Curriculum Vitae

Zahra Faghih

Associate Professor of Immunology
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Education

- ✓ Ph.D. in Immunology, Shiraz University of Medical Sciences, Shiraz – Iran (2008-2014)
- ✓ M.Sc. in Immunology, Shiraz University of Medical Sciences, Shiraz – Iran (2003-2006)
- ✓ B.Sc. in Cellular and Molecular Biology, Faculty of Sciences, Shiraz University, Shiraz – Iran, (1998-2002)

Fellowships/Observership

- ✓ Visiting Professor at BC Children Hospital, University of British Colombia (UBC), Dr Reid Lab, Vancouver, Canada, 2022
- ✓ Leadership course, Shiraz University of Medical Sciences, Shiraz, Iran, June 2021
- ✓ Electronic learning in medical sciences, Shiraz University of Medical Sciences, Shiraz, Iran, February 2021
- ✓ Medical education fellowship, Shiraz University of Medical Sciences, Shiraz, Iran, November-December 2017
- ✓ Research fellowship, Shiraz University of Medical Sciences, Shiraz, Iran, 2015

Honors

- ✓ Honor PhD student of Shiraz University of Medical Sciences, 2011
- ✓ Member of "Gifted Talent Office"; Shiraz University of Medical Sciences during MSc and PhD studies
- ✓ 1 St Rank in PhD Written Entrance Examination in Iran, Iran's Ministry of health and medical education, 2008
- ✓ Honor MSc. student of Immunology Department, Shiraz University of Medical Sciences, 2006
- ✓ 4th Rank in MSc Written Entrance Examination in Iran, 2003
- ✓ Honor student of Biology Department, Shiraz University, 2002

Publications

Immunology:

1. Dual Functions of T Lymphocytes in Breast Carcinoma: From Immune Protection to Orchestrating Tumor Progression and Metastasis, Cancers (Basel), 2023 Sep 28;15(19):4771. (Correspond author)

2. Clinicopathological significance and prognostic role of LAG3 + tumor-infiltrating lymphocytes in colorectal cancer; relationship with sidedness, Cancer Cell Internatinal 10;23(1):23. 2023

3. Tim3 and PD-1 as a therapeutic and prognostic targets in colorectal cancer: Relationship with sidedness, clinicopathological parameters, and survival, Frontiers in oncology, 2023

4. A New Insight Into p53-Inhibiting Genes in Epstein–Barr Virus -Associated Gastric Adenocarcinoma, Iran Biomed Journal. 2023 Jan 1;27(1):34-45.

5. Correlation of serum hematopoietic growth factors with breast cancer. Clinical Images and Medical Case Reports, 2022, (Correspond author)

6. Lower frequency of T stem cell memory (TSCM) cells in hepatitis B vaccine nonresponders, Immunologic Res, 2022

7. Association between IL-22 polymorphism (Rs1179251) and outcomes of HBV infection, Human Gene, 2022

8. The survey in the role of LAG3+ tumor-infiltrating lymphocytes in colorectal cancer prognosis; Relationship with sidedness, Research square, 2022

9. IFNγ-IL-17-IL-22+ CD4+ subset and IL-22-producing cells in tumor draining lymph nodes of patients with breast cancer, Breast Disease, 2022, (Correspond author)

10. Prognostic significance of immunoscore related markers in bladder cancer, BMC Urology, 2022, (Correspond author)

11. The frequency of CD4+ and CD8+ circulating T stem cell memory in type 1 diabetes, Immunity, 2022

12. CD4+CD25-FoxP3+ T cells: a distinct subset or a heterogeneous population? International Reviews of Immunology, 40(4), pp. 307-316. 2021

13. OX40 genetic variations in patients with breast cancer: a case-control study. British Journal of Biomedical Science, 78(1), pp. 44-46. 2021 (First author)

14. Establishment of a bladder cancer cell line expressing both mesenchymal and epithelial lineage-associated markers. Human Cell, 34(2), pp. 675-687. 2021

15. CD8-positive memory T cells in tumor-draining lymph nodes of patients with breast cancer. BMC Cancer, 20(1),257. 2020 (Correspond author)

