

Samira Jafari

Assistant professor

Pharmaceutical Sciences Research Center, School of Pharmacy, Kermanshah University of medical Sciences, Kermanshah, Iran.

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Education:

-PhD (Pharmaceutical Nanotechnology, Tabriz University of Medical Sciences, Faculty of Pharmacy, Tabriz, Iran, December 2016).

Thesis: Inclusion of methylprednisolone acetate and triamcinolone acetonide in hydroxyapatite nanoparticles and assessment of the physicochemical properties, cell toxicity and in vivo effects in the rats.

Supervisor: Prof. Khosro Adibkia & Prof. Nasrin Maleki-Dizaji

-M.S. (Analytical Chemistry, Zanjan University, Faculty of Science, Zanjan, Iran, July 2008).

Thesis: Facilitated transport of cadmium as anionic iodo-complexes through bulk liquid membrane containing hexadecyltrimethylammonium bromide

Supervisor: Prof. Mohammad Reza Yaftian

- B.C (Applied Chemistry, Bu-Ali University, Faculty of Chemistry, Hamedan, Iran, September 2006).

Research Experiences:

Postdoctoral researcher (Tehran University of Medical Sciences, Faculty of Biological Sciences, Tehran, Iran, 2017-2018).

Supervisor: Prof. Esmaeil Haririan

- Nano-biomaterials for tissue engineering

Sabbatical (Tarbiat Modares University, Faculty of Bioscience, Department of Nanobiotechnology, August 2021 to present)

- Lab on a chip
- Micro-nanofluidic
- Bio-3D printing

Teaching Experiences:

Kermanshah University of medical Sciences, Kermanshah, Iran (2018 to present)

Assistant Professor, Faculty of Pharmacy

- Biomaterials
- Drug delivery systems
- Polymer
- Analytical chemistry

Honors & Awards:

Iran Nanotechnology Innovation Council grant for project entitled:

“Designing of resorbable biomimetic aerogels for bone regeneration: Dental Bone Grafts” (2021)

National Institute for Medical Research Development (NIMAD) grant for project entitled:

“Designing & developing of cell penetrating peptides” (2020)

Top researcher in Kermanshah University of Medical Sciences (2020)

Top researcher in Kermanshah University of Medical Sciences (2019)

Publications (Articles)

1. Soleimanpour M, Mirhaji S, **Jafari S***, Saboury AA*, Designing a new alginate-fibrinogen biomaterial composite hydrogel for wound healing, Scientific Reports (Recently accepted: April 2022)

2. Derakhshankhah H, Sajadimajd S, Jahanshahi F, Samsonchi Z, Karimi H, **Jafari S**, et al. Immunoengineering Biomaterials in Cell-Based Therapy for Type 1 Diabetes. *Tissue Engineering Part B: Reviews*. 2022.
3. Samadian H, **Jafari S**, Sepand M, Alaei L, Malvajerd SS, Jaymand M, et al. 3D bioprinting technology to mimic the tumor microenvironment: tumor-on-a-chip concept. *Materials Today Advances*. 2021;12:100160.
4. Amiri M, **Jafari S**, Kurd M, Mohamadpour H, Khayati M, Ghobadinezhad F, et al. Engineered solid lipid nanoparticles and nanostructured lipid carriers as new generations of blood–brain barrier transmitters. *ACS chemical neuroscience*. 2021;12(24):4475-90.
5. Farjami A, Salatin S, **Jafari S**, Mahmoudian M, Jelvehgari M. The Factors Determining the Skin Penetration and Cellular Uptake of Nanocarriers: New Hope for Clinical Development. *Current pharmaceutical design*. 2021;27(42):4315-29.
6. Alaei L, Izadi Z, **Jafari S**, Jahanshahi F, Jaymand M, Mohammadi P, et al. Irreversible thermal inactivation and conformational lock of alpha glucosidase. *Journal of Biomolecular Structure and Dynamics*. 2021;39(9):3256-62.
7. Ghorbani M, Izadi Z, **Jafari S**, Casals E, Rezaei F, Aliabadi A, et al. Preclinical studies conducted on nanozyme antioxidants: shortcomings and challenges based on US FDA regulations. *Nanomedicine*. 2021;16(13):1133-51.
8. Negahdari R, Bohlouli S, Sharifi S, Maleki Dizaj S, Rahbar Saadat Y, Khezri K, **Jafari S**, et al. Therapeutic benefits of rutin and its nanoformulations. *Phytotherapy Research*. 2021;35(4):1719-38.
9. **Jafari S**, Izadi Z, Alaei L, Jaymand M, Samadian H, Derakhshankhah H, et al. Human plasma protein corona decreases the toxicity of pillar-layer metal organic framework. *Scientific reports*. 2020;10(1):1-14.
10. Ahmadian E, Samiei M, Hasanzadeh A, Kavetsky T, **Jafari S**, Alipour M, et al. Monitoring of drug resistance towards reducing the toxicity of pharmaceutical compounds: Past, present and future. *Journal of pharmaceutical and biomedical analysis*. 2020;186:113265.
11. Varnamkhasti BS, **Jafari S**, Taghavi F, Alaei L, Izadi Z, Lotfabadi A, et al. Cell-penetrating peptides: As a promising theranostics strategy to circumvent the blood-brain barrier for CNS diseases. *Current Drug Delivery*. 2020;17(5):375-86.,
12. Zamanian M, Foroozanfar Z, Izadi Z, Jafari S, Derakhshankhah H, Salimi M, **Jafari S**, et al. Association of underlying diseases and clinical characteristics with mortality in patients with 2019 novel coronavirus in Iran. *Arch Clin Infect Dis*. 2020;15(5):e104621.

