

Curriculum Vitae



❖ Personal Information:

- Forename: Mina
- Surname: Mirian
- Date and Place of Birth: 1982- Isfahan
- Present Address: Department of Pharmaceutical Biotechnology, School of Pharmacy and Pharmaceutical Sciences, Isfahan University of Medical Sciences and Health Services, Hezar Jarib Ave. Isfahan, Iran.
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❖ Education:

- 2012 to 2016: Ph.D. of Molecular Medicine, Faculty of Genetic and Molecular Biology, School of Medicine, Isfahan University of Medical Sciences and Health Services, Isfahan, Iran.
- 2006 to 2008: Master of Science (MS) of Molecular and Cellular Biology (Microbiology), School of North- Tehran, University of Tehran, Iran.

❖ PhD thesis topic:

- Single strand DNA aptamer selection against hepatitis B virus surface Ag by cell SELEX method and evaluation of its affinity.

❖ Book:

- Thousand Points of Medical Genetics, 2012 (in Farsi).
- The Basics of Molecular Biology, 2014 (in Farsi).

❖ Papers:

1. Mirian M, Hariri A, Yadollahi M. Circadian and Immunity Cycle Talk in Cancer Destination: From Biological Aspects to *In Silico* Analysis. *Cancers*. 2022; 14(6):1578.
2. Falakflaki M, Varshosaz J, Mirian M. Local delivery of usnic acid loaded Rhamnolipid vesicles by gelatin/tragacanth gum/montmorillonite/vanillin cryogel scaffold for expression of osteogenic biomarkers and antimicrobial activity. *Journal of Drug Delivery Science and Technology*. 2022;69:103147.
3. Yazdiniapour Z, Mirian M, Zolfaghari B, Mehdifar P, Ghanadian M, Lanzotti V. Myrsinane-type diterpenes from *Euphorbia gedrosiaca* with cell growth inhibitory activity and apoptotic effects on melanoma cancer cells. *Fitoterapia*. 2022;157:105138.
4. Soleimanbeigi M, Dousti F, Hassanzadeh F, Mirian M, Varshosaz J, Kasesaz Y, et al. Boron Phenyl Alanine Targeted Chitosan-PNIPAAm Core-Shell Thermo-Responsive Nanoparticles; Boosting Drug Delivery to Glioblastoma in BNCT. *Drug Development and Industrial Pharmacy*. 2022(just-accepted):1-37.