16. Clinical relevance and prognostic significance of PD-1/PD-Ls in non-metastatic bladder cancer: a role for PD-L2. Molecular Immunology, 124, pp. 35-41. 2020 (Correspond author)

17. Quantification of angiogenic factors and their clinicopathological associations in breast cancer. European Cytokine Network, 31(2), pp. 68-75. 2020 (First author)

18. Association of killer-cell immunoglobulin-like receptor genes with acute myelogenous leukaemia. International Journal of Immunogenetics, 47(6), pp. 512-521. 2020

19. Prognostic significance of CD4-positive regulatory T cells in tumor draining lymph nodes from patients with bladder cancer. Heliyon, 6(12),e05556. 2020 (Correspond author)

20. The significance of cytokine-producing B cells in breast tumor-draining lymph nodes. Cellular Oncology. 2019

21. Cytokine profile of CD4+CD25−FoxP3+ T cells in tumor-draining lymph nodes from patients with breast cancer. Molecular Immunology, 116, pp. 90-97. 2019 (First author)

22. *PD-1* Haplotype Combinations and Susceptibility of Patients to Squamous Cell Carcinomas of Head and Neck. Immunological Investigations, 48(1), pp. 1-10. 2019

23. The importance of CD45RO+ tumor-infiltrating lymphocytes in post-operative survival of breast cancer patients. Cellular Oncology, 42(3), pp. 343-356 (First author)

24. NK, NKT and invariant-NKT cells in tumor draining lymph nodes of patients with breast cancer. Iranian Journal of Immunology, 16(4), pp. 291-298. 2019 (Correspond author)

25. Association of OX40 gene polymorphisms with head and neck squamous cell carcinoma. Molecular Biology Reports. 2019 (First author)

26. Expression Analysis of MALAT1, GAS5, SRA, and NEAT1 lncRNAs in Breast Cancer Tissues from Young Women and Women over 45 Years of Age. Mol Ther Nucleic Acids. 2018

27. Memory $CD4_+$ T cell subsets in tumor draining lymph nodes of breast cancer patients: A focus on T stem cell memory cells. Cellular Oncology 2018 (First author)

28. Analysis of T cell receptor repertoire based on Vβ chain in patients with breast cancer. Cancer Biomarkers 2018 (First author)

29. Cell membrane and intracellular expression of toll-like receptor 9 (TLR9) in colorectal cancer and breast cancer cell-lines. Cancer Biomarkers 2017 (**Correspond author**)

30. CD8+ T Lymphocyte Subsets in Bladder Tumor Draining Lymph Nodes. Iranian Journal of Immunology 2016 (First author)

31. Permissive/Protective Interplay of Microbiota with T Cell Adaptive Immune Response in Colon Cancer. Annals of Colorectal Research 2016 (**Correspond author**)

32. Immune regulatory cells and IL17-producing lymphocytes in patients with benign and malignant salivary gland tumors. Immunology letters 2015

33. Immune profiles of CD4+ lymphocyte subsets in breast cancer tumor draining lymph nodes. Immunology letters 2014 (First author)

34. IL-17 and IL-4 producing CD8+ T cells in tumor draining lymph nodes of breast cancer patients: positive association with tumor progression. Iran J Immunol. 2013 (First author)

35. Scaffold-free Adipose-derived Stem Cells (ASCs) Improve Experimentally Induced Osteoarthritis in Rabbits. Arch Iran Med. 2012

36. Treatment of osteoarthritis with infrapatellar fat pad derived mesenchymal stem cells in Rabbit. Knee 2011

37. Lack of association between interleukin-13 gene polymorphisms (− 1055 C/T and+ 2044 G/A) in Iranian patients with lung cancer. Mol Biol Rep. 2009

38. Interleukin13 haplotypes and susceptibility of Iranian women to breast cancer. Mol Biol Rep. 2009 (First author)

Cancer Biology

39. Glucosamine-Modified Mesoporous Silica-Coated Magnetic Nanoparticles: A “Raisin-Cake”-like Structure as an Efficient Theranostic Platform for Targeted Methotrexate DeliveryPharmaceutics, 2023 Oct 19;15(10):2491.

