

Fatemeh Bagheri

PhD in Cell & Molecular Biology

Assistant Professor of Biotechnology group, Tarbiat Modares University, 2014-now

Royan Institute, Department of Stem Cells and Developmental Biology, 2006-now

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Educational background

Degree	Major	University	Date
B.Sc	Microbiology	Isfahan Uni. , Isfahan, Iran	2000-2004
M.Sc	Cell and Molecular Biology	Tehran Uni., Tehran, Iran	2004-2006
Ph.D	Cell and Molecular Biology	Tehran Uni., Tehran, Iran	2008-2013

Teaching Experiences

1) Cell biology, stem cells, laboratory of molecular genetic, genetic engineering and biochemistry, for BSc and PhD students

Research Interests

Tissue engineering and regenerative medicine, Nanobiomaterials, Therapeutic recombinant proteins, Cell therapy

Publications

Journal Articles

1. Oveis Jamialahmadi, Sameereh Hashemi-Najafabadi, Ehsan Motamedian, Stefano Romeo, **Fatemeh Bagheri** (2019). A benchmark-driven approach to reconstruct metabolic networks for studying cancer metabolism. *PLOS Computational Biology* 15 (4), e1006936
2. Akbar Javadi, Atefeh Solouk, Masoumeh Haghbin Nazarpak, **Fatemeh Bagheri** (2019) Surface engineering of titanium-based implants using electrospraying and dip coating methods. *Materials Science and Engineering: C* 99, 620-630
3. H Goodarzi, S Hashemi-Najafabadi, N Baheiraei, **F Bagheri** (2019). Preparation and Characterization of Nanocomposite Scaffolds (Collagen/ β -TCP/SrO) for Bone Tissue Engineering. *Tissue Engineering and Regenerative Medicine*, 1-15
4. Atiyeh Sadat Safavi, Gholamreza Rouhi, Nooshin Haghighipour, **Fatemeh Bagheri**, Mohamadreza Baghaban Eslaminejad, Frough Azam Sayahpour (2019). Efficacy of mechanical vibration in

regulating mesenchymal stem cells gene expression. *In Vitro Cellular & Developmental Biology - Animal*, 1-8

5. Hamed Ghorbani, Amir Abdollah-zadeh, **Fatemeh Bagheri**, Abbas Poladi (2018) Improving the bio-corrosion behavior of AISI316L stainless steel through deposition of Ta-based thin films using PACVD. *Applied Surface Science*. Volume 456, 398-402
6. Afsaneh Adibfar, Ghassem Amoabediny, Mohamadreza Baghaban Eslaminejad, Javad Mohamadi, **Fatemeh Bagheri**, Behrouz Zandieh Doulabi (2018). VEGF delivery by smart polymeric PNIPAM nanoparticles affects both osteogenic and angiogenic capacities of human bone marrow stem cells. *Materials Science and Engineering: C* 93, 790-799
7. Leila Taghiyar, Samaneh Hosseini, Fatemeh Safari, **Fatemeh Bagheri**, Nesa Fani, Martin J Stoddart, Mauro Alini, Mohamadreza Baghaban Eslaminejad (2018). New Insight into Functional Limb Regeneration: A to Z Approaches (2018). *Journal of tissue engineering and regenerative medicine* 12 (9), 1925-1943
8. Saeedeh zare jalise, Nafiseh Baheiraei, **Fatemeh Bagheri** (2018). The effects of strontium incorporation on a novel gelatin/bioactive glass bone graft: in vitro and in vivo characterization. *Ceramic International*. In Press
9. RR Andevvari, S Hashemi-Najafabadi, **F Bagheri** (2018). Immunoisolation of stem cells by simultaneous encapsulation and PEGylation. *Progress in biomaterials* 7 (1), 55-60
10. Afsaneh Adibfar, Ghassem Amoabediny, Mohamadreza Baghaban Eslaminejad, Javad Mohamadi, **Fatemeh Bagheri**, Behrouz Zandieh Doulabi (2018) Preparation and Characterization of Smart Poly (N-Isopropylacrylamide) Nanoparticles Containing Vascular Endothelial Growth Factor for Induction of Angiogenesis in Human Bone Marrow-derived Mesenchymal Stem Cells. *Pathobiology Research* 21 (2), 65-72
11. S Khodayar, H Bardania, SA Shojaosadati, **F Bagheri** (2018). Optimization and characterization of Aspirin Encapsulated nano-Liposomes. *Iranian journal of pharmaceutical research: IJPR* 17 (1), 11-22
12. Nafiseh Baheiraei, Mohammad Reza Nourani, SM Mortazavi, Mansoureh Movahedin, Hossein Eyni, **Fatemeh Bagheri**, Mohammad Hadi Norahan (2018) Development of a bioactive porous collagen/ β -tricalcium phosphate bone graft assisting rapid vascularization for bone tissue engineering applications. *J Biomed Mater Res A*. 106 A, 73-85
13. Motamedian E, Taheri E, **Bagheri F** (2017) Proliferation inhibition of cisplatin resistant ovarian cancer cells using drugs screened by integrating a metabolic model and transcriptomic data. *Cell Proliferation*, 50, 1-8
14. Zarkesh I, Ghanian MH, Azami M, **Bagheri F**, Baharvand H, Mohammadi J, Baghaban Eslaminejad M (2017). Facile synthesis of biphasic calcium phosphate microspheres with engineered surface topography for controlled delivery of drugs and proteins. *Colloids and Surfaces B: Biointerfaces*, 157: 223–232
15. Aghajanpoor M, Hashemi-Najafabadi S, Baghaban-Eslaminejad M, **Bagheri F**, Mousavi SM, Sayyahpour FA (2017), The effect of increasing the pore size of nanofibrous scaffolds on the osteogenic cell culture using a combination of sacrificial agent electrospinning and ultrasonication, *J Biomed Mater Res A*. 105(7):1887-1899

