

Curriculum Vitae

Fatemeh Mirzaei

Email: Fmirzaei90@yahoo.com / Fatemehmirzaei1990@gmail.com

Education

- 2019- 2023 Assistant Resercher, Hamedan University of Medical Sciences, Iran
- 2014-2018 Ph.D. in Anatomy, Kermanshah University of Medical Sciences, Kermanshah, Iran
(**Thesis:** Evaluation of anti-inflammatory, antioxidant, and histological changes effects of Virgin Coconut Oil in β -amyloid-induced neurotoxicity in rats fed a high-fat diet and standard diet)
- 2012-2014 M.Sc. in Anatomy, Hamedan University of Medical Sciences, Hamedan, Iran
(**Thesis:** Chronic and subacute effects of 3,4 methylenedioxymethamphetamine on spatial memory and learning and expression of neurotrophin 3, Nerve Growth Factor, and P75 receptor in the hippocampus of adult male rats)
- 2008-2012 B.Sc. in midwifery, Hamedan University of Medical Sciences, Iran

Awards and Honors

- 2018: Graduated Ph.D. with honors (first-ranked), Kermanshah University of Medical Sciences, Kermanshah, Iran
- 2019: Best Ph.D. Thesis Award, Kermanshah University of Medical Sciences, Kermanshah, Iran
- 2015 - 2018: Kermanshah University of Medical Sciences, Ph.D. Fellowship, Iran
- 2013: Member of the National Organization for Development of Exceptional Talents, Iran
- 2013: Graduated M.Sc. with honors (first-ranked), Hamadan University of Medical Sciences, Hamadan, Iran
- 2008-2014: Hamadan University of Medical Sciences, undergraduate and graduate (B.Sc. and M.Sc.) Fellowship, Iran

patent

Title: Microscope immersion oil mechanical tank
Patent number:110012/ Iran / 922211

Field of research

Neuroscience, Nanomedicine, Histology

<https://scholar.google.com/citations?user=u0-sJmYAAAAJ&hl=en>

Teaching Experience

4 years of teaching experience in a medical university

- Courses: Gross Anatomy, Histology, and Embryology (undergraduate and postgraduate), since 2018
- Courses: Gross Anatomy for MBBS and international students, since 2019

Selected Publications

1. **Mirzaei, F.**; Khazaei, M.; Komaki, A.; Amiri, I.; Jalili, C., Virgin coconut oil (VCO) by normalizing NLRP3 inflammasome showed potential neuroprotective effects in Amyloid- β induced toxicity and high-fat diet-fed rat. *Food and Chemical Toxicology* **2018**, *118*, 68-83. **IF:4.1**

2. Abbasi-Oshaghi, E.; **Mirzaei, F.***; Pourjafar, M., NLRP3 inflammasome, oxidative stress, and apoptosis induced in the intestine and liver of rats treated with titanium dioxide nanoparticles: in vivo and in vitro study. *International journal of nanomedicine* **2019**, *14*, 1919. **IF:8 “co-first author”**
3. Abbasi-Oshaghi, E.; **Mirzaei, F.***; Mirzaei, A., Effects of ZnO nanoparticles on intestinal function and structure in normal/high fat diet-fed rats and Caco-2 cells. *Nanomedicine* **2018**, *13* (21), 2791-2816.**IF:5.5. “co-first author”**
4. Abbasi-Oshaghi, E.; **Mirzaei, F.**; Farahani, F.; Khodadadi, I.; Tayebinia, H., Diagnosis and treatment of coronavirus disease 2019 (COVID-19): Laboratory, PCR, and chest CT imaging findings. *International Journal of Surgery* **2020**, *79*, 143-153. **IF: 15.3**
5. Asl, S. S.; Gharebaghi, A.; Shahidi, S.; Afshar, S.; Kalhori, F.; Amiri, K.; **Mirzaei, F.**, Deferoxamine preconditioning enhances the protective effects of stem cells in streptozotocin-induced Alzheimer's disease. *Life Sciences* **2021**, *287*, 120093. **IF:6.1**