40. Azole-methyl-3-(4-phenoxyphenyl) quinazolin-4(3H) ones, novel quinazoline-azole hybrid scaffolds, as new potent anticancer agents: Design, synthesis, biological evaluation, molecular dynamic simulation and theoretical approach, Tetrahedron, Volume 147, 30 October 2023, 133650

41. Novel N-substituted isatin-ampyrone Schiff bases as a new class of antiproliferative agents: Design, synthesis, molecular modeling and in vitro cytotoxic activity, Journal of Heterocyclic Chemistry, 2022
42. Synthesis, biological evaluation, and computational studies of some novel quinazoline derivatives as anticancer agents, BioMed Central, 2022

43. 2-(Chloromethyl)-3-phenylquinazolin-4(3H)-ones as potent anticancer agents; cytotoxicity, molecular docking and in silico studies. Journal of the Iranian Chemical Society, 18(8), pp. 1877-1889. 2021

44. 5-(2-carboxyethenyl)-isatin derivatives as anticancer agents: Qsar, molecular docking and molecular dynamic simulation analysis. Journal of Sciences, Islamic Republic of Iran, 32(2), pp. 131-141. 2021

45. Design, synthesis, molecular docking, biological evaluations and QSAR studies of novel dichloroacetate analogues as anticancer agent. Journal of Molecular Structure, 1221,128689. 2020

46. Effects of different quantities of antibody conjugated with magnetic nanoparticles on cell separation efficiency. Heliyon, 6(4),e03677. 2020 (Correspond author)

47. Cu(II), Ni(II) and Co(II) complexes with homoscorpionate Bis(2-Mercaptobenzimidazolyl) and Bis(2-Mercaptobenzothiazolyl)borate ligands: Synthesis and in vitro cytotoxicity studies. Inorganica Chimica Acta, 512,119896. 2020

48. Design, synthesis, molecular simulation, and biological activities of novel quinazolinonepyrimidine hybrid derivatives as dipeptidyl peptidase-4 inhibitors and anticancer agents. New Journal of Chemistry, 44(45), pp. 19515-19531. 2020

49. Pegylated Deoxycholic Acid Coated Gold Nanoparticles as a Highly Stable CT Contrast Agent. ChemistrySelect, 5(29), pp. 9119-9126. 2020

50. Antibody conjugated onto surface modified magnetic nanoparticles for separation of HER2+ breast cancer cells. Journal of Magnetism and Magnetic Materials, 490,165479. 2020

51. Palladium (II) complexes based on Schiff base ligands derived from ortho-vanillin; synthesis, characterization and cytotoxic studies. Inorganica Chimica Acta, 471, pp. 404412. 2018

52. Cycloplatinated(II) complexes bearing 1,1’-bis(diphenylphosphino)ferrocene ligand: biological evaluation and molecular docking studies. New J. Chem., 2018

53. Cytotoxic effect of two novel platinum (II) complexes on breast cancer: an in vitro study. Asian Pacific Journal of Cancer Biology 2018 (Correspond author)

54. Synthesis, structural characterization, biological evaluation and molecular docking studies of new platinum (ii) complexes containing isocyanides. New J. Chem. 2018

55. Cycloplatinated (ii) complexes bearing an O, S-heterocyclic ligand: search for anticancer drugs. New J. Chem., 2018

56. (Benzyl isocyanide)gold(I) pyrimidine-2-thiolate complex: Synthesis and biological activity. Applied Organometallic Chemistry. 2018

57. Cytotoxic evaluation of some new and potent azole derivatives as antimicrobial agents. Trends in Pharmaceutical Sciences 2017

58. Cyclometalated Platinum (II) Complexes Bearing Bidentate O, O'-Di (alkyl) dithiophosphate Ligands: Photoluminescence and Cytotoxic Properties. Organometallics 2017

59. Cyclometalated Platinum(II) Complexes Comprising 2-(Diphenylphosphino)pyridine and Various Thiolate Ligands: Synthesis, Spectroscopic Characterization, and Biological Activity. European Journal of Inorganic Chemistry 2017

60. Synthesis, Biological Evaluation, and Molecular Docking Studies on the DNA Binding Interactions of Platinum(II) Rollover Complexes Containing Phosphorus Donor Ligands. ChemMedChem 2017

