

## CURRICULUM VITAE

**Aliakbar Yousefi-Ahmadipour, PhD**

**Cell Therapy & Regenerative Medicine Specialist**

Expert in Stem Cell Biology, Cancer Research, and Tissue Engineering

### CONTACT INFORMATION

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Molecular Medicine Research Center, Research Institute of Basic Medical Sciences, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

Faculty of Paramedicine, Department of Laboratory Sciences, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

**ORCID:** 0000-0001-7007-2518

### EDUCATION

**Ph.D. in Cell Therapy (2016-2018)**

*Tehran University of Medical Sciences, Tehran, Iran*

Thesis: "Therapeutic effects of combination of platelet lysate and sulfasalazine administration in TNBS-induced colitis in rat"

First rank in nationwide PhD entrance exam in Applied Cell Sciences

Achieved highest GPA among all PhD classmates

**MSc in Medical Toxicology (2012-2016)**

*Tehran University of Medical Sciences, Tehran, Iran*

- Thesis: "Laccase-catalyzed treatment of ketoconazole, identification of biotransformed metabolites, determination of kinetic parameters, and evaluation of micro-toxicity"
- First rank in nationwide MSc entrance exam in Medical Toxicology
- Achieved highest GPA among all MSc classmates

**BSc in Laboratory Sciences (2008-2012)**

*Rafsanjan University of Medical Sciences, Rafsanjan, Iran*

### RESEARCH EXPERIENCE

**Principal Investigator (2018-Present)**

*Department of Laboratory Sciences, Faculty of Paramedical Sciences, Rafsanjan University of Medical Sciences*

- Established and directed **stem cell culture** and **molecular biology** laboratories

- Secured funding for +15 research projects focused on stem cell-cancer interactions and regenerative medicine
- Mentored 12 MSc students through thesis completion
- Published 20+ peer-reviewed articles as corresponding author
- Key research areas:
  - Stem cell-cancer microenvironment interactions
  - Mesenchymal stem cell differentiation and therapeutic applications
  - Tissue engineering for wound healing and bone regeneration
  - Cancer stem cell signaling pathways

### **Research Scientist (2016-2018)**

*Molecular Medicine Research Center, Tehran University of Medical Sciences*

- Conducted research on stem cell therapy for inflammatory bowel disease
- Developed protocols for stem cell isolation, characterization, and differentiation
- Collaborated on multi-disciplinary research projects with immunology and oncology departments

### **Research Assistant (2012-2016)**

*Department of Pharmacology and Toxicology, Tehran University of Medical Sciences*

- Investigated toxicological effects of nanoparticles
- Performed enzyme extraction and characterization studies
- Contributed to development of novel bioremediation approaches using laccase enzymes

## **PUBLICATIONS**

### **Peer-Reviewed Articles**

- Fatemeh Sadeghian, Faezeh Kazemi, Ali Pirsadeghi, Fatemeh Asadi, Mahnaz Tashakori & **Aliakbar Yousefi-Ahmadipour\***. Adipose MSCs response to breast cancer cell-derived factors in conditioned media and extracts. *Cell and Tissue Banking*. 2024. Volume 26, article number 6, (2025)
- Kazemi F, Sadeghian F, Pirsadeghi A, Asadi F, Javdani H, **Yousefi-Ahmadipour A\***. Adipose mesenchymal stem cell conditioned medium and extract: A promising therapeutic option for regenerative breast cancer therapy. *SAGE Open Medicine*. 2024 Dec;12:20503121241306606.
- Pirsadeghi A, Namakkoobi N, Behzadi MS, Pourzinolabedin H, Askari F, Shahabinejad E, Ghorbani S, Asadi F, Hosseini-Chegeni A, **Yousefi-Ahmadipour A\***, Kamrani MH. Therapeutic approaches of cell therapy based on stem cells and terminally differentiated cells: Potential and effectiveness. *Cells & Development*. 2024 Feb 3:203904.
- Ahmadi Hekmatikar AH, Agha-Alinejad H, **Yousefi-Ahmadipour A**, Molanouri Shamsi M. Effect of aerobic exercise combined with anti-PD-L1 antibody injection on body weight and

heart weight of breast cancer-bearing mice: Management in cancer cachexia. *Journal of Exercise & Organ Cross Talk*. 2024 Dec 30;4(4):298-303.