5. Shamaeizadeh N, Varshosaz J, Mirian M, Aliomrani M. Glutathione targeted tragacanthic acid-chitosan as a non-viral vector for brain delivery of miRNA-219a-5P: An in vitro/in vivo study. *International Journal of Biological Macromolecules*. 2022.
6. Sajadi-Javan ZS, Varshosaz J, Mirian M, Manshaei M, Aminzadeh A. Thermo-responsive hydrogels based on methylcellulose/Persian gum loaded with taxifolin enhance bone regeneration: an in vitro/in vivo study. *Cellulose*. 2022;1-21.
7. Yegdaneh A, Mirian M, Dana N, Taheri M. Holothurin B Isolated from *Holothuria atra* Inhibits Angiogenesis More Potent than Curcumin in Vitro. *Research Journal of Pharmacognosy*. 2021;8(3):33-40.
8. Varshosaz J, Sajadi-Javan ZS, Kouhi M, Mirian M. Effect of bassorin (derived from gum tragacanth) and halloysite nanotubes on physicochemical properties and the osteoconductivity of methylcellulose-based injectable hydrogels. *International Journal of Biological Macromolecules*. 2021;192:869-82.
9. Varshosaz J, Jandaghian S, Mirian M, Sajjadi SE. Co-delivery of rituximab targeted curcumin and imatinib nanostructured lipid carriers in non-Hodgkin lymphoma cells. *Journal of liposome research*. 2021;31(1):64-78.
10. Taymouri S, Amirkhani S, Mirian M. Fabrication and characterization of injectable thermosensitive hydrogel containing dipyrindamole loaded polycaprolactone nanoparticles for bone tissue engineering. *Journal of Drug Delivery Science and Technology*. 2021:102659.
11. Taymouri S, Ahmadi Z, Mirian M, Tavakoli N. Simvastatin nanosuspensions prepared using a combination of pH-sensitive and timed-release approaches for potential treatment of colorectal cancer. *Pharmaceutical Development and Technology*. 2021;26(3):335-48.
12. Nazari A, Mirian M, Aghaei M, Aliomrani M. 4-Hydroxyhalcone effects on cisplatin-induced genotoxicity model. *Toxicology research*. 2021;10(1):11-7.
13. Mirian M, Kouhpayeh S, Shariati L, Boshtam M, Rahimmanesh I, Darzi L, et al. Generation of HBsAg DNA aptamer using modified cell-based SELEX strategy. *Molecular Biology Reports*. 2021;48(1):139-46.
14. Mahvash S, Zavareh VA, Taymouri S, Ramezani-Aliakbari M, Dousti F, Mirian M, et al. Hybrid Nanocomposite of Imidazolium Based Chitosan and Anderson-type Manganese Polyoxomolybdate for Boosting Drug Delivery Against Breast Cancer. 2021.
15. Kouhpayeh S, Shariati L, Boshtam M, Rahimmanesh I, Mirian M, Esmaeili Y, et al. The molecular basis of covid-19 pathogenesis, conventional and nanomedicine therapy. *International journal of molecular sciences*. 2021;22(11):5438.
16. Kazemi M, Emami J, Hasanzadeh F, Minaiyan M, Mirian M, Lavasanifar A. Pegylated multifunctional pH-responsive targeted polymeric micelles for ovarian cancer therapy: synthesis, characterization and pharmacokinetic study. *International Journal of Polymeric Materials and Polymeric Biomaterials*. 2021;70(14):1012-26.
17. Dousti F, Soleimanbeigi M, Mirian M, Varshosaz J, Hassanzadeh F, Kasesaz Y, et al. Boron phenyl alanine targeted ionic liquid decorated chitosan nanoparticles for mitoxantrone delivery to glioma cell line. *Pharmaceutical Development and Technology*. 2021;26(8):899-909.
18. Varshosaz J, Fardshouraki S, Mirian M, Safaeian L, Jandaghian S, Taymouri S. Encapsulation of Imatinib in Targeted KIT-5 Nanoparticles for Reducing its Cardiotoxicity and Hepatotoxicity. *Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry-Anti-Cancer Agents)*. 2020;20(16):1966-80.
19. Varshosaz J, Fard MM, Mirian M, Hassanzadeh F. Targeted nanoparticles for Co-delivery of 5-FU and nitroxoline, a cathepsin B inhibitor, in HepG2 cells of hepatocellular carcinoma. *Anti-Cancer Agents in Medicinal Chemistry (Formerly Current Medicinal Chemistry-Anti-Cancer Agents)*. 2020;20(3):346-58.
20. Satari N, Taymouri S, Varshosaz J, Rostami M, Mirian M. Preparation and evaluation of inhalable dry powder containing glucosamine-conjugated gefitinib SLNs for lung cancer therapy. *Drug Development and Industrial Pharmacy*. 2020;46(8):1265-77.
21. Safaeian L, Vaseghi G, Mirian M, Firoozabadi MD. The effect of pramlintide, an antidiabetic amylin analogue, on angiogenesis-related markers in vitro. *Research in Pharmaceutical Sciences*. 2020;15(4):323.
22. Safaeian L, Mirian M, Bahrizadeh S. Evolocumab, a PCSK9 inhibitor, protects human endothelial cells against H2O2-induced oxidative stress. *Archives of Physiology and Biochemistry*. 2020:1-6.
23. Otraj M, Taymouri S, Varshosaz J, Mirian M. Preparation and characterization of dry powder containing sunitinib loaded PHBV nanoparticles for enhanced pulmonary delivery. *Journal of Drug Delivery Science and Technology*. 2020;56:101570.
24. Mokhtari N, Taymouri S, Mirian M, Dinari M. Covalent triazine-based polyimine framework as a biocompatible pH-dependent sustained-release nanocarrier for sorafenib: An in vitro approach. *Journal of Molecular Liquids*. 2020;297:111898.
25. Mazlounfard F, Mirian M, Eftekhari S-M, Aliomrani M. Hydroxychloroquine effects on miR-155-3p and miR-219 expression changes in animal model of multiple sclerosis. *Metabolic Brain Disease*. 2020;35(8):1299-307.
26. Kouhpayeh S, Shariati L, Boshtam M, Rahimmanesh I, Mirian M, Zeinalian M, et al. The molecular story of COVID-19; NAD⁺ depletion addresses all questions in this infection. 2020.

