Data

Farzaneh Hasanian-Langroudi, PhD

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Affiliation: Cellular and Molecular Endocrine Research Center, Research Institute for Endocrine Molecular Biology, Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, , Tehran, Iran

ORCID-related activities: <https://orcid.org/0000-0002-4093-4911>

Google scholar link: <https://scholar.google.com/citations?user=DWOsDP8AAAAJ&hl=en>.

Professional Summary

PhD-level Clinical Biochemist with experience in molecular biology, microbiota research, and biochemical analysis. Background across academic, clinical, and research laboratory environments, with proven productivity demonstrated through peer-reviewed publications, conference presentations, and collaborative research projects.

Educational information

PhD of Clinical Biochemistry (2021-2026): Prevention of Metabolic Disorders Research Center, Endocrinology and Metabolism Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran. GPA: 19.09/20

PhD dissertation: Assessment of live and pasteurized *Bacteroides thetaiotaomicron*, and its outer membrane vesicles effects on the glycemic indices, lipid profile and expression of some gene related to diabetes, inflammation and gut microbiota in type-2 diabetes Wistar male rat model.

Research & Development Experience (PhD Project). Prevention of Metabolic Disorders Research Center, Tehran, Iran - Pasteur Institute of Iran | 2021-2026

- Designed and executed R&D pipelines for next-generation probiotics, Para probiotics, and postbiotics.
- Developed anaerobic microbiota culture and processing workflows.
- Conducted preclinical in vivo studies.
- Performed molecular and biochemical analyses to evaluate bioactivity.
- Generated reproducible data supporting applied research programs.

MSc degree in Clinical Biochemistry (2011-2013). Department of Clinical Biochemistry, School of Medicine, Zahedan University of Medical Sciences, Zahedan, Iran. GPA: 18.19/20

MSc dissertation: Association of COL4A4 and LOX1 gene polymorphisms in patients with keratoconus and comparison with healthy individuals

Bachelor of Science in Cellular and Molecular-Microbiology (2005-2009). Islamic Azad University, Shaghayegh St., Lahijan, Gilan, Iran.

Research Projects (Principal Investigator / Project Leader)

1. Investigation of outer membrane vesicles of *Bacteroides thetaiotaomicron* effects on glycemic indices, lipid profile, and expression of CB1 and CB2 genes related to diabetes in liver and colon, and inflammatory genes IL-6, IL-1B, IL-10 in male Wistar rat model of Type 2 diabetes

Research code: 43006413, Endocrinology and Metabolism Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Role: Principal Investigator / Project Leader

2. Evaluation of the Effects of Live and Pasteurized *Bacteroides thetaiotaomicron* on Glycemic Indices, Lipid Profile, and Expression of Akt/PI3K Genes in Liver Tissue of Male Wistar Rats with Type 2 Diabetes

Research code: 43006251, Endocrinology and Metabolism Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Role: Principal Investigator / Project Leader

3. Investigating the global publication trends regarding *Bacteroides thetaiotaomicron*: a bibliometric and scientometric analysis

Research code: 43010022, Endocrinology and Metabolism Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Role: Principal Investigator / Project Leader

4. Effect of probiotics in the regulation of the most important pathways involved in the pathogenesis of type 2 diabetes mellitus

Research code: 43003960, Endocrinology and Metabolism Research Institute, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Role: Principal Investigator / Project Leader

