
Curriculum Vitae

Ameneh Jafari

Ph.D. in Applied Proteomics

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EDUCATION

1. *Ph.D. in Applied Proteomics*, Shahid Beheshti University of Medical Sciences
2. *M.Sc. in Clinical Biochemistry*, Yazd University of Medical Sciences
3. *B.Sc. Biology*, Shahid Beheshti University

PROFESSIONAL EXPERIENCE

- Faculty member at Chronic Respiratory Diseases Research Center (CRDRC), National Research Institute of Tuberculosis and Lung Diseases (NRITLD), Masih Daneshvari Hospital, Shahid Beheshti University of Medical Sciences, Tehran, Iran (2024-Present)
- Pars Silico Bioinformatics Laboratory, Tehran, Iran (2018-Present)
- Motamed Cancer Institute, Tehran, Iran. (2021-2023)
- Faculty member at Zabol University of Medical Sciences, Iran (2008-2012)
- Professor of teaching at Islamic Azad University (2012-2014)

RESEARCH PROJECTS

- *Shahid Beheshti University of Medical Sciences, Tehran, Iran*

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- Identifying the nature of the anti-cancer agents in conditioned medium of amniotic membrane-derived stem cells and its mechanism of effect on breast cancer cell lines by proteomics approach
 - Evaluation of anticancer activity of chitosan / polyethylene oxide nanofibers containing berberine on human breast and cervical cancer
 - Evaluation of Conditioned Medium of Human Amniotic Membrane on Invasion of Cancerous Cells
 - Evaluation of viability and apoptosis of breast cancer cell lines under the influence of the conditioned medium delivered by human amniotic epithelial cells
 - Evaluation of biomarkers of multiple sclerosis with proteomics approach
 - Evaluation of the effect of conditioned medium delivered from amniotic membrane epithelial cells on proteomics profile of cervical cancer cell line
 - Evaluation of anticancer activity of silver nanoparticles on PC3 human prostate cancer and MDA-MB-231 human breast cancer cells
 - In vitro evaluation of cytotoxic effects of Naringin and Noscapine on breast cancer cell lines
 - Proteomics and bioinformatics analyzes of cervical cancer cells treated with human amniotic membrane-conditioned medium
 - Design and construction of a bioreactor for liver decellularization and recellularization equipped with cell encapsulation microfluidic system for liver tissue engineering, National Institute Medical Research Development (**NIMAD**), 963951.
 - Mechanical Power Usefulness in Weaning of COPD Critically Ill Patients: A Two-Center ICU Study in Iran and Turkey.
 - Repurposing FDA-Approved Drugs to target key Proteins Involved in COPD Using Docking and Molecular Dynamics Simulations.
 - Identification of Key Genes in Sepsis and Repurposing of FDA-Approved Drugs for Its Treatment Using Virtual Screening and Molecular Dynamics.
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- *Motamed Cancer Institute, Tehran, Iran*
 - Investigating the combined effect of paclitaxel with oncolytic virus NDV as a new viral therapy strategy in mouse model of cervical cancer
 - Identification of potential key genes and pathways in cervical cancer by bioinformatics and experimental analysis
 - Virtual screening of small molecules to find new EED-EZH2 PPI inhibitors for cancer therapy
 - Phase I Clinical Trial to evaluate the safety of engineered chimeric antigen receptor NK cells (CAR-NK cell) against CD19 antigen for the treatment of Acute B-Lymphoblastic leukemia

Safety and efficacy of Measles, Mumps and Rubella (MMR) vaccine injection on genital warts caused by papillomavirus (Phase I/II clinical trial)

TECHNICAL SKILLS

- Human and animal cell/tissue culture and isolation
- Molecular methods (PCR, Real-time PCR)
- Colorimetric assays, Flow cytometry analysis
- Cytotoxicity assays, Colony assay, Spheroid assay, Scratch assay, 2D-PAGE
- Cell Proliferation Assays
- Animal handling
- Application Software: Office, Prism, Endnote, Cytoscape, AutoDock Vina