27. Kouhpayeh S, Shariati L, Boshtam M, Rahimmanesh I, Mirian M, Zeinalian M, et al. The molecular story of COVID-19. NAD⁺ depletion addresses all questions in this infection. 2020;2020:2020030346.
28. Kazemi M, Emami J, Hasanzadeh F, Minaiyan M, Mirian M, Lavasanifar A, et al. In Vitro and In Vivo Evaluation of Novel DTX-Loaded Multifunctional Heparin-Based Polymeric Micelles Targeting Folate Receptors and Endosomes. Recent Patents on Anti-Cancer Drug Discovery. 2020;15(4):341-59.
29. Kazemi M, Emami J, Hasanzadeh F, Minaiyan M, Mirian M, Lavasanifar A. Development of a RP-HPLC method for analysis of docetaxel in tumor-bearing mice plasma and tissues following injection of docetaxel-loaded pH responsive targeting polymeric micelles. Research in pharmaceutical sciences. 2020;15(1):1.
30. Hajibabaie F, Kouhpayeh S, Mirian M, Rahimmanesh I, Boshtam M, Sadeghian L, et al. MicroRNAs as the actors in the atherosclerosis scenario. Journal of physiology and biochemistry. 2020;76(1):1-12.
31. Gholami S, Mirian M, Eftekhari SM, Aliomrani M. Apamin administration impact on miR-219 and miR-155-3p expression in cuprizone induced multiple sclerosis model. Molecular Biology Reports. 2020;47(11):9013-9.
32. Emami J, Kazemi M, Hasanzadeh F, Minaiyan M, Mirian M, Lavasanifar A. Novel pH-triggered biocompatible polymeric micelles based on heparin- α -tocopherol conjugate for intracellular delivery of docetaxel in breast cancer. Pharmaceutical development and technology. 2020;25(4):492-509.
33. Varshosaz J, Sadri F, Rostami M, Mirian M, Taymouri S. Synthesis of pectin-deoxycholic acid conjugate for targeted delivery of anticancer drugs in hepatocellular carcinoma. International journal of biological macromolecules. 2019;139:665-77.
34. Kouhpayeh S, Hejazi Z, Boshtam M, Mirian M, Rahimmanesh I, Darzi L, et al. Development of $\alpha 4$ integrin DNA aptamer as a potential therapeutic tool for multiple sclerosis. Journal of cellular biochemistry. 2019;120(9):16264-72.
35. Jahanian-Najafabadi A, Mirian M, Rohani F, Karami K, Kharat MH, Sadeghi-Aliabadi H. Novel Palladium Complex: Cytotoxicity against Cisplatin-resistant K562 Cells. Iranian Journal of Pharmaceutical Research: IJPR. 2019;18(3):1323.
36. Ghassami E, Varshosaz J, Mirian M, Jahanian-Najafabadi A. HER-2 aptamer-targeted Ecoflex[®] nanoparticles loaded with docetaxel promote breast cancer cells apoptosis and anti-metastatic effect. IET nanobiotechnology. 2019;13(4):428-34.
37. Shariati L, Rohani F, Heidari Hafshejani N, Kouhpayeh S, Boshtam M, Mirian M, et al. Disruption of SOX6 gene using CRISPR/Cas9 technology for gamma-globin reactivation: An approach towards gene therapy of β -thalassemia. Journal of cellular biochemistry. 2018;119(11):9357-63.