16. **Bagheri F.**, Safarian S., Baghaban-Eslaminejad M. and Sheibani N. (2015), Sensitization of Breast Cancer Cells to Doxorubicin via Stable Cell Line Generation and Overexpression of DFF40, *Biochemistry and Cell Biology*, 93(6):604-10
17. **Bagheri F.**, Safarian S., Baghaban Eslaminejad M., Sheibani N. (2014), Stable over expression of DNA fragmentation factor in T-47D cells: Sensitization of breast cancer cells to apoptosis in response to acetazolamide and sulfabenzamide. *Molecular Biology Reports*, 41:7387–7394
18. Nadernezhad A, Torabinejad B, Hafezi M, Baghaban-Eslaminejad M, **Bagheri F.**, Najafi F. (2014), Poly (Lactic-Co-Glycolic)/Nanostructured Merwinite Porous Composites for Bone Tissue Engineering: Structural and in Vitro Characterization. *Journal of Advanced Materials and Processing*, 2(4):13-24
19. Malakooty Poor E., Baghaban Eslaminejad M., Gheibi N., **Bagheri F.**, Atyabi F. (2014), Chitosan-pDNA nanoparticle characteristics determine the transfection efficacy of gene delivery to human mesenchymal stem cells. *Artif Cells Nanomed Biotechnol*,42(6):376-84
20. **Bagheri F.**, Safarian S., Baghaban Eslaminejad M., Sheibani N. (2013), siRNA-mediated knock-down of DFF45 amplifies doxorubicin therapeutic effects in breast cancer cells. *Cell Oncol*, 2, 515-526
21. Malakooty poor E., Baghaban Eslaminejad M., **Bagheri F.**, Mollarazi E., Gheibi N. (2013), Effect of chitosan grafted polyethylenimine nanoparticles as a gene carrier on mesenchymal stem cells viability. *JPS*, 4(2), 74-80.
22. Hafezi Ardakani M, Kavian F, Moztafzadeh F, Baghaban Eslaminejad M, Zamanian A, **Bagheri F.** (2012) Poly(lactic-co-glycolic) /Nanostructured Merwinite Porous composites For Bone Tissue Engineering. I. Preparation and Morphology. *Key Engineering Materials Vols. 493-494*, 718-722
23. Ghahramanpoor M.K., Hassani Najafabadi S.A., Abdouss M., **Bagheri F.**, Baghaban Eslaminejad M. (2011), A hydrophobically-modified alginate gel system: utility in the repair of articular cartilage defects. *J Mater Sci: Mater Med*, 22(10), 2365-75.
24. Baghaban Eslaminejad M, **Bagheri F.**, Zandi M., Nejati E., Zomorodian E. (2011), Study of mesenchymal stem cell proliferation and bone differentiation in composite scaffolds of PLLA and nano hydroxyl apatite with different morphologies. *Cell Journal*, 12(4), 469-476.
25. Baghaban Eslaminejad M., **Bagheri F.**, Zomorodian E. (2010), Matrigel Enhances in vitro Bone Differentiation of Human Marrow-derived Mesenchymal Stem Cells. *IJBMS*, 13(1), 187-194.
26. Zandi M., Mirzade H., Mayer C., Urch H., Baghban Eslaminejad M., **Bagheri F.**, Mivechi H. (2010), Biocompatibility evaluation of nano-rod hydroxyapatite /gelatin coated with nano-HAP as a novel scaffold using mesenchymal stem cells. *Journal of Biomedical Materials Research: Part A*, 92A (4), 1244–1255.
27. Baghaban Eslaminejad M., **Bagheri F.** (2009), Tissue engineering approach for reconstructing bone defects using mesenchymal stem cells. *Cell Journal*, 11(3), 263-272.
28. Nejati E., Firouzdar V., Baghaban Eslaminejad M., **Bagheri F.** (2009), Needle-like nano hydroxyapatite/poly(l-lactide acid) composite scaffold for bone tissue engineering application. *Materials Science and Engineering C*, 29, 942–949.

