

Curriculum Vitae

Personal Information

- **Full Name:** Hossein Zarei Jaliani
- **Specialty:** Medical Biotechnology, Ph.D.
- **Date of Birth:** July 21, 1981
- **Nationality:** Iranian
- **Gender:** Male
- **Marital Status:** Married
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- **E-mail:** hzarei@ssu.ac.ir , zareij@gmail.com
- **Website:** https://www.researchgate.net/profile/Hossein_Zarei_Jaliani
- **Affiliation:**
 1. Department of Medical Biotechnology, School of Medicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.
 2. Department of Advanced Medical Sciences and Technologies, Faculty of Paramedicine, Shahid Sadoughi University of Medical Sciences, Yazd, Iran.



Educational Background

- 2/2010 – 3/2014** Ph.D. in *Medical Biotechnology*,
Thesis Title: “Engineering and stabilization of *Anabaena variabilis* phenylalanine ammonia lyase.”
Tabriz University of Medical Sciences, Tabriz, East Azerbaijan, Iran.
- 9/2004 – 6/2006** M.Sc. in *Biochemistry*,
Thesis Title: “The effects of saffron carotenoids on the polymerization of microtubules, *in vitro*.”
Institute of Biochemistry and Biophysics (IBB), Tehran University, Tehran, Iran.
- 2/2001 – 9/2004** B.Sc. in *Molecular Cell Biology - Genetics*,
Shahid Chamran University of Ahvaz, Ahvaz, Iran.

Academic and Research Experience

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|-------------------------|---|
| 9/2014 – present | Assistant Professor

School of Medicine, Shahid Sadoughi University of Medical Sciences and Health Services, Yazd, Iran. |
| 4/2011 – 10/2013 | Researcher
Drug Applied Research Center, Tabriz University of Medical Sciences, Tabriz, Iran. |
| 5/2019 – 9/2009 | Researcher
Matn Cell Institute, Tehran, Iran. |
| 4/2007 – 12/2008 | Researcher
Center for Monoclonal Antibody Research (MARC), Avicenna Research Institute, Tehran, Iran. |

Published Articles

- Chaperone-Assisted Soluble Expression of a Humanized Anti-EGFR ScFv Antibody in *E. coli*. Kamal Veisi, Safar Farajnia*, Nosratollah Zarghami, Hamid Reza KhoramKhorshid, Nasser Samadi, Shiva Ahdi Khosroshahi, **Hossein Zarei Jaliani**. Advanced Pharmaceutical Bulletin, Vol 5, No 1, P621-627.
- Cytoplasmic Expression, Optimization and Catalytic Activity Evaluation of Recombinant Mature Lysostaphin as an Anti-staphylococcal Therapeutic in Escherichia coli. Samaneh Naderi, Mohammad Yousef Alikhani, Jamshid Karimi, Nooshin Shabab, Nejad Mohamadi, **Hossein Zarei Jaliani**, Massoud Saidijam*. Acta Medica International. 2015. Vol 2, No 2.
- Recombinant Production and Affinity Purification of the Mature Form of Staphylolysin (LasA) Protein in *E. coli*. Behnaz Rahmani, **Hossein Zarei Jaliani***, Akram Astani, Mohammad Hassan Kheirandish, Ahmad Mosaddegh, Abolghasem Asadi Saghandi. International Journal of Medical Laboratory. 2017. Vol 4, No 4, P260-267.
- Recombinant production and affinity purification of the FraC pore forming toxin using hexa-His tag and pET expression cassette. Mehdi Imani*, **Hossein Zarei Jaliani**, Mohammad Hassan Kheirandish, Mahnaz Azadpour. Iranian Journal of Basic Medical Sciences. Vol 20, No 4, P380-385.
- Application of a Seamless and Restriction Endonuclease-free Cloning Method to Produce Recombinant Full-length N-terminal His-tagged Streptolysin O in *E.coli*. Mohammad Hassan Kheirandish, **Hossein Zarei Jaliani***, Behnaz Rahmani. International Journal of Medical Laboratory. 2017. Vol 4, No 3, P189-200.
- Use of Single-Chain Antibody Derivatives for Targeted Drug Delivery. Yaghoub Safdari*, Vahideh Ahmadzadeh, Masoumeh Khalili, **Hossein Zarei Jaliani**, Vahid Zarei, Vahid Erfani-Moghadam. Molecular Medicine. 2016. Vol 22, P258-270.