- Ahmadi Hekmatikar AH, Agha-Alinejad H, **Yousefi-Ahmadipour A**, Molanouri Shamsi M. Simultaneous effect of physical activity and anti-PDL1 injection on tumor weight and life span of mice with breast cancer. *Journal of Exercise & Organ Cross Talk*. 2024 Jun 1;4(2):126-32.
- **Yousefi-Ahmadipour A**, Pirsadeghi A, Allahverdi A, Asadi F. Pancreatic cancer and stem cell. *InCancer Stem Cells and Signaling Pathways* 2024 Jan 1 (pp. 363-379). Academic Press.
- Ahmadi AM, Ayoobi F, Jamali Z, **Yousefi-Ahmadipour A**, Marotta F. Stem cells signaling pathways and surface receptors: implications for multiple sclerosis treatment. *InStem Cells and Signaling Pathways* 2024 Jan 1 (pp. 271-283). Academic Press.
- Tashakori M, Asadi F, Khorram FS, Manshoori A, Hosseini-Chegeni A, Moghadam FM, Kamalabadi MA, **Yousefi-Ahmadipour A\***. Effects of MRI on stemness properties of Wharton's jelly-derived mesenchymal stem cells. *Cell and Tissue Banking*. 2023 Sep;24(3):523-33.
- Tashakori M, Jamalizadeh A, Nejad-Ghaderi M, Hadavi M, **Yousefi-Ahmadipour A**, Moghadam FM, Rahnama M, Haftcheshmeh SM, Mashayekhi K, Momtazi-Borojeni AA. Association between the copper/selenium ratio and the immune response to SARS-CoV-2 infection. *Biomarkers in Medicine*. 2023 Jun;17(6):307-17.
- Behfar S, Nazari A, **Yousefi-Ahmadipour A**, Pourmasoumi S, Sayadi A, Arababadi MK. Breastfeeding Increases the Expression of TLR4, TNF- $\alpha$ , CCL2, and CCL3 in the Prepuce Tissue of Neonates. *Archives of Medical Research*. 2022 Nov 1;53(7):688-93.
- Arababadi MK, Rahmani MR, Asadi F, Shabanizadeh A, **Yousefi-Ahmadipour A\***. Involvement of T-bet and GATA3 transcription factors in Mesenchymal stem cells and royal jelly combination treatment in brain stroke. *Journal of Stroke and Cerebrovascular Diseases*. 2022 Sep 1;31(9):106678.
- Asadi F, Ayoobi F, Arababadi MK, Arababadi ZK, **Yousefi-Ahmadipour A\***. Aqueous extract of *Achillea millefolium* significantly affects mesenchymal stem cell renewal and differentiation in a dose dependent manner. *Journal of Stem Cells & Regenerative Medicine*. 2022;18(2):29.
- Tashakori M, Jamalizadeh A, Nejad-Ghaderi M, Hadavi M, **Yousefi-Ahmadipour A\***, Moghadam FM, Soresrafil A, Mashayekhi K. Seroprevalence of Anti-SARS-CoV-2 IgG Antibody in Healthcare Workers: A Report From Rafsanjan City. *Journal of Inflammatory Diseases*. 2022 Jan 1;25(4).
- **Yousefi-Ahmadipour A**, Sartipi M, Khodadadi H, Shariati-Kohbanani M, Arababadi MK. Toll-like receptor 4 and the inflammation during aging. *JOURNAL OF GERONTOLOGY AND GERIATRICS*. 2022 Mar 1:1-8.
  - Allahverdi A, Arefian E, Soleimani M, Ai J, Nahanmoghaddam N, **Yousefi-Ahmadipour A**, Asadi F, Pirsadeghi A, Nazeri N, Vahidi R, Abazari MF, Afgar A, Mirzaei-

Parsa MJ. Current status of stem cell therapy and nanofibrous scaffolds in cardiovascular tissue engineering. *Regenerative Engineering and Translational Medicine*. 2021 Oct 26;1-21.