13. Derakhshankhah H, Jafari S, Sarvari S, Barzegari E, Moakedi F, Ghorbani M, et al. Biomedical applications of zeolitic nanoparticles, with an emphasis on medical interventions. *International journal of nanomedicine*. 2020;15:363.
14. Jafari S, Saboury AA, Tajerzadeh H, Hayati P, Dehghanian M, Soorbaghi FP, et al. Optimization and development of drug loading in hydroxyapatite–polyvinyl alcohol nanocomposites via response surface modeling approach. *Journal of the Iranian Chemical Society*. 2020;17(5):1141-51.
15. Ghorbani M, Derakhshankhah H, Jafari S, Salatin S, Dehghanian M, Falahati M, et al. Nanozyme antioxidants as emerging alternatives for natural antioxidants: achievements and challenges in perspective. *Nano Today*. 2019;29:100775.
16. Soorbaghi FP, Isanejad M, Salatin S, Ghorbani M, Jafari S*, Derakhshankhah H. Bioaerogels: Synthesis approaches, cellular uptake, and the biomedical applications. *Biomedicine & Pharmacotherapy*. 2019;111:964-75.
17. Derakhshankhah H, Hosseini A, Taghavi F, Jafari S, Lotfabadi A, Ejtehad MR, et al. Molecular interaction of fibrinogen with zeolite nanoparticles. *Scientific reports*. 2019;9(1):1-14.
18. Mohammadi MK, Hayati P, Jafari S*, Karimi M, Gutierrez A. Sonication-assisted synthesis of a new rod-like metal-organic coordination polymer compound; novel precursor to produce pure phase nano-sized lead (II) oxide. *Journal of Molecular Structure*. 2019;1176:434-46.
19. Jafari S, Shayanfar A. Modeling to predict the cytotoxicity of SiO₂ and TiO₂ nanoparticles. *Marmara Pharmaceutical Journal*. 2019;23(2).
20. Jafari S, Derakhshankhah H, Alaei L, Fattahi A, Varnamkhasti BS, Saboury AA. Mesoporous silica nanoparticles for therapeutic/diagnostic applications. *Biomedicine & Pharmacotherapy*. 2019;109:1100-11.
21. Derakhshankhah H, Jafari S*. Cell penetrating peptides: A concise review with emphasis on biomedical applications. *Biomedicine & Pharmacotherapy*. 2018;108:1090-6.
22. Jafari S, Hamidi S. Microextraction techniques in antibiotic monitoring in body fluids: Recent trends and future. *Journal of Liquid Chromatography & Related Technologies*. 2018;41(7):401-7.
23. Jafari S, Ahmadian E, Fard JK, Khosroushahi AY. Biomacromolecule based nanoscaffolds for cell therapy. *Journal of Drug Delivery Science and Technology*. 2017;37:61-6.
24. Jafari S, Maleki-Dizaji N, Barar J, Barzegar-Jalali M, Rameshrad M, Adibkia K. Methylprednisolone acetate-loaded hydroxyapatite nanoparticles as a potential drug delivery system for treatment of rheumatoid arthritis: In vitro and in vivo evaluations. *European Journal of Pharmaceutical Sciences*. 2016;91:225-35.
25. Jafari S, Maleki-Dizaji N, Barar J, Barzegar-Jalali M, Rameshrad M, Adibkia K. Physicochemical characterization and in vivo evaluation of triamcinolone acetonide-loaded hydroxyapatite

nanocomposites for treatment of rheumatoid arthritis. *Colloids and Surfaces B: Biointerfaces*. 2016;140:223-32.