AWARDS

- First rank, among graduates in Clinical Biochemistry (MSc)
- The second rank of country entrance for Ph.D.
- First ranking award in Tehran Climathon International Event
- Best Article Prize Winner, congress of Trace elements. Tehran-Iran
- Best Article Prize Winner, Medical students research congress

TEACHING EXPERIENCES

- Biochemistry (for medicine, pharmacy, veterinary, and bachelor students)
- Clinical Biochemistry (for pharmacy students)
- Chemistry (for bachelor students)
- Practical biochemistry (for medicine, pharmacy, veterinary, and bachelor students)
- Enzymology (for bachelor students)
- Practical biochemistry (for medicine and bachelor students)

EDITORIAL RESPONSIBILITIES

- **Editorial Review Board member:**

Ad hoc reviewer for: Cancer Cell International, Cancer Medicine, Frontiers in Pharmacology, BioCell, Medical Oncology, Cancer Reports, Cancer Research and Clinical Oncology, Cellular and Molecular Medicine, European Journal of Medical Research, Frontiers in Immunology, Frontiers in Neurology, Human Vaccine & Immunotherapy, Technology in Cancer Research & Treatment, ...

CONFERENCE PRESENTATION

1. **Jafari A**, Jalalikhaniabadi BA. The relationship between lipids and Cu-induced lipid oxidizability parameters in diluted plasma. Iranian congress of Trace elements. Tehran-Iran, ***Best Article Prize Winner***
2. **Jafari A**, Jalalikhaniabadi BA. Relationship between plasma lipoprotein (a) concentration and oxidizability. the 3 th Iranian medical students research seminar, Mashhad, Iran, ***Best Article Prize Winner***
3. **Jafari A**, Jalalikhaniabadi BA. The relationship between plasma copper concentration and lipid oxidizability in diluted plasma. The 11th Iranian congress of Biochemistry and the 2nd International congress of biochemistry and molecular biology, Qazvin-Iran, 2010.
4. **Jafari A**, System biology approaches in personalized cancer medicine. System biology Symposium. Shahid Beheshti University of Medical Sciences, Tehran-Iran, 2015
5. **Jafari A**, Ahmadi NA. Cloning and Its ethical aspects. System biology Symposium. SBMU, Tehran-Iran, 2015
6. **Jafari A**, Yazdani M, Rezaei N. Application of proteomics technology for novel biomarkers discovery in multiple sclerosis. Molecular Medicine Congress. Shahid Beheshti University of Medical Sciences, Tehran-Iran, 2016.
7. **Jafari A**, Zali H. The potential of proteomics technology in multiple sclerosis: form discovery of novel biomarkers to personalized medicine. 2 th Conference on Molecular Medicine in diagnosis and treatment of disease. Shahid Beheshti University of Medical Sciences, Tehran-Iran, 2016.
8. **Jafari A**, Niknejad H, Zali H. Proteomics for identifying mechanisms of drug resistance in cancer. 4 th Congress on Novel & Innovative Laboratory Technologies. Iran University of Medical Sciences, Tehran-Iran, 2016.
9. **Jafari A**, Rezaei-Tavirani M, Zali H, Niknejad H. A New Strategy for Cancer Therapy by Conditioned Medium Derived from Human Amniotic Epithelial Stem Cells. The 2 rd. National Festival & International Congress on Stem Cell & regenerative Medicine. Tehran-Iran, 2018.