61. Synthesis of some novel semicarbazone and thiosemicarbazone derivatives of isatin as possible biologically active agents. British Journal of Pharmaceutical Research 2017

62. Novel Approach Synthesis, Molecular Docking and Cytotoxic Activity Evaluation of Nphenyl-2,2-dichloroacetamide Derivatives as Anticancer Agents. Journal of Sciences, Islamic Republic of Iran 2016

Congresses

✓ More than 70 oral or poster presentations at national and international congresses ✓ Member of the Scientific committee at:

- 12th International Congress of Immunology & Allergy of Iran, April 29- May 2, 2014, Tehran, Iran
- 13th International Congress of Immunology & Allergy of Iran, April 2016, Tabriz, Iran
- 14th International Congress of Immunology & Allergy of Iran, April 2018, Tehran, Iran

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- 15th International Congress of Immunology and Allergy, Ahvaz 2021
- 16th International Congress of Immunology & Allergy of Iran, April 2023, Tehran, Iran

Teaching Experiences

- ✓ Flow cytometry: basics and practical points for PhD students, 2019 till now.
- ✓ FlowJo software and data analysis for PhD students, 2019 till now.
- ✓ Immunology course for PhD students, 2018 till now.
- ✓ Advance Immunology course for PhD-by-Research students, Shiraz Medical School, 2014-2020.
- ✓ Tumor Biology course for PhD-by-Research. Shiraz Medical School, 2014-2020.
- ✓ Immunological techniques for PhD-by-Research. Shiraz Medical School, 2014-2020.
- ✓ Immunology course for PhD students of Pharmaceutical Biotechnology. Shiraz Medical School, 2014.
- ✓ Cellular and molecular biology for MSc students of Immunology department, Medical School, 2013.
- ✓ Immunological techniques for MSc students of Immunology, Shiraz Medical School, 2013.
- ✓ Immunology for MSc students of Microbiology, Shiraz Medical School, 2013.
- ✓ Immunology for BSc students of Nursing and Midwifery. Shiraz Nursing and Midwifery School. 2013.

Teaching at the workshops for post graduate students/technicians

- ✓ Flow cytometry: principles and applications
- ✓ FlowJo software
- ✓ Immunohistrochemistry (practical and theoretical)
- ✓ Cell culture (practical and theoretical)
- ✓ Cell cytotoxic assay (MTT) (practical and theoretical)
- ✓ Flow cytometric assessment of cell cycle (practical and theoretical)
- ✓ Flow cytometric assessment of apoptosis (practical and theoretical)
- ✓ PCR: principles and applications

- ✓ PCR-RFLP: design an assay

Techniques

Expert in: several immunological and molecular based techniques, including: Flow cytometry, Animal/human cell culture, Immunohistochemistry, Sequencing, GeneScan analysis, ELISA, DNA and RNA extraction from blood and tissues, Real Time (RT) PCR, Primer designing, PCR, PCR-RFLP designing, Cytotoxic assay (MTT), Apoptosis assay, Cell cycle assay, Comet assay, Ros assay

Familiar with: Gene cloning

Research area

Currently, I am working in Shiraz Institute for Cancer Research (ICR) at Immunology and Immunotherapy lab, Medical school, Shiraz, Iran, since 2014. I have worked on several projects; the main goals of these projects are:

- ✓ Memory response in cancer with especial focus on memory stem cells (T_{SCM}) .
- ✓ T cells' profile (helper and regulatory) as well as the expression of the cognate functional genes in blood, tissue and lymph node of cancer patients.
- ✓ Immune checkpoint expression in cancer.
- ✓ NET effect in cancer.
- ✓ The clonality of T lymphocytes subsets (based on TCR Vβ), including CD4+ Th cells, CD8+ CTLs and regulatory T cells in tumor-free lymph nodes from patients with breast cancer (my PhD thesis).
- ✓ Immune related molecules— gene polymorphisms and serum level in cancers.
- ✓ Investigating the biological activities of synthetic anti-cancer drugs.

Fields of interest

Cancer Immunology & Immunotherapy, Immunophenotyping, Immunogenetics, Molecular Medicine and Bioinformatics, Pharmoimmunology

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