

Professional summary

Moein Farshchian, Ph.D.

Dedicated to molecular biology and genomics, with more than 10 years of experience in study different models of self-renewal and carcinogenesis by applying system biology methods and analysis of high-throughput data to uncover mechanisms of pediatrics leukemia.

Skills

- **Molecular Biology Skills**
 - Molecular cloning
 - Lentivirus gene delivery: Production and gene engineering of lentiviral particles
- **Computer skills and competences**
 - Linux command-line interface
 - RNA-seq Data Analysis: Differential gene expression, Fusion transcripts detection
- PCR and PCR-based techniques, Quantitative-real time PCR
- Mammalian cell culture
- Protein techniques: Western blotting, Immunoprecipitation, SDS-PAGE
- Bioinformatics: NCBI, Ensembl, UCSC
- Next Generation Sequencing (NGS)

Experience

Academic member 07/2017 to Current

ACECR-Khorasan Razavi – Mashhad, Iran

Stem cell and regenerative medicine department

Research assistant 01/2007 to 01/2009

Bu Ali Research Institute – Mashhad, Iran

Research in molecular carcinogenesis in Human Genetics Division, Bu Ali Research Institute, Mashhad university of medical sciences

Education

PhD: Cell and Molecular Biology Jul 2017

Ferdowsi University of Mashhad - Mashhad, Iran

Ph.D thesis: Evaluation of Mouse Cells Reprogramming to Spermatogonial Progenitor Cells by Expression of Polycistronic Gene Cassette Stella, Oct4 and Nanos2

Master of Science: Medical Bacteriology

Jan 2007

Tarbiat Modares University - Tehran, Iran

Thesis title: Cloning and Expression of UreB subunit of *H.pylori*

Bachelor of Science: Medical Technology

Jan 2004

Mashhad University of Medical Sciences - Mashhad, Iran

Publication

1: Keyvani V, Farshchian M, Esmaeili SA, Yari H, Moghbeli M, Nezhad SK, Abbaszadegan MR. Ovarian cancer stem cells and targeted therapy. J Ovarian Res. 2019 Dec 6;12(1):120. doi: 10.1186/s13048-019-0588-z. Review. PubMed PMID: 31810474; PubMed Central PMCID: PMC6896744.

2: Golyan FF, Moghaddassian M, Forghanifard MM, Talebi S, Farshchian M, Mahmoudian RA, Abbaszadegan MR. Whole Exome Sequencing Reveals a Novel Damaging Mutation in Human Fibroblast Activation Protein in a Family with Esophageal Squamous Cell Carcinoma. J Gastrointest Cancer. 2019 Apr 8. doi:10.1007/s12029-019-00224-x. [Epub ahead of print] PubMed PMID: 30957200.

3: Khaleghizadeh M, Forghanifard MM, Rad A, Farshchian M, Hejazi Z, Gholamin M, Memar B, Abbaszadegan MR. Ectopic Expression of Human DPPA2 Gene in ESCC Cell Line Using Retroviral System. Avicenna J Med Biotechnol. 2018 Apr-Jun;10(2):75-82. PubMed PMID: 29849983; PubMed Central PMCID: PMC5960063.

4: Farshchian M, Matin MM, Armant O, Geerts D, Dastpak M, Nakhaei-Rad S, Tajeran M, Jebelli A, Shahriyari M, Bahrami M, Fallah A, Yaghoobi V, Mirahmadi M, Abbaszadegan MR, Bahrami AR. Suppression of dsRNA response genes and innate immunity following Oct4, Stella, and Nanos2 overexpression in mouse embryonic fibroblasts. Cytokine. 2018 Jun;106:1-11. doi: 10.1016/j.cyto.2018.02.021. Epub 2018 Mar 7. PubMed PMID: 29501710.

5: Farshchian M, Matin MM, Bahrami M, Geerts D, Dastpak M, Shahriyari M, Tajeran M, Mirahmadi M, Bahrami AR. Pluripotency induction in HEK293T cells by concurrent expression of STELLA, OCT4 and NANOS2. Biochem Biophys Res Commun. 2016 Nov 25;480(4):635-640. doi: 10.1016/j.bbrc.2016.10.108. Epub 2016 Oct 26. PubMed PMID: 27794480.

6: Forghanifard MM, Rad A, Farshchian M, Khaleghizadeh M, Gholamin M, Moghbeli M, Abbaszadegan MR. TWIST1 upregulates the MAGEA4 oncogene. Mol Carcinog. 2017 Mar;56(3):877-885. doi: 10.1002/mc.22541. Epub 2016 Oct 4. PubMed PMID: 27533647.

7: Forghanifard MM, Ardalan K, Kholes S, Farshchian M, Rad A, Homayouni-Tabrizi M, Abbaszadegan MR. Negative Regulatory Role of TWIST1 on SNAIL Gene Expression. Pathol Oncol Res. 2017 Jan;23(1):85-90. doi: 10.1007/s12253-016-0093-2. Epub 2016 Jul 20. PubMed PMID: 27438288.

8: Moghbeli M, Rad A, Farshchian M, Taghehchian N, Gholamin M, Abbaszadegan MR. Correlation Between Meis1 and Msi1 in Esophageal Squamous Cell Carcinoma. J Gastrointest Cancer. 2016 Sep;47(3):273-7. doi: 10.1007/s12029-016-9824-6. PubMed PMID:

27142513.