Papers

1. Hasanian-Langroudi, F., Yaghmaei, H., Soroush, E., Talifar, H., Meskini, M. and Siadat, S.D., 2026. Bacterial Extracellular Vesicles as Systemic Messengers: Integrating Their Roles in Gut-Liver-Brain Communication and Disease. *Probiotics and Antimicrobial Proteins*, pp.1-32.
2. Hasanian-langroudi F, Hedayati M, Esmaeili F, Tohidi M, Siadat SD. *Bacteroides thetaiotaomicron* and Human Health: A Bibliometric Analysis of Global Research Trends. *Iranian Biomedical Journal*.:2026 Jan 30 (1) :36-46.
3. Hasanian-Langroudi F, Hedayati M, Ghasemi A, Siadat SD, Tohidi M. The Modulatory Effects of *Bacteroides thetaiotaomicron* on Metabolic Parameters, Expression of Diabetes- and Inflammation-Related Genes and Gut Microbiota Composition in a Male Rat Model of Type 2 Diabetes Mellitus. *Int Journal Endocrinol Metab*. 2025 October; 23(4): e168629.
4. Hasanian-Langroudi F, Hedayati M, Ghasemi A, Siadat SD, Tohidi M. Pasteurized *Bacteroides thetaiotaomicron* and its extracellular vesicles improve metabolic profiles, expression of genes associated with diabetes and inflammation, and gut microbiota in type 2 diabetic rats. *EXCLI journal*. 2025 Dec 4; 24:1743.
5. Hasanian-Langroudi F, Ghasemi A, Hedayati M, Siadat SD, Tohidi M. Novel insight into the effect of probiotics in the regulation of the most important pathways involved in the pathogenesis of type 2 diabetes mellitus. *Probiotics and antimicrobial proteins*. 2024 Jun;16(3):829-4.
6. Farzaneh Hasanian Langroudi, Alireza Mousa Mayali, Sara Tutunchi, Saeedeh Akhavan, Ehsan Jahangirian, The Effects of Green Tea Consumption on KCNJ11 Gene Expression in Patients with Type 2 Diabetes, *Advances in Bioresearch*, Vol 7(5) September 2016:06-10.

7. Farzaneh Hasanian Langroudi, Saravani R, Validad M-H, Bahari G, Yari D. Association of Lysyl oxidase (LOX) polymorphisms with the risk of Keratoconus in an Iranian population. *Ophthalmic genetics*. 2015;36(4):309-14.
8. Saravani R, Hasanian-Langroudi F, Validad M-H, Yari D, Bahari G, Faramarzi M, et al. Evaluation of Possible Relationship Between COL4A4 Gene Polymorphisms and Risk of Keratoconus. *Cornea*. 2015;34(3):318-22. Corresponding author: Hasanian-Langroudi F.
9. Mazdapour M, Hasanian-Langroudi F, Lavei A, Seyhon I. Study on the Relationship of G20210A Prothrombin mutation with Unexplained recurrent Spontaneous Abortion. *Advances in Bioresearch*. 2014;5(3).
10. Yari D, Ehsanbakhsh Z, Validad MH, Farzaneh Hasanian Langroudi. Association of TIMP-1 and COL4A4 gene polymorphisms with keratoconus in an Iranian population. *Journal of ophthalmic & vision research*. 2020 Jul 29;15(3):299.
11. Saravani R, Yari D, Saravani S, Hasanian-Langroudi F. Correlation between the COL4A3, MMP-9, and TIMP-1 polymorphisms and risk of keratoconus. *Japanese journal of ophthalmology*. 2017 Feb 14.
12. Naderiravesh N, Bahadoram S, Shiri H, Zohari Anbohi S, Khodakarim S, Hasanian Langroudi F. Examining the correlation of adherence to warfarin therapy with demographic characteristic. *Journal of Critical Care Nursing*. 2015;8(2):103-8.

Book Translation

Translate and compiled Medical Immunology, a textbook, from its original language into Persian, Sana Publications (Tehran, Iran)

Peer Review Experience

Reviewed manuscripts for scientific journals including:

- Intratumoral microbiome: Unlocking therapeutic potentials in thyroid cancer - *Endocrinology* (under revision)
- Association of dietary glycemic index and load with relative abundance of gut Bifidobacterium in gestational diabetes - *Nutrition* (published)
- Application of metabolomics in pituitary adenoma studies: A review of advances and challenges - *Biochemistry* (published)
- Effect of diabetes control on oral microbiota diversity in children with type 1 diabetes - *Endocrinology* (published)

Academic and Professional Services

- Member of Iranian Academy of Medical Sciences
- Research collaborator, Pasteur Institute of Iran (Medical Research Center)
- Organizer and lecturer in Research Methodology Workshops, SBMU

Lecturer

- Certificate of Contribution-9-Day Research Methodology Workshop (as Lecturer and Facilitator), Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, 13-29 September 2021.
- Certificate of Contribution- Lecturer in "Research Methodology" Session Research Institute for Endocrine Sciences, Shahid Beheshti University of Medical Sciences, 3 October 2022

Posters

- "Collagen Type IV Gene Polymorphism and Keratoconus Risk in Zahedan, Iran" at the 1st International Congress and 13th Iranian Genetics Congress (International and National Platform).
- "Association Between Lysle Oxidase Polymorphisms and Keratoconus Development in Zahedan, Iran" at the 1st International Congress and 13th Iranian Genetics Congress.
- "Comparative Analysis of Gene Expression in Methicillin-Resistant and Methicillin-Susceptible Staphylococcus aureus Strains Using RFLP".
- "Impact of Demographic Factors on Warfarin Adherence in Patients Referred to Tehran Anticoagulation Clinics" at the 4th International Conference on Prevention of Cardiovascular Diseases.