10. **Jafari A**, Parhizgar P, Zali H, Farhadi-Hoseinabadi B, Niknejad H. Application of human placenta derived amniotic epithelial cells as novel approach in cancer treatment. TERMIS European Chapter Meeting 2019, 27th-31st May 2019, Rhodes, Greece.
11. Farhadi-Hoseinabadi B, **Jafari A**, Tayebi T, Niknejad H. The co-application of freeze-dried amniotic membrane and lacto-n-neotetraose oligosaccharide as an inducer of type 2 immune response for full-thickness wound healing. TERMIS European Chapter Meeting 2019, 27th-31st May 2019, Rhodes, Greece
12. Parhizgar P, Tayebi T, **Jafari A**, Niknejad H. The recent advances on the ingredients of cold storage solutions for liver transplantation. TERMIS European Chapter Meeting 2019, 27th-31st May 2019, Rhodes, Greece
13. Hayati D, Valizadeh M, **Jafari A**, Rajabi-Maham H, Niknejad H. The effect of human amnion-derived exosomes on angiogenesis. TERMIS European Chapter Meeting 2019 27th-31st May 2019, Rhodes, Greece
14. **Jafari A**, Niknejad H, Rezaei-Tavirani M, Zali H. Understanding the Role of Exosomes in Cancer Progression Using Proteomics Approaches: An Overview. World Congress on Cell & Tissue Science (WCCTS-19), November 2019 Milan, Italy Event
15. **Jafari A**, Zali H. A new era in breast cancer therapy: tumor targeting by conditioned medium from human amniotic membrane. 5th Breast congress, Lisbon, Portugal. 2019.
16. Asadi S, Manzari A, **Jafari A**^{*}. Exploring the Synergistic Effect of Human Amniotic Epithelial Stem Cell-Conditioned Medium and Carboplatin on Cervical Cancer Cells: Implications for Combinatorial Therapy. 24th International Congress of Microbiology, Tehran, Iran, 2023.

BOOK & BOOK CHAPTER PUBLICATINS

- **Book:** Part of the Methods in Molecular Biology book series, 2023.

PUBLICATIONS (Articles)

1. Hashemian SM*, **Jafari A***, Khoundabi B, Jamaati H, Rahimi P. Hemoperfusion Combined With Continuous Renal Replacement Therapy in the Management of ARDS COVID-19 Patients: A Quasi-Experimental Study. *Health Sci Rep*. 2025 Apr 1;8(4):e70571.
2. Hashemian SM, **Jafari A**, Amri Maleh P. Management of critically Ill COVID-19 patients: Exploring the potential of morphine and assessing disadvantages of acetaminophen. *Caspian J Intern Med* 2025; 16(2): 381-383

3. Rahmani D, **Jafari A**, Kesharwani P, Sahebkar A. Molecular targets in SARS-CoV-2 infection: an update on repurposed drug candidates. *Pathology-Research and Practice*. 2024 Sep 8;155589.
4. **Jafari A**, Abdollahpour-Alitappeh M, Manzari-Tavakoli A, Rezaei Tavirani M. Unveiling Diagnostic and Therapeutic Strategies for Cervical Cancer: Biomarker Discovery through Proteomics Approaches and Exploring the Role of Cervical Cancer Stem Cells. *Frontiers in Oncology*. 2024, 13:1277772.
5. **Jafari A**, Niknejad H, Rezaei-Tavirani M, Sarrami-Forooshani R, Gilanchi S, Jafari Z. Antiproliferative and apoptotic effects of conditioned medium released from human amniotic epithelial stem cells on breast and cervical cancer cells. *Int J Immunopathol Pharmacol*. 2023 Dec 31;37:03946320221150712.
6. Yazdani M*, **Jafari A***, Mahdian S, Namazi M, Gharaghani S. Rational approaches to discover SARS-CoV-2/ACE2 interaction inhibitors: Pharmacophore-based virtual screening, molecular docking, molecular dynamics and binding free energy studies. *Journal of Molecular Liquids*. 2023 Apr 1;375:121345.
7. Rahmani D, **Jafari A**, Kesharwani P, Sahebkar A. Molecular targets in SARS-CoV-2 infection: an update on repurposed drug candidates. *Pathology-Research and Practice*. 2024 Sep 8;155589.
8. Jafari SH, Lajevardi ZS, **Jafari A**, Naghavi S, Ravaei F, Rahimian N. Imaging Techniques and Biochemical Biomarkers: New Insights into Diagnosis of Pancreatic Cancer. *Cell Biochemistry and Biophysics*. 2024 Jul 19:1-22.
9. Manzari-Tavakoli A, Babajani A, Manzari-Tavakoli M, Safaeinejad F, **Jafari A***. Integrating natural compounds and nanoparticle-based drug delivery systems: A novel strategy for enhanced efficacy and selectivity in cancer therapy. *Can Med*. 2024
10. **Jafari A**, Tabaei SS, Rahimi M, Taranejoo S, Ghanimatdan M. Herbal extract incorporated chitosan based nanofibers as a new strategy for smart anticancer drug delivery system: an in vitro model. *World Cancer Res J*. 2020;7:11.
11. **A Jafari**, Z Niknam, M Rahimi, H Zali, M Rezaei-Taviran. Silver nanoparticles inhibit proliferation and migration of prostate cancer cells: an experimental report, *World Cancer Res J*. 2022
12. **Jafari A**, Rezaei-Tavirani M, Farhadihosseinabadi B, Zali H, Niknejad H. Human amniotic mesenchymal stem cells to promote/suppress cancer: two sides of the same coin. *Stem Cell Res & Ther*. 2021 Dec;12:1-11.