Publications

1. Mirzaei F, Abbasi E, Mirzaei A, Hosseini NF, Naseri N, Khodadadi I, et al. Toxicity and hepatoprotective effects of ZnO nanoparticles on normal and high-fat diet-fed rat livers: mechanism of action. *Biological Trace Element Research*. 2024;1-19.
2. Azmoonfar R, Mirzaei F, Najafi M, Varkeshi M, Ghazikhanlousani K, Momeni S, et al. Radiation-induced Testicular Damage in Mice: Protective Effects of Apigenin Revealed by Histopathological Evaluation. *Current Radiopharmaceuticals*. 2024;17(3):238-46.
3. Valizadeh GR, Mahboobian MM, Maghsoud AH, Mirzaei F, Haghi MM, Parvar FF, et al. Development and evaluation of miltefosine-loaded nanoemulsions on in vitro culture of *Toxoplasma gondii*. *Nanomedicine Journal*. 2024;11(2).
4. Seyedpour N, Motevaseli E, Taeb S, Nowrouzi A, Mirzaei F, Bahri M, et al. Protective effects of alpha-lipoic acid, resveratrol, and apigenin against oxidative damages, histopathological changes, and mortality induced by lung irradiation in rats. *Current Radiopharmaceuticals*. 2024;17(1):99-110.
5. Azmoonfar R, Khosravi H, Rafieemehr H, Mirzaei F, Dastan D, Ghiasvand MR, et al. Radioprotective effect of *Malva sylvestris* L. against radiation-induced liver, kidney and intestine damages in rat: A histopathological study. *Biochemistry and Biophysics Reports*. 2023;34:101455.
6. Makhdoomi S, Ariaifar S, Mirzaei F, Mohammadi M. Aluminum neurotoxicity and autophagy: a mechanistic view. *Neurological Research*. 2023;45(3):216-25.

7. **Mirzaei, F.**; Khazaei, M.; Komaki, A.; Amiri, I.; Jalili, C., Virgin coconut oil (VCO) by normalizing NLRP3 inflammasome showed potential neuroprotective effects in Amyloid- β induced toxicity and high-fat diet fed rat. *Food and Chemical Toxicology* **2018**, *118*, 68-83.
8. **Mirzaei, F.**; Khazaei, M.; Komaki, A.; Amiri, I.; Jalili, C., Multitarget Effects of Coconut Oil (Virgin Type) on A β -Induced Alzheimer's Disease Animal Model. *Archives of Neuroscience* **2019**, *6* (2).
9. **Mirzaei, F.**; Soleimani Asl, S.; Shahidi, S.; Hesam Shariati, M. B.; Mehdizadeh, M.; Sohrabi, M., Chronic and sub-acute effects of 3, 4-methylenedioxy methamphetamine (MDMA) on spatial memory and passive avoidance learning in Wistar rats. *Anatomical Sciences Journal* **2013**, *10* (4), 24-28.
10. Bakhtiar Hesam Shariati, M.; **Mirzaei, F.**; Soleimani Asl, S.; Mosavi, L.; Sohrabi, M., Acute and chronic effects of 3-4, Methylenedioxyamphetamine on pyramidal cells of hippocampus. *Avicenna Journal of Neuro Psycho Physiology* **2014**, *1* (2), 39-42.
11. Asl, S. S.; Gharebaghi, A.; Shahidi, S.; Afshar, S.; Kalhori, F.; Amiri, K.; **Mirzaei, F.**, Deferoxamine preconditioning enhances the protective effects of stem cells in streptozotocin-induced Alzheimer's disease. *Life Sciences* **2021**, *287*, 120093.
12. Asl, S. S.; Jalili, C.; Artimani, T.; Ramezani, M.; **Mirzaei, F.**, Inflammasome can affect adult neurogenesis: A review article. *The Open Neurology Journal* **2021**, *15* (1).
13. Abbasi-Oshaghi, E.; **Mirzaei, F.**; Mirzaei, A., Effects of ZnO nanoparticles on intestinal function and structure in normal/high fat diet-fed rats and Caco-2 cells. *Nanomedicine* **2018**, *13* (21), 2791-2816.
14. Shariati, M. B. H.; Sohrabi, M.; Shahidi, S.; Nikkhah, A.; **Mirzaei, F.**; Medizadeh, M.; Asl, S. S., Acute effects of ecstasy on memory are more extensive than chronic effects. *Basic and clinical neuroscience* **2014**, *5* (3), 225.
15. Komaki, H.; Faraji, N.; Komaki, A.; Shahidi, S.; Etaee, F.; Raoufi, S.; **Mirzaei, F.**, Investigation of protective effects of coenzyme Q10 on impaired synaptic plasticity in a male rat model of Alzheimer's disease. *Brain research bulletin* **2019**, *147*, 14-21.
16. Abbasi-Oshaghi, E.; **Mirzaei, F.**; Pourjafar, M., NLRP3 inflammasome, oxidative stress, and apoptosis induced in the intestine and liver of rats treated with titanium dioxide