Scientific and Technical Skills

Laboratory Animal Expertise

- Small laboratory animal handling (rat)
- Oral administration (gavage)
- Basic surgical procedures under approved protocols
- Disease induction models
- Histopathological Tissue Processing & H&E Staining

Microbiome & Biotherapeutics R&D

- Anaerobic microbiota culture and scale-up
- Probiotics, Postbiotics & Para probiotics - R&D, Processing, Stability & Bioactivity Evaluation
- 16s rRNA sequencing
- Mycobacterial Culture & Tuberculosis Research

Molecular & Cellular Biology

- DNA/RNA/ OMV extraction (bacterial, tissue, blood, fecal)
- PCR
- Real-Time-PCR
- Primer design and optimization
- Gene expression
- Molecular Cloning

Protein & Biochemical Techniques

- ELISA
- SDS-PAGE
- Bradford Assay
- Ultrafiltration
- Endotoxin Detection (LAL Assay)
- Gradient Gel Electrophoresis & Gel Diffusion

Chromatographic Techniques

- Affinity, Ion-Exchange, and Size-Exclusion Chromatography (FPLC)
- High-Performance Liquid Chromatography (HPLC)

Biochemical & Analytical Instruments

- UV-Vis Spectrophotometer (protein and nucleic acid quantification)
- Microplate Reader (ELISA and colorimetric assays)

- Real-Time PCR System
- Conventional PCR Thermal Cycler
- Gel Electrophoresis & Imaging System
- CO₂/Anaerobic Incubator

Clinical Biochemistry Autoanalyzer

- Fully automated clinical chemistry analyzers
- Routine biochemical assays (glucose, lipid profile, liver and renal function tests)
- Calibration, quality control (QC), and result validation

Bioinformatics Skills

- Gene Expression Analysis
- Housekeeping gene normalization
- Statistical analysis and interpretation of gene expression data
- Signaling pathway analysis using KEGG database
- Gene Expression Omnibus (GEO) data analysis
- Bioinformatics tools: VOSviewer; basic familiarity with sequencing workflows
- MicroRNA-seq Analysis

Computer & Office Skills

- Excel, Word and PowerPoint
- Data analysis (GraphPad Prism)
- Reference management (EndNote)

Workshops

- Certificate of Attendance - Advances in High Performance Liquid Chromatography, Pasteur Institute of Iran (Mycology and Biotechnology Departments), 26-28 February 2023
- Certificate of Participation - Electronic Resources Search Workshop, School of Allied Medical Sciences, Tehran University of Medical Sciences, 17 March 2014
- Certificate of Participation - "How to Write Scientific Paper?" Workshop, Tehran University of Medical Sciences, 5-6 December 2007
- Certificate of Participation - Practical Workshop on Bioinformatics and Its Applications in Microbiology, Pasteur Institute of Iran, 24 September 2008
- Certificate of Participation - SPSS Workshop, Zahedan University of Medical Sciences, 14 December 2011
- Certificate of Participation - Symposium on "Microorganisms in Health and Disease", Microbiology Research Center, Pasteur Institute of Iran, 17 September 2021
- Certificate of Attendance - Online Course: "Probiotics, From Laboratory to Industry", Organized by ISPPF, Biocan, and IR-Micro Academy, 8 January 2023.
- Conference Participation - Participant in the symposium "Interdisciplinary Perspectives on the Microbiome", organized by the Microbiology Subgroup of the Paramedical Sciences Division, Academy of Medical Sciences of Iran, held on July 20, 2025

Certificates and Recognitions

- Appreciation Certificate: Iranian Red Crescent Society, Tehran Branch, for valuable volunteer service and participation in humanitarian activities. Date: January 5, 2018.

- Letter of Commendation: Iranian Red Crescent Society, Tehran Province. In recognition of selfless efforts in assisting earthquake victims and contributing to the society's humanitarian missions. Date: December 22, 2017