13. **Jafari A**, Rezaei-Tavirani M, Niknejad H, Zali H. Tumor targeting by conditioned medium derived from human amniotic membrane: New insight in breast cancer therapy. *Technol Cancer Res & Treat*. 2021 Aug 16;20:15330338211036318.
14. **Jafari A**, Babajani A, Rezaei-Tavirani M. Multiple sclerosis biomarker discoveries by proteomics and metabolomics approaches. *Biomarker Insights*. 2021 May;16:11772719211013352.
15. **Jafari A**, Babajani A, Abdollahpour-Alitappeh M, Ahmadi N, Rezaei-Tavirani M. Exosomes and cancer: from molecular mechanisms to clinical applications. *Medical Oncology*. 2021 Apr;38(4):45.
16. **Jafari A**, Rezaei-Tavirani M, Salimi M, Tavakkol R, Jafari Z. Oncological emergencies from pathophysiology and diagnosis to treatment: a narrative review. *Social Work in Public Health*. 2020 Oct 1;35(8):689-709.
17. Mer AH, Mirzaei Y, Meyfour A, Shahedi A, Amirkhani Z, **Jafari A**, Barpour N. Progress of antibody–drug conjugates (ADCs) targeting c-Met in cancer therapy; insights from clinical and preclinical studies. *Drug Delivery and Translational Research*. 2024 Apr 10:1-26.
18. **Jafari A**, Mirzaei Y, Mer AH, Rezaei-Tavirani M, Jafari Z, Niknejad H. Comparison of the effects of preservation methods on structural, biological, and mechanical properties of the human amniotic membrane for medical applications. *Cell and Tissue Banking*. 2023 Oct 15:1-9.
19. Rezaee A, Ahmadpour S, **Jafari A**, Aghili S, Zadeh SS, Rajabi A, Raisi A, Hamblin MR, Mahjoubin-Tehran M, Derakhshan M. MicroRNAs, long non-coding RNAs, and circular RNAs and gynecological cancers: focus on metastasis. *Frontiers in Oncology*. 2023 Oct 3;13:1215194
20. Roshani M, Molavizadeh D, Sadeghi S, **Jafari A**, Mirzaei H. Emerging roles of miR-145 in gastrointestinal cancers: A new paradigm. *Biomed. Pharmacother*. 2023.115264.
21. Anoushirvani AA, Jafarian Yazdi A, Amirabadi S, Sheida A, Hosseini Khahr MS, **Jafari A**, Tamehri Zadeh SS, Hamblin MR, Kalantari L. Role of non-coding RNAs in neuroblastoma. *Cancer gene therapy*. 2023 May 22:1-9.
22. Nemati M, **Jafari A**, Ebrahimi Y, Golchin A, Pouya FD, Rezaei-Tavirani M, Rasmi Y. Laboratory methods: A concise review and update for COVID-19 diagnosis. *Cell Biochemistry and Function*. 2023 May 3.
23. Mousavi SM, Hosseindoost S, Mahdian SM, Vosooghi N, Rajabi A, **Jafari A**, Ostadian A, Hamblin MR, Hadjighassem M, Mirzaei H. Exosomes released from U87 glioma cells treated with curcumin and/or temozolomide produce apoptosis in naive U87 cells. *Pathology-Research and Practice*. 2023 May 1;245:154427.
24. Mousavi SM, Amin Mahdian SM, Ebrahimi MS, Taghizadie M, Vosough M, Sadri Nahand J, Hosseindoost S, Vosooghi N, Javar HA, Larijani B, Hadjighassem MR, Rahimian N, Hamblin