38. Mirian M, Karampour M, Moradi M, Ghaemi H, Nasiri B. Analysis of long-term temperature trend of Iranian synoptic stations (1960-2010). 2018.
39. Karampour M, Mirian M. Analysis of synoptic systems, causing floods in Golestan Province (Case Study: Flood in 11 August 2001). 2018.
40. Fatahi A, Rahimmanesh I, Mirian M, Rohani F, Boshtam M, Gheibi A, et al. Construction and characterization of human embryonic kidney-(HEK)-293T cell overexpressing truncated $\alpha 4$ integrin. Research in pharmaceutical sciences. 2018;13(4):353.
41. Emami J, Maghzi P, Hasanzadeh F, Sadeghi H, Mirian M, Rostami M. PLGA-PEG-RA-based polymeric micelles for tumor targeted delivery of irinotecan. Pharmaceutical development and technology. 2018;23(1):41-54.
42. Cheraghipour K, Shariati L, Khanahmad H, Ganjalikhani-Hakemi M, Moridnia A, Mirian M, et al. Induction of apoptosis in Toxoplasma gondii infected hela cells by cisplatin and sodium azide and isolation of apoptotic bodies and potential use for vaccination against Toxoplasma gondii. Iranian journal of parasitology. 2018;13(3):406.
43. Tousizadeh B, Moghim S, Chaleshtori ARS, Ghanbarian M, Mirian M, Salehi M, et al. Application of Epstein-Barr virus for optimization of immortalized B-lymphocyte production as a positive control in genetic studies. Advanced biomedical research. 2017;6.
44. Shahsavari-Alavijeh S, Sadeghi-Aliabadi H, Jahanian-Najafabadi A, Mirian M. Evaluation of cytotoxic effects of a dinuclearpalladacycle derivative, biphosphinic complex, on cisplatin-resistant HT-29 cells. Journal of Reports in Pharmaceutical Sciences. 2017;6(2):115.
45. Safari M, Kamari Y, Ghiaci M, Sadeghi-Aliabadi H, Mirian M. Synthesis and characterization of insulin/zirconium phosphate@ TiO₂ hybrid composites for enhanced oral insulin delivery applications. Drug development and industrial pharmacy. 2017;43(5):862-70.
46. Mirian M, Khanahmad H, Darzi L, Salehi M, Sadeghi-Aliabadi H. Oligonucleotide aptamers: potential novel molecules against viral hepatitis. Research in pharmaceutical sciences. 2017;12(2):88.
47. Darzi L, Boshtam M, Shariati L, Kouhpayeh S, Gheibi A, Mirian M, et al. The silencing effect of miR-30a on ITGA4 gene expression in vitro: an approach for gene therapy. Research in pharmaceutical sciences. 2017;12(6):456.
48. Varshosaz J, Hassanzadeh F, Aliabadi HS, Khoraskani FR, Mirian M, Behdadfar B. Targeted delivery of doxorubicin to breast cancer cells by magnetic LHRH chitosan bioconjugated nanoparticles. International journal of biological macromolecules. 2016;93:1192-205.

