

In the name of God

# Curriculum Vitae

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<b>PubMed</b>	<a href="https://pubmed.ncbi.nlm.nih.gov/?term=Faraji+SN">https://pubmed.ncbi.nlm.nih.gov/?term=Faraji+SN</a>
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## Academic background

**2013- 2019**      Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran. Thesis carried out at Recombinant antibody laboratory and Nanotechnology research center, Shiraz University of Medical Sciences, Shiraz, Iran.

**Ph. D in Medical Biotechnology**

**2010-2013**      Paramedical school, Shiraz University of Medical Sciences, Shiraz, Iran. Thesis carried out at Institute for Cancer Research, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

**M. Sc. in Medical Biotechnology**

**2004-2008**      Nursing and midwifery school, Zanzan University of Medical Sciences, Zanzan, Iran.

**B. Sc. in Nursing**

# Theses

## PhD thesis title

**Development of an immunoprobe for detection of prostate cancer using anti-DSP specific single chain antibody conjugated gold nanoparticle**

Supervised by:

- 1- Prof. **Foroogh Nejatollahi**, Recombinant Antibody Laboratory, Immunology department, School of medicine, Shiraz University of Medical Sciences, Shiraz, Iran.
- 2- Prof. **Ali Mohammad Tamaddon**, Nanotechnology research center, School of pharmacy, Shiraz University of Medical Sciences, Shiraz, Iran.

## MSc thesis title

**The effect of NDRG2 overexpression on metastatic behavior of lung cancer cell line, A549.**

Supervised by:

- 1- Dr. **Mohammad Ali Takhshid**, Diagnostic Laboratory Sciences and Technology Research Center, School of Paramedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran.
- 2- Dr. **Zahra Mojtahedi**, Institute for research center (ICR), school of medicine, Shiraz University of Medical Sciences, Shiraz, Iran.

## Accomplishments & Honors

1. Best university student in three fields of education, research and culture activities in the 27th festival of exemplary students of the country in 2018.
2. Best conference paper award in the 3rd International Congress on Holy Prophet Mohammad's Tradition in Medicine, entitled: Calorie restriction and longevity, verification of the Islamic recommendations by recent scientific findings, Shiraz, Iran, 12-14 December, 2017.
3. Best selected student as union activities in the great celebration of knowledge and dynamism of Shiraz University of Medical Sciences for 2 consecutive years in 2015 and 2016.

## Memberships:

- Global Burden of Disease (GBD) collaboration
- Harvard Alumni Entrepreneurs
- Iranian Biotechnology Society
- Iranian Society for Immunology and Allergy (ISIA9285)
- European Society for Philosophy of Medicine and Healthcare (ESPMH)
- Islamic Republic of Iran Shooting Federation (IRISSF 225880)

## Publications

### Research articles

- ❖ Heidarnejad K, **Faraji S N\***, Mahfuzi SH, Ghasemi Z, Dashti F S, Asadi M, Ramezani A\*, Breast cancer immunotherapy using scFv antibody-based approaches, a systematic review, *Human Immunology*, 2024; 85(5):111090.
- ❖ Hajizade M S, Raei M J\*, **Faraji S N\***, Farvadi F, Kabiri M, Eskandari S, Tamaddon A M, Targeted drug delivery to the thrombus by fusing streptokinase with a fibrin-binding peptide (CREKA): an in silico study, *Therapeutic Delivery*, 2024; 10.4155/tde-2023-0107.
- ❖ Behbudi E, **Faraji S N\***, Daryabor G R, Hashemi S M A, Asadi M, Edalat F, Raei M J, Hatam G R\*, SARS-CoV-2 mechanisms of cell tropism in various organs considering host factor, *Heliyon*, 2024; 20;10(4):e26577.
- ❖ Ahmadi N, Zareinejad MR, Ameri M, Mahmoudi Maymand E, **Faraji S N**, 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; 176, 156505.