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- MR, **Jafari A**, Mirzaei H. Microfluidics for detection of exosomes and microRNAs in cancer: State of the art. *Mol Ther Nucleic Acids*. 2022 Apr 27;28:758-791
25. Mohamadzadeh O, Hajinouri M, , Omid Shafiei G, **Jafari A**, Ostadian A, Talaei Zavareh SA, Hamblin MR, Sheida A. Non-coding RNAs and Exosomal Non-coding RNAs in Traumatic Brain Injury: The Small Player with Big Actions. *Molecular neurobiology*. 2023 Jul;60(7):4064-83.
26. Najminejad Z, Dehghani F, Bagheri N, Meyfour A, **Jafari A**, Jahandideh S, Gharibi T. Clinical perspective: antibody-drug conjugates (ADCs) for the treatment of HER2-positive breast cancer. *Molecular Therapy*. 2023 Mar 22.
27. Davoodvandi A, Sadeghi S, **Jafari A**, Khan H, Aschner M, Mirzaei H, Sharifi M, Asemi Z. The therapeutic effects of berberine for gastrointestinal cancers. *Asia-Pacific Journal of Clinical Oncology*. 2023 Mar 13.
28. Sisakht AK, Malekan M, Firouzabadi SN, **Jafari A**, Mirazimi SM, Shafabakhsh R, Mirzaei H. Cellular conversations in glioblastoma progression, diagnosis and treatment. *Cell & mol neurobiol*. 2023 Mar;43(2):585-603.
29. Niknam Z[#], **Jafari A[#]**, Golchin A, Danesh Pouya F, Nemati M, Rezaei-Tavirani M, Rasmi Y. Potential therapeutic options for COVID-19: an update on current evidence. *European J med Res*. 2022 Dec;27:1-5.
30. Rajabi A, Kayedi M, Rahimi S, Hamblin MR, Tamtaji OR, Afrasiabi A, **Jafari A**. Non-coding RNAs and glioma: Focus on cancer stem cells. *Molecular Therapy-Oncolytics*. 2022 Sep 17.
31. Roshani M, **Jafari A**, Loghman A, Sheida AH, Taghavi T, Zadeh SS, Hamblin MR, Homayounfal M, Mirzaei H. Applications of resveratrol in the treatment of gastrointestinal cancer. *Biomed & Pharmacother*. 2022 Sep 1;153:113274.
32. Mohammadi AH, Seyedmolemi S, Talaei Zavareh SA, Hamblin MR, **Jafari A**, Mirzaei H. MicroRNAs and synaptic plasticity: from their molecular roles to response to therapy. *Mol neurobiol*. 2022 Aug;59(8):5084-102.
33. Tobeiha M, **Jafari A**, Fadaei S, Mirazimi SM, Dashti F, Amiri A, Khan H, Asemi Z, Reiter RJ, Hamblin MR, Mirzaei H. Evidence for the benefits of melatonin in cardiovascular disease. *Frontiers in cardiovascular medicine*. 2022 Jun 20;9:888319.
34. **Jafari A**, Danesh Pouya F, Niknam Z, Abdollahpour-Alitappeh M, Rezaei-Tavirani M, Rasmi Y. Current advances and challenges in COVID-19 vaccine development: from conventional vaccines to next-generation vaccine platforms. *Mol Biol Rep*. 2022 Jun;49(6):4943-57.
35. **Jafari A**, Babajani A, Sarrami Forooshani R, Yazdani M, Rezaei-Tavirani M. Clinical applications and anticancer effects of antimicrobial peptides: from bench to bedside. *Frontiers in Oncology*. 2022 Feb 23;12:819563.