- Saremi J, Khanmohammadi M, Azami M, Ai J, **Yousefi-Ahmadipour A**, Ebrahimi-Barough S. Tissue-engineered nerve graft using silk-fibroin/polycaprolactone fibrous mats decorated with bioactive cerium oxide nanoparticles. *Journal of Biomedical Materials Research Part A*. 2021 Sep;109(9):1588-99.
- Mehdipour A, **Yousefi-Ahmadipour A**, Kennedy D, Arababadi MK. Ionizing radiation and toll like receptors: a systematic review article. *Human Immunology*. 2021 Jun 1;82(6):446-54.
- Shabanizadeh A, Rahmani MR, **Yousefi-Ahmadipour A**, Asadi F, Arababadi MK. Mesenchymal Stem Cells: The Potential Therapeutic Cell Therapy to Reduce Brain Stroke Side Effects. *Journal of Stroke and Cerebrovascular Diseases*. 2021 May 1;30(5):105668.
- **Yousefi-Ahmadipour A**, Ebrahimi-Barough S. MicroRNA-4731-5p delivered by AD-mesenchymal stem cells induces cell cycle arrest and apoptosis in glioblastoma. *Journal of cellular physiology*. 2020 Nov;235(11):8167-75.
- Allahverdi A, Arefian E, Soleimani M, Ai J, **Yousefi-Ahmadipour A**, Babaei A, Islam MS, Ebrahimi-Barough S. Involvement of EGFR, ERK-1, 2 and AKT-1, 2 activity on human glioma cell growth. *Asian Pacific Journal of Cancer Prevention: APJCP*. 2020 Dec;21(12):3469.
- Shabanizadeh A, Rahmani MR, **Yousefi-Ahmadipour A**, Asadi F, Arababadi MK. Mesenchymal Stem Cells: The Potential Therapeutic Cell Therapy to Reduce Brain Stroke Side Effects. *Journal of Stroke and Cerebrovascular Diseases*. 2021 May 1;30(5):105668.
- Mehdipour A, **Yousefi-Ahmadipour A**, Kennedy D, Arababadi MK. Ionizing radiation and toll like receptors: a systematic review article. *Human Immunology*. 2021 Jun 1;82(6):446-54.
- Saremi J, Khanmohammadi M, Azami M, Ai J, **Yousefi-Ahmadipour A**, Ebrahimi-Barough S. Tissue-engineered nerve graft using silk-fibroin/polycaprolactone fibrous mats decorated with bioactive cerium oxide nanoparticles. *Journal of Biomedical Materials Research Part A*. 2021 Sep;109(9):1588-99.
- **Yousefi-Ahmadipour A**, Asadi F, Pirsadeghi A, Nazeri N, Vahidi R, Abazari MF, Afgar A, Mirzaei-Parsa MJ. Current Status of Stem Cell Therapy and Nanofibrous Scaffolds in Cardiovascular Tissue Engineering. *Regenerative Engineering and Translational Medicine*. 2021 Oct 26;1-21.
- **Yousefi-Ahmadipour A**, Ebrahimi-Barough S, Niknia S, Allahverdi A, Mirzahosseini-Pourranjbar A, Tashakori M, Ravari SK, Asadi F, Nezhad RH, Lotfibakhshaiesh N, Mirzaei MR. Therapeutic effects of combination of platelet lysate and sulfasalazine administration in TNBS-induced colitis in rat. ***Biomedicine & Pharmacotherapy***. 2020 May 1;125:109949.

- Allahverdi A, Arefian E, Soleimani M, Ai J, Nahanmoghaddam N, **Yousefi-Ahmadipour A**, Ebrahimi-Barough S. MicroRNA-4731-5p delivered by AD-mesenchymal stem cells induces cell cycle arrest and apoptosis in glioblastoma. **Journal of Cellular Physiology**. 2020 Jan 19.
- Manjili FA, **Yousefi-Ahmadipour A**, Arababadi MK. The roles played by TLR4 in the pathogenesis of multiple sclerosis; A systematic review article. **Immunology Letters**. 2020 Apr 1;220:63-70.
- Hosseini-Chegeni A, Jazaeri F, **Yousefi-Ahmadipour A**, Heidari M, Abdollahie A, Dehpour AR. Thalidomide attenuates the hyporesponsiveness of isolated atria to chronotropic stimulation in BDL rats: The involvement of TNF- $\alpha$ , IL-6 inhibition, and SOCS1 activation. **Iranian Journal of Basic Medical Sciences**. 2019 Nov;22(11):1259.
- **Yousefi-Ahmadipour A**, Rashidian A, Mirzaei MR, Farsinejad A, PourMohammadi-Nejad F, Ghazi-Khansari M, Ai J, Shirian S, Allahverdi A, Saremi J, Ebrahimi-Barough S. Combination therapy of mesenchymal stromal cells and sulfasalazine attenuates trinitrobenzene sulfonic acid induced colitis in the rat: the S1P pathway. **Journal of Cellular Physiology**. 2019 Jul;234(7):11078-91.
- Nooshabadi VT, Mardpour S, **Yousefi-Ahmadipour A**, Allahverdi A, Izadpanah M, Daneshimehr F, Ai J, Banafshe HR, Ebrahimi-Barough S. The extracellular vesicles-derived from mesenchymal stromal cells: A new therapeutic option in regenerative medicine. **Journal of cellular biochemistry**. 2018 Oct;119(10):8048-73.
- Tarasi R, Alipour M, Gorgannezhad L, Imanparast S, **Yousefi-Ahmadipour A**, Ramezani A, Ganjali MR, Shafiee A, Faramarzi MA, Khoobi M. Laccase immobilization onto magnetic  $\beta$ -cyclodextrin-modified chitosan: improved enzyme stability and efficient performance for phenolic compounds elimination. **Macromolecular Research**. 2018 Aug 1;26(8):755-62.
- Amiri S, **Yousefi-Ahmadipour A**, Hosseini MJ, Haj-Mirzaian A, Momeny M, Hosseini-Chegeni H, Mokhtari T, Kharrazi S, Hassanzadeh G, Amini SM, Jafarnejad S. Maternal exposure to silver nanoparticles are associated with behavioral abnormalities in adulthood: Role of mitochondria and innate immunity in developmental toxicity. **Neurotoxicology**. 2018 May 1;66:66-77.
- Amiri S, **Yousefi-Ahmadipour A**, Hosseini MJ, Haj-Mirzaian A, Momeny M, Hosseini-Chegeni H, Mokhtari T, Kharrazi S, Hassanzadeh G, Amini SM, Jafarnejad S. Maternal exposure to silver nanoparticles are associated with behavioral abnormalities in adulthood: Role of mitochondria and innate immunity in developmental toxicity. **Neurotoxicology**. 2018 May 1;66:66-77.
- **Yousefi-Ahmadipour A**, Bozorgi-Koshalshahi M, Mogharabi M, Amini M, Ghazi-Khansari M, Faramarzi MA. Laccase-catalyzed treatment of ketoconazole, identification of