49. Shariati L, Khanahmad H, Tabatabaiefar MA, Salehi M, Rahimmanesh I, Mirian M, et al. Inducing indel mutation in the KLF1 gene by CRISPR/Cas9 technology to reactivate gamma globin expression: an approach towards gene therapy of beta. 2016.
50. Nasiri B, Mirian M. Investigating the Effective Bioclimatic Factors on Tourism Industry (Case of Study: Zanjan, Iran). *Asian Social Science*. 2016;12(4).
51. Mirian M, Taghizadeh R, Khanahmad H, Salehi M, Jahanian-Najafabadi A, Sadeghi-Aliabadi H, et al. Exposition of hepatitis B surface antigen (HBsAg) on the surface of HEK293T cell and evaluation of its expression. *Research in pharmaceutical sciences*. 2016;11(5):366.
52. Kouhpayeh S, Einizadeh A, Hejazi Z, Boshtam M, Shariati L, Mirian M, et al. Antiproliferative effect of a synthetic aptamer mimicking androgen response elements in the LNCaP cell line. *Cancer gene therapy*. 2016;23(8):254-7.
53. Sadeghi-Aliabadi H, Hamzeh J, Mirian M. Investigation of Astragalus honey and propolis extract's cytotoxic effect on two human cancer cell lines and their oncogen and proapoptotic gene expression profiles. *Advanced biomedical research*. 2015;4.
54. Mirian M, Behrooeian M, Ghanadian M, Dana N, Sadeghi-Aliabadi H. Cytotoxicity and antiangiogenic effects of *Rhus coriaria*, *Pistacia vera* and *Pistacia khinjuk* oleoresin methanol extracts. *Research in pharmaceutical sciences*. 2015;10(3):233.
55. Khodarahmi E, Asghari G, Hassanzadeh F, Mirian M, Khodarahmi G. Cytotoxic evaluation of volatile oil from *Descurainia sophia* seeds on MCF-7 and HeLa cell lines. *Research in pharmaceutical sciences*. 2015;10(2):169.
56. Fattahi A, Asgarshamsi M, Hasanzadeh F, Varshosaz J, Rostami M, Mirian M, et al. Methotrexate-grafted-oligochitosan micelles as drug carriers: synthesis and biological evaluations. *Journal of Materials Science: Materials in Medicine*. 2015;26(2):119.
57. Mirmousavi SH, Mirian M. Study and Zoning of Geographic Characteristics of Pistachio Cultivation in the Zanjan Province. *Geography and Planning*. 2014;18(49):295-315.
58. Kazemi Pilehrood M, Dilamian M, Mirian M, Sadeghi-Aliabadi H, Maleknia L, Nousiainen P, et al. Nanofibrous chitosan-polyethylene oxide engineered scaffolds: a comparative study between simulated structural characteristics and cells viability. *BioMed research international*. 2014;2014.
59. Karami K, Hosseini-Kharat M, Sadeghi-Aliabadi H, Lipkowski J, Mirian M. In vitro cytotoxicity studies of palladacyclic complexes containing the symmetric diphosphine bridging ligand. *Studies of their interactions with DNA and BSA. European journal of medicinal chemistry*. 2014;73:8-17.
60. Sadeghi-Aliabadi H, Saghaie L, Tadayonna N, Mirian M. Hydroxypyridinone derivatives: synthesis and cytotoxic evaluation. *J Rep Pharm Sci*. 2013;2:5-15.
61. Sadeghi-Aliabadi H, Aliasgharluo M, Fattahi A, Mirian M, Ghannadian M. In vitro cytotoxic evaluation of some synthesized COX-2 inhibitor derivatives against a panel of human cancer cell lines. *Research in pharmaceutical sciences*. 2013;8(4):298.
62. Sadeghi-Aliabadi H, Alavi M, Asghari G, Mirian M. Cytotoxic Evaluation of Different Extracts of *Taxus Baccata* against MDA-MB-468, HeLa and K562 Cancer Cell Lines. *Journal of Isfahan Medical School*. 2013;31(253).
63. Karami K, Sadeghi-Aliabadi H, Lipkowski J, Mirian M. Dinuclear bridged biphosphinic and mononuclear cyclopalladated complexes of benzylamines: Synthesis, structural characterization and antitumor activity. *Polyhedron*. 2013;50(1):187-92.
64. Hosseini KM, Karimi K, Sadeghi AH, Lipkowski J, Mirian M. Dinuclear bridged biphosphinic and mononuclear cyclopalladated complexes of benzylamines: Synthesis, structural characterization and antitumor activity. 2013.
65. Varshosaz J, Hassanzadeh F, Sadeghi H, Firozian F, Mirian M. Effect of molecular weight and molar ratio of dextran on self-assembly of dextran stearate polymeric micelles as nanocarriers for etoposide. *Journal of Nanomaterials*. 2012;2012.
66. Tavakoli M, Bateni E, Rismanchian M, Fathi M, Doostmohammadi A, Rabiei A, et al. Genotoxicity effects of nano bioactive glass and Novabone bioglass on gingival fibroblasts using single cell gel electrophoresis (comet assay): An in vitro study. *Dental research journal*. 2012;9(3):314.
67. Sadeghi-Aliabadi H, Mosavi H, Mirian M, Kakhki S, Zarghi A. The Cytotoxic and Synergistic Effects of Flavonoid Derivatives on Doxorubicin Cytotoxicity in HeLa, MDA-MB-231, and HT-29 Cancer Cells. *Iranian Journal of Toxicology*. 2012;5(15):558-64.
68. Sadeghi-Aliabadi H, Mohammadi F, Mirian M, Fazeli H, Mirlohi M. Effects of *Lactobacillus plantarum* A7 with probiotic potential on colon cancer cell proliferation in comparison with a commercial strain. *Research in Pharmaceutical Sciences*. 2012;7(5):99.
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70. Nokhodian Z, Yazdani MR, Yaran M, Shoaei P, Mirian M, Ataei B, et al. Prevalence and risk factors of HIV, syphilis, hepatitis B and C among female prisoners in Isfahan, Iran. *Hepatitis monthly*. 2012;12(7):442.