- ❖ Golestan A, Tahmasebi A, Maghsoodi N, **Faraji S N**, Irajie C, Ramezani A, Unveiling Promising Breast Cancer Biomarkers: An Integrative Approach Combining Bioinformatics Analysis and Experimental Verification, *BMC Cancer*, 2024; 24 (1), 155.
- ❖ Asadi M, Kiani R, Razban V, **Faraji S N**, Ahmadi AR, Fallahi J, Ramezani A, Erfani N, Harnessing the Power of CAR-NK Cells: A Promising Off-the-Shelf Therapeutic Strategy for CD38-Positive Malignancies, *Iranian Journal of Immunology*. 2023; 20 (4), 410-426.
- ❖ Rashidi A, **Faraji S N**, Javadi Mamaghani AR, Hatam S, Kazemi B, Bemani P, Seyyed Tabaei SJ, Hatam GR, Bioinformatics analysis for the purpose of designing a novel multi-epitope DNA vaccine against *Leishmania major*, *Scientific Reports*. 2022; 12 (1), 18119.
- ❖ **Faraji S N**, Raei MJ, Hashemi SMA, Daryabor GR, Tabrizi R, Dashti FS, Behboudi E, Heidarnejad K, Nowrouzi-Sohrabi P, Hatam GR, Human interaction targets of SARS-CoV-2 spike protein: A systematic review, *European Journal of Inflammation*. 2022; 20, 2-39.
- ❖ Mohammadi S, Shafiee M, **Faraji S N**, Rezaeian M, Ghaffarian-Bahraman A, Contamination of breast milk with lead, mercury, arsenic, and cadmium in Iran: a systematic review and meta-analysis, *Biometals*, 2022.
- ❖ Barazesh M, Mohammadi S, Jalili S, Kavousipour S, **Faraji S N**, Mokarram P, Pirhadi S, Design and characterization of a recombinant immunotoxin for targeted therapy of breast cancer cells: In vitro and in silico analyses. *Life Sciences*. 2021; (15) 265:118866.
- ❖ Alizadeh S, Moazen S, **Faraji S N**, Moattari A, Nejatollahi F, Novel single-chain antibodies against highly conserved epitopes in the hemagglutinin of influenza A virus: Promising agents for universal therapies. *Iranian Journal of Basic Medical Sciences*. 2021; 24:1-7.

- ❖ Mohit M, Farrokhzad A, **Faraji S N**, Heidarzadeh-Esfahanid N, Kafeshani M, Effect of *Nigella sativa* L. supplementation on inflammatory and oxidative stress indicators: A systematic review and meta-analysis of controlled clinical trials, *Complementary Therapies in Medicine*, 2020;54(10), 25-35.
  
- ❖ **Faraji S N**, Nejatollahi F, Tamaddon A.M, Mohammadi M, Aminsharifi A.R. Generation and characterization of a specific single-chain antibody against DSPP as a prostate cancer biomarker: Involvement of bioinformatics-based design of novel epitopes. *International immunopharmacology*. 2019;69(1): 217-224.
  
- ❖ Mohammadi M, Nejatollahi F, Ghasemi Y, **Faraji S N**. Anti-Metastatic and Anti-Invasion Effects of a Specific Anti-MUC18 scFv Antibody on Breast Cancer Cells. *Applied biochemistry and biotechnology*. 2017;181(1):379-90.
  
- ❖ Khosropanah S, **Faraji S N**, Habibi H, Yavarian M, Mansoori R, Haghpanah S. Correlation between Rs2108622 Locus of CYP4F2 Gene Single Nucleotide Polymorphism and Warfarin Dosage in Iranian Cardiovascular Patients. *Iranian journal of pharmaceutical research : IJPR*. 2017;16(3):1238-46.
  
- ❖ **Faraji S N**, Mojtahedi Z, Ghalamfarsa G, Takhshid MA. N-myc downstream regulated gene 2 overexpression reduces matrix metalloproteinase-2 and -9 activities and cell invasion of A549 lung cancer cell line in vitro. *Iranian journal of basic medical sciences*. 2015;18(8):773-9.