biotransformed metabolites, determination of kinetic parameters, and evaluation of micro-toxicity. **Journal of Molecular Catalysis B: Enzymatic**. 2016 Nov 1;133:77-84.

- Rahmani R, Mahmoodi M, Karimi M, Hoseini F, Heydari R, Salehi M, **Yousefi A**. Effect of hydroalcoholic extract of Capparis spinosa fruit on blood sugar and lipid profile of diabetic and normal rats. **Zahedan J Res Med Sci**. 2013 Jan 1;15(11):34-8.

## **Book Chapters**

1. **Yousefi-Ahmadipour A**, Pirsadeghi A, Allahverdi A, Asadi F. (2024). Pancreatic cancer and stem cell. In *Cancer Stem Cells and Signaling Pathways* (pp. 363-379). Academic Press.
2. Ahmadi AM, Ayoobi F, Jamali Z, **Yousefi-Ahmadipour A**, Marotta F. (2024). Stem cells signaling pathways and surface receptors: implications for multiple sclerosis treatment. In *Stem Cells and Signaling Pathways* (pp. 271-283). Academic Press.
3. Dental Stem Cells: Regenerative Potential. Bersani, E. (Author). Yousefi, A., Abedi, P., Rafiei, M., & Razaghi-Jahromi, H., Rafsanjan University of Medical Sciences Press, 2021. ISBN: 978-622-981971-5. (Persian translation)

## **TECHNICAL SKILLS**

### **Stem Cell Research**

- Expert in isolation and characterization of MSCs from multiple sources (umbilical cord, placenta, adipose tissue, dental tissues)
- Proficient in 2D/3D cell culture, differentiation assays, and stemness marker analysis
- Extensive experience with flow cytometry for stem cell characterization (CD markers, viability, apoptosis)
- Expertise in stem cell tracking and in vivo transplantation studies

### **Molecular & Cellular Techniques**

- Western blotting, immunocytochemistry, immunohistochemistry
- qPCR, RT-PCR, gene expression analysis
- Enzyme extraction and activity assessment
- Chromatography techniques (HPLC, LC-MS, GC-MS, TLC)
- Nanoparticle synthesis and characterization (nanosilver, nanogold)

### **Cancer Research and Stem Cell-Cancer Interactions**

- Investigation of cancer stem cell signaling pathways and microenvironment interactions
- Conducted studies on breast cancer and glioblastoma with therapeutic strategies involving stem cells and metal complexes
- Proficient in tumor xenograft modeling and therapeutic assessments

### **Animal Models**

- Established and characterized models of carcinoma, inflammatory bowel disease, and cirrhosis
- Expertise in tumor xenograft studies and therapeutic intervention assessments
- Proficient in surgical procedures and post-operative care

### **Tissue Engineering and Regenerative Medicine**

- Scaffold fabrication (electrospinning, 3D printing)
- Acellular matrix preparation and characterization
- In vitro and in vivo evaluation of engineered tissues