- Synergism between NF-kappa B inhibitor, celastrol, and XIAP inhibitor, embelin, in an acute myeloid leukemia cell line, HL-60. Yaghub Pazhang, **Hossein Zarei Jaliani***, Mehdi Imani, Hassan Dariushnejad. *Journal of cancer research and therapeutics*. 2015. Vol 12, No 1. P155-160.
- In Solution Cation-Induced Secondary and Tertiary Structure Alterations of Human Calprotectin. Mehdi Imani*, Yaser Bahrami, **Hossein Zarei Jaliani**, Sussan Kaboudanian Ardestani. *The Protein Journal*. 2014. Vol 33, No 5, P465-473.
- Evaluating cytotoxic effects of recombinant fragaceatoxin C pore forming toxin against AML cell lines. Mahnaz Azadpour, Maedeh Karimian, Mohammad Hassan Kheirandish, Abolghasem Asadi-Saghandi, Mehdi Imani, Akram Astani, **Hossein Zarei Jaliani*** . *Iranian Journal of Basic Medical Science*. 2018. Vol 21, No 9, P878-883.
- Paclitaxel and curcumin coadministration in novel cationic PEGylated niosomal formulations exhibit enhanced synergistic antitumor efficacy. Alemi A, Zavar Reza J*, Haghirsadat F, **Zarei Jaliani H**, Haghi Karamallah M, Hosseini SA. *Journal of Nanobiotechnology*. 2018. Vol 16, No 28, P1-20.
- Novel poly (ADP)-ribose polymerase (PARP) inhibitor AZD2461 down-regulates VEGF and induces apoptosis in prostate cancer cells. Saman Sargazi, Ramin Saravani*, Javad Zavar Reza*, **Hossein Zarei Jaliani**, Hamidreza Galavi, Mahdiyeh Moudi, Najmeh AlsadatAbtahi. *Iranian Biomedical Journal*. 2019. Vol 23, No 5, P312-323.
- Novel Poly (ADP-Ribose) Polymerase Inhibitor AZD2461 Combined with Valproic Acid Exerts Mild Antagonistic Effects in Hela Cells. Saman Sargazi, Ramin Saravani*, Javad Zavar Reza*, **Hossein Zarei Jaliani**, Shekoufeh Mirinejad, Mahdiyeh Moudi and Hamidreza Galavi. *Gene, Cell and Tissue*. 2018. Vol 5, No 3, P1-6.
- Mild antagonistic effect of Valproic acid in combination with AZD2461 in MCF-7 breast cancer cells. Saman Sargazi, Omid kooshkaki, Javad Zavar Reza, Ramin Saravani, **Hossein Zarei Jaliani**, Shekoufeh Mirinejad and Fatemeh Meshkini. *Medical Journal of the Islamic Republic of Iran*. 2019. Vol 33, No 1, P175-180.
- Recombinant Production of a Novel Fusion Protein: Listeriolysin O Fragment Fused to S1 Subunit Of Pertussis Toxin. Hossein Forghani, Mahin Jamshidi Makiani, **Hossein Zarei Jaliani***, Mina Boustanshenas, Seyed Mohsen Zahraei. *Iranian Biomedical Journal*. 2021. Vol 25, No 1, 33-40.
- IRAK1 Gene Polymorphism in Rheumatoid Arthritis. Najme Hosseini, Mohammad Taher Tahoori*, Adel Mohammadzadeh, **Hossein Zarei Jaliani**, Morteza Bitaraf Sani, Hosein Soleimani Salehabadi. *Immunological Investigations*. 2020. Vol 49, No 8.
- Effects of carfilzomib alone and in combination with cisplatin on the cell death in cisplatin-sensitive and cisplatin-resistant ovarian carcinoma cell lines. S Zarei, J Zavar Reza, **H Zarei Jaliani**, M R Hajizadeh, S Sargazi, H Hosseinian. *Bratislava Medical Journal (Bratisl Lek Listy)*. 2019. Vol 120, No 6, P468-475.
- Therapeutic Potential of Curcumin in the Treatment of Glioblastoma Multiforme. Seyed Hossein Shahcheraghi, Mahtab Zangui, Marzieh Lotfi, Majid Ghayour-Mobarhan, Ahmad Ghorbani, **Hossein Zarei Jaliani**, Hamid Reza Sadeghnia, Amirhossein Sahebkar* *Current Pharmaceutical Design*. 2019. Vol 25, No 3, P333-342.
- Specific targeting of a pore-forming toxin (listeriolysin O) to LHRH-positive cancer cells using LHRH targeting peptide. Mohammad Hassan Kheirandish, **Hossein Zarei Jaliani***, Behnaz Rahmani, Habib Nikukar. *Toxicon*. 2019. Vol 164, P82-86.
- Carfilzomib Induces Drug Resistance in A2780 Ovarian Cancer Cells Through p53-Dependent and Caspase-3 Independent Pathways. Sadegh Zarei, Javad Zavar Reza, **Hossein Zarei Jaliani**, Mohammad Reza Hajizadeh, Saman Sargazi. *Journal of Applied Biotechnology Reports*. 2019. Vol 6, No 2, P45-49.