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72. Khoshnevis M, Mirian M, Mahmoudzadeh A, Poorheidari G, Fathi-Ashtiani A, Raeisi M. Effect of Sea-Band on Prevention of Nausea & Vomiting in Military Personnel at Sea. Journal Mil Med. 2005;6(4):273-8.

❖ Ongoing Project:

- Design and selection of anti- vimentin aptamer using *in silico* SELEX and its evaluation on 2D- and 3D-cultured breast cancer cells.
- Design and selection of anti- EGFR aptamer using *in silico* SELEX and its evaluation against lung cancer cells.
- Evaluation of oxaliplatin resistance breaking using CRISPR /Cas9 loaded nanoparticle on colorectal cancer cells .
- Production and *in vitro* evaluation of CRISPR /Cas9 loaded nanoparticles to break Cisplatin drug resistance on breast cancer cells .
- Evaluation of the effectiveness of chemotherapy drugs on tumor organoids from patient tissue in breast cancer.
- Bioinformatic selection and evaluation of novel drug candidates to inhibit theta polymerase enzyme based on drug repositioning approach.
- Investigation epithelial to mesenchymal cell transition interaction with the immune cycle using bioinformatics methods to introduce new drug targets regarding to the personalized medicine in breast cancer.
- Evaluation of the effect of circadian rhythm on the effectiveness of immune checkpoint inhibitor drugs.

❖ Patents:

- Laminar air flow class II with Alostina filters/ Nano. (Patent No: 66166)
- Laminar air flow class III with Alostina filters/ Nano. (Under evaluation)
- Anti- HBs Ag Aptamer. (Under evaluation)

❖ Positions:

- Faculty member of pharmaceutical biotechnology department of School of Pharmacy and Pharmaceutical Sciences University of Medical Sciences and Health Services, Isfahan, Iran. 2017 up to present. (assistant professor)
- Head of Cell Culture laboratory, Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, Isfahan, Iran. 2017 up to present.
- Supervisor and Researcher of Cell Culture laboratory, Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, Isfahan, Iran. 2010 to 2017.
- Member of safety committee in Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, from 2013 to present.
- Member of Stem cell research journal editorial board.
- Deputy Bio-Engineering Research Center, Isfahan University of Technology.

❖ **Honors and Awards:**

- Awarded as the superior researcher of Pharmacy Faculty, Isfahan University of Medical Sciences and Health Services, Research Week, 2013.
- Received Encouragement letter from head of Department of Pharmaceutical Biotechnology Department, Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, 2013.
- Received Encouragement letter from Deputy Dean of Research, Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, Isfahan, Iran.
- Received Encouragement letter from head of Department of Pharmaceutical Biotechnology Department, Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, 2012.
- Awarded as the superior researcher of Pharmacy Faculty, Isfahan University of Medical Sciences and Health Services, Research Week, 2012.
- Received Encouragement letter from the head of the Faculty of Pharmacy, Isfahan University of Medical Sciences and Health Services, 2011.

❖ **Teaching Experiences:**

- Medical biology with Problem based learning (PBL) method
- Cell culture basics, techniques and assays
- Molecular biology and Genetic engineering
- Biothecnology
- Stem cell isolation, purification and differentiation (theoretical and practical)

❖ **Training and Courses:**

- Advanced molecular genetics
- Cellular and molecular biology
- Molecular diagnosis of diseases
- Systems biology
- Next generation sequencing methods and applications

❖ **Laboratory skills:**

- Cell culture
- 3D culture and Organoid
- Stem cell isolation, purification and differentiation

- Aptamer selection methods (Cell SELEX, Bead Based SELEX, DNase-mediated method)
- *In silico* aptamer selection
- Cytotoxic evaluation
- Genotoxic evaluation related techniques
- Angiogenesis assays related techniques
- Molecular cloning related techniques
- Primer designing
- Transformation, extraction and purification of plasmid
- Gene delivery and gene manipulation related techniques
- Protein expression in eukaryotic cells
- Flow cytometry
- Real Time/RT-PCR
- Laboratory Animal handling and Tumor induction in BALB/c mice
- Gene set analysis, pathway enrichment and Protein- protein interaction analysis with softwares (SUMO, Cytoscape ClueGo/ GluePedia/ MCODE)
- Exosome isolation and evaluation

❖ **Computer Skills and Languages:**

- Operating Systems: Microsoft™ Windows™
- Microsoft Office 2013 (Word, PowerPoint, Excel), SPSS 17, Sigma Plot
- Bioinformatics Softwares: Gene Runner, Allele ID, DNAMAN, SUMO, Cytoscape, AutoDock, Protein Modeler
- Reference Manager, EndNote X7
- Languages: Persian, English