

# Dr. Mohammadrasul Zareinejad

Assistant Professor

Shiraz Institute for Cancer Research

Shiraz University of Medical Sciences

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## Personal Information

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### Affiliation:

- Department of Immunology, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.
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### Academic social networks and profiles:

- Google Scholar: <https://scholar.google.com/citations?user=JG6TxKIAAAAJ&hl=en>
- ORCID: <https://orcid.org/0000-0001-5457-2707>

## Work Experience

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### Research Scientist

05/2022 to present

Shiraz Institute for Cancer Research (ICR).

- **Project Design:** Designing and conducting various projects.
- **Supervision and Quality Control:** Monitoring each project step, troubleshooting and checking accuracy to maintain high-quality standards.
- **Teaching:** Training team members on procedural methodologies and fundamental concepts.
- **Statistical Analysis and Data Interpretation.**
- **Writing and Revision of Manuscripts.**

## Education

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### Ph.D.: Medical Immunology

09/2016- 01/2022

School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

- Thesis advisor: Prof. Abbas Ghaderi

## Skills

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### ➤ **Laboratory Techniques:**

Monoclonal antibody production (hybridoma development and antibody library generation), Flow cytometry (panel design, compensation, immunophenotyping, cell cycle analysis, viability [Annexin V– PI/7AAD], cytotoxicity assay, activation assay, degranulation assay, cytokine assay, cell sorting, Flow Cytometry cross-matching, gating and analyzing), immunological-based techniques including IHC, ICC, ELISA, Elispot, IFA, RIA, MLC, HLA

typing, nylon wool separation, MACS (magnetic activated cell sorter), single radial immunodiffusion (SRID), functional assay (BrdU, MTT, CFSE, Calcein AM, TUNEL,

lymphocyte transformation test [LTT], DHR), animal/human Stem Cell/Cell culture techniques, anti paternal cytotoxic antibody (APCA).

➤ **Molecular Biology Techniques:** RNA/DNA Extraction, PCR, RFLP, Real-Time PCR, electrophoretic mobility shift assays (EMSA) and agarose gel electrophoresis, proteomics/immunoproteomics (Dot blot, SDS-PAGE, western blot, 2D SDS PAGE), FPLC, cloning (primer designing, vector design and manipulating DNA fragments).

➤ **Bioinformatic Skills:** Skilled in transcriptome analysis (RNAseq and microarray), including identification of differentially expressed genes (DEGs) using R and GEO2R. Familiar with utilizing various bioinformatic databases such as NCBI, GEPIA, STRING, KEGG, Enrichr, UCSC, COSMIC, and PantherDB.

➤ **Statistical Analysis & Software:** Statistical skills (Excel, SPSS, GraphPad Prism), software proficiency in RStudio, FlowJo, ImageLab, ImageJ, AlleleID, CLC sequence viewer, Vector NTI, Gene marker, EndNote, Curve expert.

## Teaching Experiences

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Teaching immunology to the students of medicine, dentistry, Pharm.D., and paramedical students at Shiraz University of Medical Sciences.

## Publications

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### **Published:**

1. **Zareinejad M**, Faghieh Z, Ariaifar A, Safaei A, Ghaderi A. Establishment of a bladder cancer cell line expressing both mesenchymal and epithelial lineage-associated markers. *Human cell*. 2021;34(2):675- 87.
2. **Zareinejad M**, Faghieh Z, Ramezani A, Safaei A, Ghaderi A. Exploring heterogeneous expression of beta-actin (ACTB) in bladder cancer by producing a monoclonal antibody 6D6. *BMC Urol*. 2024 Jun 12;24(1):124.
3. **Zareinejad M**, Mehdipour F, Roshan-Zamir M, Faghieh Z, Ghaderi A. Dual Functions of T Lymphocytes in Breast Carcinoma: From Immune Protection to Orchestrating Tumor Progression and Metastasis. *Cancers*. 2023;15(19).
4. Maghsoodi N, **Zareinejad M**, Golestan A, Mahmoudi Maymand E, Ramezani A. Anti-CD19/CD8 bispecific T cell engager for the potential treatment of B cell malignancies. *Cellular immunology*. 2023;393- 394:104787.
5. Ramezani A, **Zareinejad M**, Mahmoudi Maymand E, Kaviani E, Ghaderi A. Production of a biosimilar version of aflibercept to improve VEGF blocker cytotoxicity on endothelial cells. *Growth factors (Chur, Switzerland)*. 2023;41(3):140-51.