- Targeting MCF-7 Cell Line by Listeriolysin O Pore Forming Toxin Fusion with AHNP Targeted Peptide. Gholamreza Fotoohi-Ardakani, Majid Kheirollahi*, **Hossein Zarei Jaliani**, Mohadese Noorian, Hossein Ansariniyia. *Advanced Biomedical Research*. 2019. Vol 8, No 33.
- Induction of apoptosis and modulation of homologous recombination DNA repair pathway in prostate cancer cells by the combination of AZD2461 and Valproic acid. Saman Sargazi, Ramin Saravani, Javad Zavar Reza, **Hossein Zarei Jaliani**, Shekoufeh Mirinejad, Zohreh Rezaei, Sadegh Zarei. *EXCLI J (Experimental and clinical sciences journal)*. 2018. Vol 8, No 18, P485-498.
- Effects of galbanic acid on proliferation, migration, and apoptosis of glioblastoma cells through PI3K/Akt/mTOR signaling pathway. Seyed H Shahcheraghi, Marzieh Lotfi, Mohammad Soukhtanloo, Majid Ghayour Mobarhan, **Hossein Zarei Jaliani**, Hamid R Sadeghnia, Ahmad Ghorbani. *Current Molecular Pharmacology*. 2021. Vol 14, No 1, P79-87.
- Toward an Alum Free Mono-Component Monovalent Pertussis Vaccine: A Cytokine Response Assay. Hossein Forghani, Mahin Jamshidi Makiani*, **Hossein Zarei Jaliani***, Seyed Mohsen Zahraei, Seyedeh Mahdieh Namayandeh, Parisa Khani. *Iranian Journal of Immunology*. Vol 17, No 2, P111-120.
- Enhancement of Pharmaceutical Urate Oxidase Thermostability by Rational Design of De Novo Disulfide Bridge. Leila Rezaeian-Marjani; Mehdi Imani*; **Hossein Zarei Jaliani**. *Iranian Journal of Biotechnology*. Vol 18, No 3, P1-11.

Conferences

- Oral presentations:

- 2006** “*Saffron carotenoids affect polymerization of microtubular protein*”, 2nd International Symposium on Saffron Biology and Technology, ISSBT (2006), Mashhad, Khorasan Razavi, Iran.

- Poster Presentations:

- 2013** “*Humanized single chain antibody humMRI, an antibody targeting EGFRvIII with great specificity*”, 1st Tabriz International Life Science Conference and 12th Iran Biophysical Chemistry Conference, Tabriz, Iran.
- 2013** “*Optimized Expression and Purification of Anabeana variabilis phenylalanine ammonia lyase in E.coli*”, 1st Tabriz International Life Science Conference and 12th Iran Biophysical Chemistry Conference, Tabriz, Iran.
- 2007** “*TiO₂ Nanoparticles for treating Cancer*”, First Sharjah International Conference on Nanotechnology and Its Applications”, Sharjah, UAE.
- 2006** “*Toward uncovering MRP8 secretion mechanism through cell membrane*”, 31st FEBS Congress, Istanbul, Turkey.
- 2006** “*The crocin interaction with tubulin heterodimers*”, 7th Iranian Biophysical Chemistry Conference, Tabriz, Iran.

2006 “*The effect of crocetin on polymerization of brain tubulins*”, IBC2006, Tarbiat Modares University, Tehran, Iran.

Teaching Experiences

- 8/2015 – now** For the MSc students of Medical Biotechnology at **Shahid Sadoughi University of Medical Sciences and Health Services**, Yazd, Iran.
Courses:
- Cell & Molecular Biology
 - Genetic Engineering (Theory and Practice)
 - Advanced techniques in Biotechnology
 - Immunochemistry (in part)
 - Bioinformatics (in part)
- 2/2016 –7/2018** For the MSc students of Microbial Biotechnology at **Islamic Azad University, Urmia Branch**, Urmia, Iran.
Courses:
- Protein Engineering
 - Pharmaceutical Biotechnology

Research Experience

- 2017** *Improving the efficacy of lactobacillus kefir alcohol dehydrogenase by chemical stabilizers*, **Shiraz University of Medical Sciences**, Shiraz, Iran.
- 2017** *Production of Protein G-based affinity purification columns*, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2016** *Rational engineering and targeted mutagenesis for stabilization enhancement of lactobacillus kefir alcohol dehydrogenase in the presence of organic solvents*, **Shiraz University of Medical Sciences**, Shiraz, Iran.
- 2016** *Design and Production of recombinant ribonuclease and evaluation of its apoptotic effects on human cancer cells*, **Shiraz University of Medical Sciences**, Shiraz, Iran.
- 2016** *Designing and laboratory-scale production of recombinant subunit vaccine for pertussis*, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2016** *Engineering of a pore forming toxin to prepare anti-tumor specific toxins against breast cancer cells*, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2012** *Engineering and stabilization of Anabaena variabilis phenylalanine ammonia lyase*, **Drug Applied Research Center, Tabriz University of Medical Sciences**, Tabriz, Iran.