26. Ahmadian E, **Jafari S**, Yari Khosroushahi A. Role of angiotensin II in stem cell therapy of cardiac disease. *Journal of the Renin-Angiotensin-Aldosterone System*. 2015;16(4):702-11.
27. Fard JK, **Jafari S**, Eghbal MA. A review of molecular mechanisms involved in toxicity of nanoparticles. *Advanced pharmaceutical bulletin*. 2015;5(4):447.
28. Dizaj SM, Mennati A, **Jafari S**, Khezri K, Adibkia K. Antimicrobial activity of carbon-based nanoparticles. *Advanced pharmaceutical bulletin*. 2015;5(1):19.
29. **Jafari S**, Dizaj SM, Adibkia K. Cell-penetrating peptides and their analogues as novel nanocarriers for drug delivery. *BioImpacts: BI*. 2015;5(2):103.
30. Dizaj SM, **Jafari S**, Khosroushahi AY. A sight on the current nanoparticle-based gene delivery vectors. *Nanoscale research letters*. 2014;9(1):1-9.
31. Golbedaghi R, **Jafari S**, Yaftian MR, Azadbakht R, Salehzadeh S, Jaleh B. Determination of cadmium (II) ion by atomic absorption spectrometry after cloud point extraction. *Journal of the Iranian Chemical Society*. 2012;9(3):251-6.
32. Golbedaghi R, **Jafari S**, Khajavi F, Yaftian MR, Azadbakht R. Preconcentration and determination of Pb (II), Cu (II) and Cd (II) ions on octadecyl silica membrane disk modified with 2-mercapto-benzoimidazole by flame atomic absorption spectrometry. *Analytical Methods*. 2012;4(8):2318-22.
33. **Jafari S**, Yaftian MR, Parinejad M. A study on the extraction of Cd (II), Co (II) and Ni (II) ions by bis (2-ethylhexyl) phosphoric acid and 2-thenoyltrifluoroacetone. 2011.
34. **Jafari S**, Yaftian M, Parinejad M. Facilitated transport of cadmium as anionic iodo-complexes through bulk liquid membrane containing hexadecyltrimethylammonium bromide. *Separation and Purification Technology*. 2009;70(1):118-22.

Book Chapters:

1. Alaei L, Izadi Z, **Jafari S**, Lotfabadi A, Barzegari E, Jaymand M, et al. *Nanozymes—An Overview*. Nanozymes. Taylor & Francis group; 2021.
2. Sharifi S., **Jafari S**., Meimanat Abadi M . *Nanobiotechnology in dental health*. Springer; 2021.
3. Izadi Z, Derakhshankhah H, Alaei L, Karkazis E, **Jafari S***, Tayebi L. *Applications of Biomedical Engineering in Dentistry*. Springer; 2020.

Patents:

US Patents:

- Nanozyme based-tooth bleaching system

National Patents:

- Hydrogel wound dressing based on chitosan, fibrinogen and niacin for wound healing
- 2. Chitosan / polyethylene oxide nanofiber wound dressing containing clove extract to heal wounds
- 3. Preparation of hand sanitizer gel with antibacterial, antiviral and antifungal properties based on plant compounds
- 4. Chlorhexidine nanogels / zinc oxide nanoparticles containing thyme extract as antibacterial for dental applications

Languages

Persian: Native

English: Advanced

German: Basic

Skills:

Synthesis bio-nanostructures skills: Electrospinning, Chemical precipitation, Bioaerogels, Hydrogels, Liposomes, Dental Biomaterials, Nanocosmetic, Bio-3D printing.

Evaluation in vitro/in vivo skills: MTT assay, Immunohistochemistry evaluation, Microbial evaluation

References:

Prof. Ali Akbar Saboury

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