## **Book and Book chapter (Ongoing)**

**Nanotechnology in Cosmeceuticals: Advances, Challenges, and Future Perspectives.**

**Chapter 9: Advances of Gold and Silver Nanoparticles for Various Skincare/Cosmetics, Corporate,**

## Advisor, Thesis / Research Co-worker

1. Molecular docking study of asparaginase integrated with cell-penetrating peptide in order to increase drug effect on cancer cells, Thesis no: 27186.
2. In silico design of GHK- Cell Penetrating Peptide with optimal properties in order to better penetration and suitable growth of hair follicle, Thesis no: 27184.
3. In silico design of theta defensin peptide with optimal properties against HIV virus, Thesis no: 23570.
4. Molecular docking study of streptokinase integrated with fibrin-binding peptide for targeted drug delivery to blood clot, Thesis no: 25161.
5. Treatment strategies for SARS-CoV-2 using gene therapy, a narrative review
6. In-silico analysis of SARS-CoV-2 surface protein structure to design new therapies for COVID-19 disease, Research no: 20001.
7. SARS-CoV-2 entry routes into human cells, a systematic review, Research no: 19671.
8. Production and characterization of recombinant Il-15-Anti Nkg2D Fusion protein for directed activation of Nk cells, Thesis no: 20211.
9. Selection and characterization of specific human single chain antibodies against SARS-CoV-2, Research no: 19235.
10. Relationship between human dentin sialophosphoprotein biomarkers with cancer, a systematic review study, Research no: 22964.
11. Production and evaluation of specific single-chain antibodies against PPE17 epitope in Mycobacterium tuberculosis, Thesis no: 20757.
12. Production and evaluation of specific single-chain antibodies against PE\_PGRS33 epitope in Mycobacterium tuberculosis, Thesis no: 20758.
13. Design of a detection kit for investigation of tetracycline in cow milk by using Bacillus Cereous strain.
14. The effect of NDRG2 overexpression on metastatic behaviors of ovarian cancer cells, OVCAR-3.

## Teachings

- Bioinformatics techniques, PhD students of Molecular Medicine, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran, 2023.
- Investment companies in Nanotechnology, PhD students of medical nanotechnology, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran, 2020 - 2021
- Bioinformatics techniques, PhD students of comparative biomedical sciences, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran, 2022.
- Research skills, PhD students of medical nanotechnology, School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, Shiraz, Iran, 2020 - 2021.
- Phage display and recombinant antibody (scFv) class, MSc and PhD students of immunology, Immunology Department, School of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran, 2015 - 2018.
- Laboratory microbiology class for BSc students in School of Paramedical Sciences, Shiraz University of Medical Sciences, Shiraz, Iran, 2011 - 2013.

## Conference presentations/Abstracts

- **Seyed Nooreddin Faraji**, Mozafar Mohammadi, Foroogh Nejatollahi, Development and evaluation of specific scFv antibody against human dentin sialophosphoprotein, *14<sup>th</sup> International Congress of Immunology and Allergy*. April 26-28, 2018, Tehran, Iran.
- **Seyed Nooreddin Faraji**, Foroogh Nejatollahi, Mozafar Mohammadi, Molecular modeling and dynamics simulation analysis of human dentin sialophosphoprotein (DSPP) biomarker, *The 3<sup>rd</sup> conference on protein and peptide sciences*. April 25-26, 2018, Shiraz, Iran.
- **Seyed Nooreddin Faraji**, Mohsen Mohit, Salman Mohammadi, Calorie restriction and longevity, verification of the Islamic recommendations by recent scientific findings, *The 3<sup>rd</sup> International Congress on Holy Prophet Mohammad's Tradition in Medicine*. December 12-14, 2017, Shiraz, Iran.

- **Seyed Nooreddin Faraji**, Mojtaba Heydari, Correlation between temper and metabolomics, a study protocol, *5th international conference and Exhibition on metabolomics*. May 16-18, 2016, Osaka, Japan.
- **Seyed Nooreddin Faraji**, Mojtaba Heydari, The effect of Islamic life style on human metabolomics: A study protocol. *The Second International Conference on Holy Prophet Mohammad's Tradition (Sireye Nabavi) in Medicine and the Second International Student Conference*. December 15-16, 2015, Shiraz, Iran,
- **Seyed Nooreddin Faraji**, Seyed Hamdollah Mosavat, Design of an Islamic based preventive and screening center, *The Second International Conference on Holy Prophet Mohammad's Tradition (Sireye Nabavi) in Medicine and the Second International Student Conference*. December 15-16, 2015, Shiraz, Iran.
- **Seyed Nooreddin Faraji**, The prevalence of smoking among Zanjan medical university students, *Student congress on Community health and nursing*. November 30, 2006, Zanjan, Iran.