6. **Zareinejad M**, Ariafar A, Soltani M, Vahidi Y, Faghieh Z. GM-CSF-producing lymphocytes in tumor- draining lymph nodes of patients with bladder cancer. *European cytokine network*. 2021;32(1):1-7.
  7. Ahmadi N, **Zareinejad M**, Ameri M, Maymand EM, Faraji SN, Ghaderi A, Ramezani A. Enhancing cancer immunotherapy with Anti-NKG2D/IL-15 (N72D)/Sushi fusion protein: Targeting cytotoxic immune cells and boosting IL-15 efficacy. *Cytokine*. 2024 Apr 1;176:156505.
  8. Maghsoodi N, **Zareinejad M**, Ghaderi A, Mahmoudi Maymand E, Irajie C, Ramezani A. Anti-CD8/IL-15 (N72D)/sushi fusion protein: A promising strategy for improvement of cancer immunotherapy. *Cytokine*. 2025 Jan;185:156822.
  9. Solati H, **Zareinejad M**, Ghavami A, Ghasemi Z, Amirghofran Z. IL-35 and IL-18 Serum Levels in Children With Acute Lymphoblastic Leukemia: The Relationship With Prognostic Factors. *Journal of pediatric hematology/oncology*. 2020;42(4):281-6.
  10. Azami H, Malek-Hosseini S, Taghi MM, **Zareinejad M**, Amirghofran Z. Antitumor activity and immunomodulatory effects of Ficus carica latex. *Journal of Shahid Sadoughi University of Medical Sciences*. 2020.
  11. **Zareinejad M**, Samiei A, Valibeigi B, Gholami T, Zareifar S, Amirghofran Z. Interleukin-23 receptor gene variants in acute lymphoblastic leukemia and their relation to prognostic factors. *Iranian Journal of Immunology*. 2017;14(1):59-72.
  12. Tabaei, S., **Zareinejad, M.**, Haghshenas, M.R. et al. Investigation of new autoantibodies in urothelial bladder cancer for biomarker discovery using immunoproteomics. *Discov Onc* 16, 436 (2025).
  13. Golestan A, **Zareinejad M**, Ramezani A. Comprehensive biomarker profiles in hematological malignancies: improving diagnosis, prognosis, and treatment. *Biomark Med*. 2025;19(6):223-238.
- Accomplished:**
14. Immunophenotyping of CD45RO<sup>+</sup> TILs in bladder cancer.
  15. Evaluation of PD1 immune checkpoint molecule and its ligands, PD-L1 and PD-L2, on infiltrating lymphocytes in patients with bladder cancer.
  16. Evaluation of Tim3 immune checkpoint molecule on infiltrating T cell subsets in patients with bladder cancer.
  17. Characterization of 4D7 hybridoma clone producing monoclonal antibody reactive with bladder cancer cell lines.
  18. IL-10 promoter gene polymorphism (rs1800896) in patients with colorectal cancer.

## Participation in International Congresses

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**15th International Congress of Immunology and Allergy: Oral presentations.** “Characterization of 6D6 hybridoma clone producing monoclonal antibody reactive with bladder cancer cell lines”

**15th International Congress of Immunology and Allergy: Poster presentations.** “Upregulation of PD-1 immune checkpoint molecule and its ligands, PD-L1 and PD-L2, on infiltrating lymphocytes in patients with bladder cancer”.

**Symposium entitled *The Growing Scope of Immunology in the Current and Future World of Medical Sciences*. Oral presentations.** “Dual function of T lymphocytes in Breast Carcinoma”.

**Seminar of Immunodeficiency: Oral presentations.** “Novel immunological approaches in the diagnosis of patients with immunodeficiency diseases”.

**15th International Congress of Immunology & Allergy: Poster presentations.** “GM-CSF Producing Lymphocytes in Tumor-Draining Lymph Nodes of Patients with Bladder Cancer”.

**8th International and 13th National Congress on Quality Improvement in the Clinical Laboratory: Poster presentations.** “Lack of Association between Interleukin-23 Receptor Gene Polymorphism (rs1884444) and Acute Lymphoblastic Leukemia”.

**15th International Congress of Immunology & Allergy: Poster presentations.** “Upregulation of PD- 1 immune checkpoint molecule and its ligands, PD-L1 and PD-L2, on infiltrating lymphocytes in patients with bladder cancer”.

## Award

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- Ranked **3rd** in the **Ph.D. written entrance exam** in Immunology, Iran's Ministry of Health and Medical Education, 2016.
- **Best oral presentation** at the **Second International Congress of Cancer Genomics** (2024) for Anti- CD19/CD8 bispecific T cell engager for the potential treatment of B cell malignancies.
- **Best Abstract** at **Asian Cellular Therapy Organization (ACTO;2024)** for Enhancing cancer immunotherapy with Anti-NKG2D/IL-15 (N72D)/Sushi fusion protein: Targeting cytotoxic immune cells and boosting IL-15 efficacy.

## Peer Review

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Cancer Cell International  
Discover Medicine  
Pathology - Research and Practice  
Iranian Journal of Immunology (IJI)  
BMC Research Notes

## Ongoing Projects

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- Discovery and Validation of Novel Glioblastoma Biomarkers through Transcriptomics and In Vitro Studies
- Discovery and Validation of Novel Diagnostic Biomarkers in Patients with Endometrial Cancer
- Development of Monoclonal Antibody (mAb) Libraries Targeting P16 and  $\alpha$ -SMA
- Analysis of Immune Cell Profiles in Patients with Recurrent Pregnancy Loss
- Assessing the Efficacy of Immunotherapy in Recurrent Miscarriage Patients