- nanoparticles: in vivo and in vitro study. *International journal of nanomedicine* **2019**, *14*, 1919.
17. Abbasi, E.; Vafaei, S. A.; Naseri, N.; Darini, A.; Azandaryani, M. T.; Ara, F. K.; **Mirzaei, F.**, Protective effects of cerium oxide nanoparticles in non-alcoholic fatty liver disease (NAFLD) and carbon tetrachloride-induced liver damage in rats: Study on intestine and liver. *Metabolism Open* **2021**, *12*, 100151.
 18. **Mirzaei, F.**; Khazaei, M., Role of nitric oxide in biological systems: a systematic review. *Journal of Mazandaran University of Medical Sciences* **2017**, *27* (150), 192-222.
 19. Abbasi-Oshaghi, E.; **Mirzaei, F.**; Khodadadi, I., Alcohol misuse may increase the severity of COVID-19 infections. *Disaster medicine and public health preparedness* **2022**, *16* (3), 847-848.
 20. Ahmadvand, M. H.; Nikzad, S.; Changizi, V.; Pashaki, A. S.; Najafi, M.; **Mirzaei, F.**, Evaluation of the Mitigation Effect of Spirulina Against Lung Injury Induced by Radiation in Rats. *Current Radiopharmaceuticals* **2022**.
 21. Abbasi, E.; Zarin Kalam, E.; Ranjbar, K.; **Mirzaei, F.**; Komaki, A.; Soleimani Asl, S., Protective Effect of Exercise on Liver Oxidative Stress, Inflammation and Histopathological Changes after Morphine Withdrawal in Rats. *Journal of Mazandaran University of Medical Sciences* **2022**, *32* (207), 26-37.
 22. **Mirzaei, F.**; Tavilani, A.; Asefy, Z.; Abbasi, E., Prolactin and susceptibility to COVID-19 infection. *Medical hypotheses* **2021**, *155*, 110662.
 23. Pegah, A.; Abbasi-Oshaghi, E.; Khodadadi, I.; Mirzaei, F.; Tayebinia, H., Probiotic and resveratrol normalize GLP-1 levels and oxidative stress in the intestine of diabetic rats. *Metabolism Open* **2021**, *10*, 100093.
 24. **Mirzaei, F.**; Khodadadi, I.; Majdoub, N.; Vafaei, S. A.; Tayebinia, H.; Abbasi-Oshaghi, E., Role of glucagon-like peptide-1 (GLP-1) agonists in the management of diabetic patients with or without COVID-19. *The Open Medicinal Chemistry Journal* **2021**, *15* (1).
 25. **Mirzaei, F.**; Tavilani, A.; Abbasi-Oshaghi, E., Letter to the editor regarding article: Impact of COVID-19 outbreak on lifestyle behaviour: A review of studies published in India (Rawat et al.). *Diabetes and Metabolic Syndrome: Clinical Research and Reviews* **2021**, *15* (3), 1053-1054.