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36. Tamtaji OR, Derakhshan M, Rashidi Noshabad FZ, Razaviyan J, Hadavi R, Jafarpour H, **Jafari A**, Rajabi A, Hamblin MR, Mahabady MK, Taghizadieh M. Non-coding RNAs and brain tumors: insights into their roles in apoptosis. *Front cell develop Biol.* 2022 Jan 17;9:792185.
 37. **Jafari A**, Rezaei-Tavirani M, Karami S, Yazdani M, Zali H, Jafari Z. Cancer care management during the COVID-19 pandemic. *Risk Management and Healthcare Policy.* 2020 Sep 23:1711-21.
 38. Salimi M, Norouzian M, **Jafari A**, Edalatkhah H, Mehrazar MM. H19/Igf2 Expression and Methylation of Histone 3 in Mice Chimeric Blastocysts. *Reports of Biochemistry & Molecular Biology.* 2020 Oct;9(3):357.
 39. Mirmotalebisohi SA, Molavi Z, Ranjbar MM, Niazi V, **Jafari A**, Adibi AJ, Firouzabadi P. Identification of the crucial regulatory elements modulating the host respiratory response to SARS-CoV-2 using motif detection, a systems biology approach. *Regen. Reconstr. Restor.* 2020 Jan 1;5(4).
 40. **Jafari A**, Rezaei-Tavirani M, Farhadihosseinabadi B, Taranejoo S, Zali H. HSP90 and co-chaperones: impact on tumor progression and prospects for molecular-targeted cancer therapy. *Cancer Investigation.* 2020 May 27;38(5):310-28.
 41. **Jafari A**, Tavirani MR, Hamrah MP, Karvigh SA, Fakhar HB. Psychogenic non-epileptic seizures; a narrative review. *Archives of Academic Emergency Medicine.* 2020;8(1).
 42. **Jafari A**, Jalali Khanabadi B, Nejadi N, Farhadihosseinabadi B. Association between plasma lipids profile and lipids oxidizability in healthy men. *J Applied Biotechnol Rep.* 2019 Jun 24;6(2):79-82.
 43. Rahimi M, Emamgholi A, Tabaei SJ, Khodadoust M, Taghipour H, **Jafari A**^{*}. Perspectives of chitosan nanofiber/film scaffolds with bone marrow stromal cells in tissue engineering and wound dressing. *Nanomedicine Journal.* 2019 Jan 1;6(1).
 44. Farhadihosseinabadi B, Farahani M, Tayebi T, **Jafari A**, Biniazan F, Modaresifar K, Moravvej H, Bahrami S, Niknejad H. Amniotic membrane and its epithelial and mesenchymal stem cells as an appropriate source for skin tissue engineering and regenerative medicine. *Artif cells, nanomed, and biotechnol.* 2018 Nov 5;46(sup2):431-40.
 45. Aliashrafi M, Zali H, **Jafari A**. New Insight in Neuron Regeneration: Induction of Glia Cell to Neuron Cell. *Int J of advanced Biotechnol & Res.* 2016 Jun 1;7(2):565-72.
 46. Zali H, **Jafari A**. Anticancer properties of amniotic membrane epithelial cells. 2016; 22-9
 47. Zali H, **Jafari A**. Bioinformatics Analysis of HSP90 in Amniotic Fluid and Amniotic Membrane Cells as A Potential Anticancer Drug Target. *J Global Pharma Technol.* 2009;8(05).
 48. Kalantari S, **Jafari A**, Moradpoor R, Ghasemi E, Khalkhal E. Human urine proteomics: analytical techniques and clinical applications in renal diseases. *Inter J of proteomics.* 2015;2015.