- 2008** *Preparation and purification of mouse IgM and the production of polyclonal antibody production against it for preparation of its affinity column, **Monoclonal Antibody Research Center, Avicenna Research Institute.***
- 2008** *Investigation of the vitamin-D receptor expression in non-obstructive azoospermia patients, **Monoclonal Antibody Research Center, Avicenna Research Institute.***
- 2008** *Establishment of Therapeutic Monoclonal Antibody technology: Phase 1: production of monoclonal antibody against Her-2 in the laboratory scale, **Monoclonal Antibody Research Center, Avicenna Research Institute.***
- 2007** *Standardization of Biological Products Efficacy; Specificities and Tests, **Malek Ashtar University.***
- 2007** *Standardization of Enzyme-Based Diagnostic kits; Specificities and Tests, **Malek Ashtar University.***
- 2007** *Standardization of Antibody-Based Diagnostic kits; Specificities and Tests, **Malek Ashtar University.***

Graduate Students Thesis Supervision

- 2019** Supervisor *Potential of methotrexate effect on MCF-7 cell line by an engineered version of recombinant listeriolysin O adjusted for neutral pH, MSc student of Medical Biotechnology.*
- In progress** Supervisor *Drug loading in RBC using listeriolysin O, a pore-forming toxin, MSc student of Medical Biotechnology.*
- 2020** Advisor *Design and Production of recombinant ribonuclease and evaluation of its apoptotic effects on human cancer cells, PhD student of Medical Biotechnology.*
- 2020** Advisor *Improving the efficacy of lactobacillus kefir alcohol dehydrogenase by chemical stabilizers, PhD student of Medical Biotechnology.*
- 2020** Advisor *Rational engineering and targeted mutagenesis for stabilization enhancement of lactobacillus kefir alcohol dehydrogenase in the presence of organic solvents, PhD student of Medical Biotechnology.*
- 2017** Supervisor *Cytotoxic effect of a recombinant pore forming toxin against AML cell line, MSc student of Medical Biotechnology, **Completed.***
- 2017** Supervisor *Cytotoxic effects of recombinant Anabaena variabilis phenylalanine ammonia lyase enzyme against breast cancer cells, MSc student of Medical Biotechnology, **Completed.***

- 2017 Supervisor *Specific targeting of a pore-forming toxin for the drug delivery to animal cell culture model system*, MSc student of Medical Biotechnology, **Completed**.
- 2017 Supervisor *Recombinant Production of LasA anti-staphylococcal protein and its kinetic stability study*, MSc student of Medical Microbiology, **Completed**.

Memberships and Responsibilities

- 2016-2018 Assistant of Education, Department of Advanced Medical Sciences and Technologies, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2016-2021 Member of the Graduate Students' Council, School of Medicine, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2015-2018 Member of the Biotechnology Incubator Admission Committee, **Science and Technology Park**, Yazd, Iran.
- 2015-2017 Dean of the Health Technology Development Office, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.
- 2015-2017 Secretary of the Health Technology Council, **Shahid Sadoughi University of Medical Sciences**, Yazd, Iran.

Patents

- Natural multi-purpose product with the effects against sunlight, UV radiation, oxidants and free radicals.
- A simple chromatographic method for extraction of saffron carotenoid, crocin.
- Topical solution containing anti-staphylococcal protein (LasA); in Review Process

Research Interests & Skills

- Molecular Cloning and Recombinant Protein Expression in Prokaryotic and Eukaryotic expression systems
- Protein Rational Engineering, Site-Directed Mutagenesis methods (SOEing and quick-change PCR)
- Protein Purification; chromatography (ion-exchange, hydrophobic, gel filtration, and affinity columns)
- Protein Analysis; Electrophoresis and spectroscopic methods
- Enzymology; setting up the enzyme assays and calculating kinetic parameters

- Protein Chemistry; conjugation of proteins and peptides using cross-linkers
- Structural Biology of proteins; protein physical chemistry, CD, fluorescence, ligand binding sites
- Animal Cell culture and related techniques
- Most of my activities have been focused at recent years on protein engineering, in silico and in vitro, to reach mutant proteins with improved activity and/or stability or to have proteins with engineered specificity especially for the cancer cells.