### **ACADEMIC SERVICE**

#### **Editorial Boards**

- *Tissue Engineering & Regenerative Medicine Journal*
- *Oncology Research Journal*

#### **Peer Reviewer**

- *Stem Cell Research & Therapy*
- *Cytotechnology*
- *Current Stem Cell Research & Therapy*
- *Clinical and Translational Oncology (CLAT)*
- *BMC Bioinformatics*
- *Molecular and Cellular Biochemistry*
- *Immunologic Research*
- *Current Stem Cell Research & Therapy*
- *Journal of Cancer Research and Clinical Oncology*
- *Avicenna Journal of Phytomedicine (AJP)*
- *Oncology Research*
- *Tissue Engineering & Regenerative Medicine*
- *Biotechnology and Applied Biochemistry*
- *BIOCELL*

#### **Research Leadership**

- Head of Student Research Committee, Faculty of Paramedical Sciences (2019-Present)
- Member of University Research Council (2020-Present)
- Advisor for Laboratory Sciences Scientific Association (2019-Present)

### **AWARDS & HONORS**

- Top Researcher, Rafsanjan University of Medical Sciences (2020, 2023, 2024)
- Top Author, Rafsanjan University of Medical Sciences (2024)
- Outstanding Youth Award, Kerman Province (2024)
- Member, National Elites Foundation
- First Rank, Nationwide PhD Entrance Exam in Applied Cell Sciences
- First Rank, Nationwide MSc Entrance Exam in Medical Toxicology
- Three Awards for Scientific Contests, Tehran University of Medical Sciences

## TEACHING EXPERIENCE

### Graduate Courses

- *Cellular Molecular Biology* (2020-Present) - Taught every semester to MSc Laboratory Sciences students
- *System Biology for MSc Immunology* (2022-Present) - Taught every semester to MSc Immunology students
- *Medical Genetics* (2020-Present) - Taught every semester to Laboratory Sciences students
- *Cell Therapy* (2022-Present) - Taught every semester as a specialized course for graduate students
- *Bioinformatics* (2022-Present) - Taught every semester to MSc Laboratory Sciences students

### Undergraduate Courses

- *Toxicology (Theory & Practical)* for Laboratory Sciences students (2018-Present) - Taught every odd semester
- *Medical Terminology & Medical Texts* for Laboratory Sciences students (2018-Present) - Taught every odd semester
- *Medical Terminology for Operating Room students* (2020-Present) - Taught every odd semester
- *Medical Texts for Operating Room students* (2019-Present) - Taught every even semester
- *Principles of Laboratory Safety* (2018-Present) - Taught every even semester to Laboratory Sciences students
- *Principles of Technical Maintenance of Laboratory Equipment* (2018-Present) - Taught every even semester to Laboratory Sciences students

### Workshops & Specialized Training

- Organized and instructed comprehensive *Cell Therapy* workshops for faculty and graduate students (2020-Present)
- Developed and taught advanced *Cell Culture* techniques workshops (2019-Present)
- Conducted regular *Bioinformatics and Primer Design* workshops for research students (2021-Present)



- Led *Scientific Article Writing* workshops for junior researchers and graduate students (2020-Present)
- Organized specialized *Laboratory Safety* training sessions for laboratory personnel (2022-Present)
- Developed curriculum and taught *Advanced Molecular Techniques* workshops for MSc students

## RESEARCH PROJECTS (SELECTED)

1. **Stem Cell-Cancer Interactions** (2022-2024)  
Principal Investigator: "Effects of conditioned medium and extracts of adipose-derived mesenchymal stem cells on proliferation and gene expression in breast cancer cell lines"
2. **Regenerative Medicine** (2021-2023)  
Principal Investigator: "Synthesis and characterization of alginate scaffolds containing bioactive materials by 3D printing for bone tissue engineering"
3. **Cancer Stem Cell Research** (2020-2022)  
Principal Investigator: "Investigating the effect of metal complexes with phenanthroline on apoptosis induction in glioblastoma cancer cell line"
4. **Stem Cell Therapy for IBD** (2019-2021)  
Principal Investigator: "Therapeutic and protective effects of combination of mesenchymal stem cell and nabilone on animal model of inflammatory bowel disease"

## PROFESSIONAL DEVELOPMENT

- Workshop on Advanced Cell Culture Techniques, Tehran University of Medical Sciences (2017)
- Training in Bioinformatics and Primer Design, Tehran University of Medical Sciences (2016)
- Advanced Flow Cytometry Techniques, Pasteur Institute of Iran (2015)