29. Safarian S., **Bagheri F.**, Moosavi-Movahedi A.A., Amanlou M., Sheibani N. (2007), Competitive inhibitory effects of acetazolamide upon interactions with bovine carbonic anhydrase II. *Protein J*, 26(6), 371-85

Chapter Books

1. Hosseini S, Shamekhi MA, Jahangir S, **Bagheri F**, Eslaminejad MB. The Robust Potential of Mesenchymal Stem Cell-Loaded Constructs for Hard Tissue Regeneration After Cancer Removal. *Advances in Experimental Medicine and Biology 2018 by Springer*, 1-27
2. Hosseini S, **Bagheri F**, Shamekhi MA, Eslaminejad MB. Tissue Engineering: Polymeric Scaffolds for MSC-based Cartilage. *Encyclopedia of Polymer Applications 2018, by Taylor & Francis*. 2683-2703
3. Baghaban Eslaminejad M., Zomorodian E. and **Bagheri F.** (2013), Mesenchymal Stem Cells in Bone and Cartilage Regeneration, In: *Regenerative Medicine and Cell Therapy*, by Springer, pp. 131-153

Conferences and Meetings

1. Elham Taheri, Ehsan Motamedian, Fatemeh Bagheri (2015), A Bi-Level Integration Algorithm for Simultaneous Modeling of Multiple Cells, 4th Conference on Constraint-Based Reconstruction and Analysis (COBRA 2015), Heidelberg, Germany
2. Elham Taheri, Ehsan Motamedian, Fatemeh Bagheri (2015), Finding essential genes for proliferation of cancer cell by integration of transcription data into a human metabolic model, 16th International Conference on Systems Biology (ICSB 2015), Singapore.
3. International society for stem cell research(ISSCR). 13th annual meeting, 24-27 june, 2015, Stockholm, Sweden. Mesenchymal stem cell infiltration, proliferation and bone differentiation on improved electrospun scaffolds comprised of polycaprolactone (pcl)/nano hydroxyapatite (nHA). Fatemeh Bagheri, Mahdiyeh Aghajanoor, Sameereh Hashemi-Najafabadi, Mohamadreza Baghaban Eslaminejad
4. The 5th Royan International Summer School on Stem Cells and Developmental Biology for Regenerative Medicine. August 2-7, 2014, Mesenchymal Stem Cells: Biology and Application in clinic. Fatemeh Bagheri (Oral Presentation)
5. The 1st national congress on application of biomaterials in regenerative medicine. February 5-7, 2014, Bone tissue engineering. Fatemeh Bagheri, Mohamadreza Baghaban Eslaminejad (Oral Presentation)
6. The 5th EMBO meeting, September 21-24, 2013, Amsterdam, Netherlands. The siRNA Knock-down of DFF45 Enhances Doxorubicin-Induced Apoptosis of Breast Cancer T-47D and MDA-MB-231 Cells. Fatemeh Bagheri, Shahrokh Safarian, Mohamadreza Baghaban Eslaminejad and Nader Sheibani.
7. The 9th royan international congress on stem cell biology and technology. September 4-6, 2013. Bone tissue engineering: Progress and challenges. Fatemeh Bagheri, Mohamadreza Baghaban Eslaminejad (Oral Presentation)