26. Pegah, A.; Khodadadi, I.; **Mirzaei, F.**; Tayebinia, H.; Abbasi, E., Simultaneous Effect of Resveratrol and Probiotics on Insulin Resistance and Glucagon-Like Peptide (GLP-1) Levels in Diabetic Rats. *Journal of Babol University of Medical Sciences* **2021**, *23* (1), 337-344.
27. **Mirzaei, F.**; Vafaei, S. A.; Abbasi-Oshaghi, E., Regarding the article: coronavirus disease (COVID-19): current status and prospects for drug and vaccine development. *Archives of Medical Research* **2021**, *52* (4), 456.
28. **Mirzaei, F.**; Khodadadi, I.; Vafaei, S. A.; Abbasi-Oshaghi, E.; Tayebinia, H.; Farahani, F., Importance of hyperglycemia in COVID-19 intensive-care patients: Mechanism and treatment strategy. *Primary Care Diabetes* **2021**, *15* (3), 409-416.
29. Ghasemi, H.; Mousavibahar, S. H.; Hashemnia, M.; Karimi, J.; Khodadadi, I.; **Mirzaei, F.**; Tavilani, H., Tissue stiffness contributes to YAP activation in bladder cancer patients undergoing transurethral resection. *Annals of the New York Academy of Sciences* **2020**, *1473* (1), 48-61.
30. Abbasi-Oshaghi, E.; **Mirzaei, F.**; Farahani, F.; Khodadadi, I.; Tayebinia, H., Diagnosis and treatment of coronavirus disease 2019 (COVID-19): Laboratory, PCR, and chest CT imaging findings. *International Journal of Surgery* **2020**, *79*, 143-153.
31. Salehi, I.; Zarrinkalam, E.; **Mirzaei, F.**; Oshaghi, E. A.; Ranjbar, K.; Asl, S. S., Effects of resistance, endurance, and concurrent exercise on oxidative stress markers and the histological changes of intestine after morphine withdrawal in rats. *Avicenna Journal of Medical Biochemistry* **2018**, *6* (2), 44-49.
32. Farahani, F.; **Mirzaei, F.**; Khodadadi, I.; Abbasi-Oshaghi, E., Importance of hyperglycemia in preoperative, intraoperative and postoperative periods in COVID-19 patients. *International Journal of Surgery (London, England)* **2020**, *83*, 1.
33. Abbasi-Oshaghi, E.; Khodadadi, I.; **Mirzaei, F.**; Ahmadi, M.; Tayebinia, H.; Goodarzi, M. T., Alleviates Sperm Damage by Limiting Oxidative Stress and Insulin Resistance in Diabetic Rats. *The Open Medicinal Chemistry Journal* **2020**, *14* (1).
34. Oshaghi, E. A.; Khodadadi, I.; **Mirzaei, F.**; Khazaei, M.; Tavilani, H.; Goodarzi, M. T., Research Article Methanolic Extract of Dill Leaves Inhibits AGEs Formation and Shows Potential Hepatoprotective Effects in CCl₄ Induced Liver Toxicity in Rat.

35. Mohammadi, A.; **Mirzaei, F.**; Jamshidi, M.; Yari, R.; Pak, S.; Sorkhani, A. N.; Norouziyan, P.; Abdolkarimi, V.; Oshaghi, E. A., The in vivo biochemical and oxidative changes by ethanol and opium consumption in Syrian hamsters. *International Journal of Biology* **2013**, *5* (4), 14.
36. Mohammadi, A.; **Mirzaei, F.**; Jamshidi, M.; Yari, R.; Pak, S.; Norouziyan, P.; Abdolkarimi, V.; Oshaghi, E. A., Influence of flaxseed on lipid profiles and expression of LXR [alpha], in intestine of diabetic rat. *International Journal of Biology* **2013**, *5* (4), 23.
37. Mohammadi, A.; **Mirzaei, F.**; Moradi, M. N.; Jamshidi, M.; Yari, R.; Ghiasvand, T.; Rezaii, A.; Oshaghi, E. A., Effect of flaxseed on serum lipid profile and expression of NPC1L1, ABCG5 and ABCG8 genes in the intestine of diabetic rat. *Avicenna Journal of Medical Biochemistry* **2013**, *1* (1), 1-6.

Conference Publications

1. **Fatemeh Mirzaei** , Ebrahim Abbasi Oshaghi, Mozafar Khazaei. Methanolic Extract of Dill Leaves Shows Potential Hepatoprotective Effects in CCl4 Induced Liver Toxicity in Rat. 13th National Congress of Anatomical Sciences (Hamedan University of medical science), Hamadan, Iran. 17-19 October 2018.
2. **Fatemeh Mirzaei**, cyrus Jalili, Mozafar Khazaei . Dill effects on sperm profile, antioxidant capacity and testis histology in diabetic rat. 12th National Congress of Anatomical Sciences (Shahid Beheshti University of Medical Sciences), Tehran, Iran. 4-6 May, 2016.
3. **Fatemeh Mirzaei**, sara soleimani asl. Effective factors in adult neurogenesis. 11th National Congress of Anatomical Sciences (Jundishapur University of Medical Sciences), Ahvaz, Iran. 19-21 February 2014.
4. **Fatemeh Mirzaei**, Iraj Khodadadi, , Heidar Tavilani, Mohamad Taghi Goodarzi. Anethum Graveolens And Dill Tablet Normalized Lipid Profile Via Ldl-R And Hmg-Coa Reductase Genes Expression In High Cholesterol Fed Animals. The IRES International Conference, Toronto, Canada, 28th -29th August 2017.