## Gene submission

Foroogh Nejatollahi, **Seyed Nooreddin Faraji**, Synthetic construct of anti-DSPP scFv antibody gene, partial cds. National Centre for Biotechnology Information (NCBI), KX531000, Jul, 11, 2016. NCBI link: <https://www.ncbi.nlm.nih.gov/nucore/KX531000.1/>

## Technical and Academic skills

- Bioinformatics methods including online data server and software.
- Plasmid Extraction, precipitation, purification and SDS-PAGE.
- DNA transfection into bacterial and mammalian cells.
- Cell culture techniques (bacterial and mammalian).
- PCR, DNA fingerprinting and gel electrophoresis.
- Gold nanoparticle synthesis and conjugation.
- Gelatin and casein zymography technique.
- Phage display and panning techniques.
- Protein expression and purification.
- UV-Visible spectrophotometer.



- Migration & Invasion assay.
- ELISA and Phage-ELISA.
- Flow cytometry.
- Western blot.

## Reviewer & Panelist

1. Reviewer of the Therapeutic Advances in Medical Oncology, 2024 to now
2. Reviewer of the Heliyon Journal, 2023 to now
3. Reviewer of The Evidence-Based Complementary and Alternative Medicine Journal, 2022 to now
4. Reviewer of The Protein Journal, 2019 to now
5. Arbitrator referee of the 19th Annual Research Congress of Iranian Medical Sciences Students, 2018.
6. Present referee in the First National Conference on Nanotechnology Applications in Industry, Biological Sciences and Health, September 27-28, 2018.
7. Present referee in the 3rd International Congress on Holy Prophet Mohammad's Tradition in Medicine, December 12-14, 2017.
8. Arbitrator referee in the 3rd International Congress on Holy Prophet Mohammad's Tradition in Medicine, December 12-14, 2017.
9. Reviewer of European Journal of Integrative Medicine, 2015 to now.

## Workshop participation certificates

- ❖ **Molecular Dynamics Simulation by Gromacs** software workshop, Medicinal & Natural Product Chemistry Research Center (MNCRC), Shiraz University of Medical Sciences, Shiraz, Iran. February 12, 14, 17 and 19, 2018.
- ❖ **Safety and protection in bio-medicine laboratory**, Faculty of Medicine, Shiraz University of Medical Sciences, Shiraz, Iran. October 8, 2013.
- ❖ **PubMed, Web of science** workshop, paramedical school, Shiraz University of Medical Sciences, Shiraz, Iran. November 16, 2011.

- ❖ **EndNote** workshop, paramedical school, Shiraz University of Medical Sciences, Shiraz, Iran. October 31, 2011.
- ❖ **An introduction to computer and windows** workshop, Nursing and Midwifery School, Zanjan University of Medical Sciences, Zanjan, Iran. April 24, 2007.
- ❖ **IT and software teaching** workshop, School of Medicine, Zanjan University of Medical Sciences, Zanjan, Iran. December 12, 2006.
- ❖ **Research and investigation method** in nursing and midwifery, School Nursing and Midwifery, Zanjan University of Medical Sciences, Zanjan, Iran. June 14, 2006.

## Executive activities

- Vice President of Technology Development of Health Science and Technology Park, Shiraz University of Medical Sciences, 2022 until now.
- Research Director of Shiraz Medical School from 2021- 2022.
- Scientific consultant, production and implementation consultant of production factories from 2021 till now.
- Head of Technology Transfer Office (TTO), School of Advanced Medical Sciences and Technologies, Shiraz University of Medical Sciences, since 2019-2022.
- Representative of MSc. Biotechnology Students of Shiraz University of Medical Sciences, 2010-2012.
- Secretary of the Student Research Committee of the School of Nursing and Midwifery, Zanjan University of Medical Sciences 2006-2008.
- Member of the Talent Committee of Zanjan University of Medical Sciences, 2005-2006.