8. 42nd Annual Scientific Meeting of ISEH - Society for Hematology and Stem cell. Vienna, Austria, August, 22-25 2013. Chitosan/DNA nanoparticles characteristics determine the transfection efficacy of gene delivery to human mesenchymal stem cells. Elham Malakooty, Mohamadreza Baghaban Eslaminejad, Nematollah Gheibi and Fatemeh Bagheri.
9. The 20th Euroconference on Apoptosis, September 14-17, 2012, Rome, Italy. Killing effects of siRNA/doxorubicin cocktail on T-47D breast cancer cell line occur via DFF-45 gene silencing and apoptosis induction. Fatemeh Bagheri, Shahrokh safarian, Mohamadreza Baghaban Eslaminejad
10. The 17th national & 5th International Conference of Biology of Iran. 4- 6 september 2012. Kerman, Iran. Induction of apoptosis and cell cycle arrest in T-47D breast cancer cell line through treatment with DFF45 siRNA/doxorubicin and DFF45 siRNA/ Sulfabenzamide cocktails. Fatemeh Bagheri, Mohamadreza Baghaban Eslaminejad, Shahrokh safarian (Oral Presentation)
11. the 11th International Conference on Chemical & Process Engineering. 2-5 June 2013 - Milan, Italy. Evaluation of Thermoplastic Starch and Nano-biocomposite of Thermoplastic Starch/ Beta-tricalcium Phosphate for Bone Tissue Engineering Applications. Taherimehr M., Bagheri R., Maddah Hoseini H.R., Bagheri F.
12. hMSC Osteogenic Differentiation on Biodegradable Poly (urethane urea) . Fatemeh Shokrolahi, Hamid Yeganeh, Hamid Mirzadeh, Mohamad Reza Baghban Eslami Nejad, Fatemeh Bagheri. ISPST2012, Amirkabir University of Technology, Tehran, Iran, 21-25 October 2012 (Oral Presentation)
13. International society for stem cell research(ISSCR).10th annual meeting, 13-16 June. Yokohama, Japan. Gene transfection to mesenchymal stem cells by chitosan nanoparticles. Elham malakooty poor, Mohamadreza Baghaban Eslaminejad, Fatemeh Bagheri, Nematollah Gheibi.
14. International society for stem cell research(ISSCR).7th annual meeting July 8-11.,2009.Barcelona, Spain. Effects of matrigel on proliferation and bone differentiation of human mesenchymal stem cells in culture. Fatemeh Bagheri, Mohamadreza Baghaban Eslaminejad, Elham zomorodian
15. International Conference on Medical Materials, Devise & Regenrative Medicine (MMDRM) and workshop.23-25 November, Nepal, 2008. A rapid-curing alginate gel system Utility in cartilage tissue engineering. Majid abdouss, Mohamad kazem Ghahramanpoor, Alireza Hassani, Esmail jabbari, Mohamadreza Baghban Eslami nejad, Fatemeh Bagheri
16. The 4th IUPAC –Sponsored International Symposium on Macro – and Supramolecular Architectures and materials: Synthesis, Properties and Applications. (7-11 September 2008) Düsseldorf, Germany. Preparation Biocompatibility evaluation of gelatin/ nano-rod Hap scaffold coated with n-HAp using mesenchymal stem cells. Zandi M, Mirzade H, Mayer C, Urch H, Baghban eslaminejad MR, Bagheri F, Mivechi H.
17. 5th Acian-pacific International Congress of Anatomy.8th Iranian congress of Anatomy. Tissue Engineering Seminar.(18 may 2008). Bone Tissue Engineering in Iran. Fatemeh Bagheri & Mohammadreza Baghban eslaminejad (Oral Presentation)
18. 14th National & 2nd International conference of Biology.Tehran – Iran (29-31 August 2006) Kinetic and structural analysis of bovine carbonic anhydrase II in the presence of some drugs belong to sulfonamide family. Fatemeh bagheri, Shahrokh Safarian and Ali Akbar Mossavi-Movahedi

19. 7th Iran Biophysical Chemistry Conference .Tabriz- Iran(18-19 July 2006). Structural analysis of bovine carbonic anhydrase II in the presence of acetazolamide. Fatemeh bagheri, Shahrokh Safarian and Ali Akbar Mossavi- Movahedi (Oral Presentation)