Participation in experiments as a supervisor, advisor or co-worker

1. Efficacy of 9-ING-41 on Tau phosphorylation and improvement of memory deficit in the rat model of Alzheimer's disease via Amyloid beta injection
2. study of effects of silibinin in pegylated niosomal carriers in controlling inflammasome in neurotoxicity induced by amyloid beta in male rats
3. The therapeutic effect of Curcumin niosome on some genes expression in intrinsic pathway of apoptosis in carbon tetrachloride induced liver injury in Wistar rats

4. The effect of Dimethyloxalyglycine- preconditioned Adipose-Derived Mesenchymal Stem Cells and Exercise on the angiogenesis and motor activity in a Spinal Cord injury in Rats.
5. evaluation of antimicrobial, anti-inflammatory and restorative effects of umbilical cord-derived mesenchymal cell conditioned medium on incisional wound infected with *Pseudomonas aeruginosa* strain (PAO1) and clinical strain with multiple drug resistance(MDR) in animal model
6. In vivo evaluation of resveratrol loaded dextran stearate polymeric micelles in a paraquat-poisoned rats
7. Evaluation of the effectiveness of Rosuvastatin nanofibers in skin wound healing of rabbit
8. Investigation the neuroprotective effects of nanoparticles composed of quaternized & aromatized derivatives of chitosan containing resveratrol in methotrexate induced toxicity
9. Evaluation of The Radioprotective Role of Nanocurcumin in Reducing Tissue Damages and Fibrosis in Liver and Kidney Tissues in a Male Rat Model
10. Fabrication of photoelectroconductive nanocomposites based on pectine-grafted-polyaniline and bioglass with antimicrobial and antioxidant properties for wound treatment and healing in the in vitro and in vivo conditions
11. comparative study of the effect of geraniol and geraniol nanoparticles on testicular tissue in toxicity with paraquat in male rats
12. Study of the protective effects of Vitamin D3 on diazinon-induced sub-acute cardiotoxicity in male rat
13. The Role of Vitamin D against Biochemical Indices and stress oxidative in Liver of Rats Exposed to Diazinon
14. Evaluation of protective role of Gallic acid in spermatogenesis indicators in male rat model following ionizing radiation
15. Evaluating the effects of opium on oxidative stress on rats fed with high cholesterol diet
16. Evaluation of The Radioprotective Role of Nano-selenium in Reducing Lung Damages Tissue in a Male Rat Model after High Dose X-ray Irradiation
17. Evaluation the *Malva sylvestris* extract effect on serum antioxidant status in male Wistar rats with X-ray induced liver fibrosis
18. The effect of rosuvastatin on doxorubicin-induced cardiotoxicity in rats
19. The effect of vitamin D3 on cardiotoxicity of arsenic trioxide in rats
20. Evaluating the effects of opium on TNF- α signaling pathway and histopathological changes in the heart tissue of rats fed with high cholesterol diet
21. Evaluation of protective role of apigenin in spermatogenesis indicators in male mice model following ionizing
22. Evaluation of oxidative parameters in serum of patients with Covid 19 infection and their correlation with D-dimer and hyperglycemia
23. Evaluation of the effects of nanozinc on oxidative stress and histological changes of liver, intestine, kidney, heart, pancreas, testis, and brain of rats

24. Investigating the effect of hydroalcoholic extract of *Securigera Securidaca* on liver gene expression of NRF2 and FGF21 and their relationship with insulin level in diabetic rats

Books

1. Fatemeh Mirzaei, Sara soleimani asl. Working with laboratory animals. Hamadan, Hamadan University of Medical Science publication. 2021
2. Neuroanatomy. Fatemeh Mirzaei and Mahdi Ramezani. Hamadan University of Medical Science publication .2022

Editorial Board/ Reviewer

1. Editorial Board member of Current Medicine
2. Editorial Board member of Biological Insight
3. Editorial Board member of Drug Discovery
4. Reviewer of the International Journal of Physiology and Brain Sciences
5. Reviewer of the Journal of Applied Pharmaceutical Science
6. Reviewer of MDPI Journals

Demonstration Skills

Cell culture, Immuno-Cyto Chemistry, Histological staining and analysis (IFA, Nissl, Kajal's silver, PAS, H&E, Masson's trichrome, Congored), memory and learning test (Morris water maze and shuttle box and Barnes maze, novel abject, Y-maze, etc.), PCR and Real-time PCR, western blot, ELISA, confocal microscopy, SPSS, and graph pad prism.

I work with different animal models and I am a master in handling rats, hamsters, and mice. I also can induce various disease models such as Alzheimer's, vagotomy, diabetes, and ischemia-reperfusion ischemia-reperfusion in animal models.

Main Tools, Computer and Software Skills

Microsoft Office Package, Prism Software, SPSS Software, MATLAB