9: Bidkhor HR, Ahmadiankia N, Matin MM, Heirani-Tabasi A, Farshchian M, Naderi-Meshkin H, Shahriyari M, Dastpak M, Bahrami AR. Chemically primed bone-marrow derived mesenchymal stem cells show enhanced expression of chemokine receptors contributed to their migration capability. *Iran J Basic Med Sci.* 2016 Jan;19(1):14-9. PubMed PMID: 27096059; PubMed Central PMCID: PMC4823610.

10: Rad A, Farshchian M, Forghanifard MM, Matin MM, Bahrami AR, Geerts D, A'rabi A, Memar B, Abbaszadegan MR. Predicting the molecular role of MEIS1 in esophageal squamous cell carcinoma. *Tumour Biol.* 2016 Feb;37(2):1715-25. doi:10.1007/s13277-015-3780-9. Epub 2015 Aug 28. PubMed PMID: 26314854.

11: Sisakhtnezhad S, Bahrami AR, Matin MM, Dehghani H, Momeni-Moghaddam M, Boozarpour S, Farshchian M, Dastpak M. The molecular signature and spermatogenesis potential of newborn chicken spermatogonial stem cells in vitro. *In Vitro Cell Dev Biol Anim.* 2015 Apr;51(4):415-25. doi:10.1007/s11626-014-9843-1. Epub 2015 Mar 5. PubMed PMID: 25740657.

12: Torkamandi S, Moghbeli M, Farshchian M, Rad A, Abbaszadegan MR. Role of Brg1 in progression of esophageal squamous cell carcinoma. *Iran J Basic Med Sci.* 2014 Nov;17(11):912-7. PubMed PMID: 25691934; PubMed Central PMCID: PMC4328101.

13: Dastpak M, Matin MM, Farshchian M, Arsenijevic Y, Momeni-Moghaddam M, Sisakhtnezhad S, Boozarpour S, Bidkhor HR, Mirahmadi M, Bahrami AR. Construction and quantitative evaluation of a dual specific promoter system for monitoring the expression status of Stra8 and c-kit genes. *Mol Biotechnol.* 2014 Dec;56(12):1100-9. doi: 10.1007/s12033-014-9790-9. PubMed PMID: 25260891.

14: Forghanifard MM, Gholamin M, Moaven O, Farshchian M, Ghahraman M, Aledavood A, Abbaszadegan MR. Neoantigen in esophageal squamous cell carcinoma for dendritic cell-based cancer vaccine development. *Med Oncol.* 2014 Oct;31(10):191. doi: 10.1007/s12032-014-0191-5. Epub 2014 Sep 2. PubMed PMID: 25178937.

15: Forghanifard MM, Ardalan K, Khales S, Javdani-Mallak A, Rad A, Farshchian M, Abbaszadegan MR. Stemness state regulators SALL4 and SOX2 are involved in progression and invasiveness of esophageal squamous cell carcinoma. *Med Oncol.* 2014 Apr;31(4):922. doi: 10.1007/s12032-014-0922-7. Epub 2014 Mar 22. PubMed PMID: 24659265.

16: Momeni-Moghaddam M, Matin MM, Boozarpour S, Sisakhtnezhad S, Mehrjerdi HK, Farshchian M, Dastpak M, Bahrami AR. A simple method for isolation, culture, and in vitro maintenance of chicken spermatogonial stem cells. *In Vitro Cell Dev Biol Anim.* 2014 Feb;50(2):155-61. doi: 10.1007/s11626-013-9685-2. Epub 2013 Nov 21. PubMed PMID: 24257999.

17: Dadkhah E, Naseh H, Farshchian M, Memar B, Sankian M, Bagheri R, Forghanifard MM, Montazer M, Kazemi Noughabi M, Hashemi M, Abbaszadegan MR. A cancer-array approach elucidates the immune escape mechanism and defects in the DNA repair system in esophageal squamous cell carcinoma. *Arch Iran Med.* 2013 Aug;16(8):463-70. doi: 10.13168/Alm.006. PubMed PMID: 23906251.

- 18:** Haddad-Mashadrizesh A, Bahrami AR, Matin MM, Edalatmanesh MA, Zomorodipour A, Gardaneh M, Farshchian M, Momeni-Moghaddam M. Human adipose-derived mesenchymal stem cells can survive and integrate into the adult rat eye following xenotransplantation. *Xenotransplantation*. 2013 May-Jun;20(3):165-76. doi:10.1111/xen.12033. Epub 2013 May 16. PubMed PMID: 23679842.
- 19:** Moghbeli M, Abbaszadegan MR, Farshchian M, Montazer M, Raeisossadati R, Abdollahi A, Forghanifard MM. Association of PYGO2 and EGFR in esophageal squamous cell carcinoma. *Med Oncol*. 2013 Jun;30(2):516. doi:10.1007/s12032-013-0516-9. Epub 2013 Mar 3. PubMed PMID: 23456637.
- 20:** Forghanifard MM, Moaven O, Farshchian M, Montazer M, Raeisossadati R, Abdollahi A, Moghbeli M, Nejadshattari T, Parivar K, Abbaszadegan MR. Expression analysis elucidates the roles of MAML1 and Twist1 in esophageal squamous cell carcinoma aggressiveness and metastasis. *Ann Surg Oncol*. 2012 Mar;19(3):743-9. doi: 10.1245/s10434-011-2074-8. Epub 2011 Oct 18. PubMed PMID: 22006371.
- 21:** Forghanifard MM, Gholamin M, Farshchian M, Moaven O, Memar B, Forghani MN, Dadkhah E, Naseh H, Moghbeli M, Raeisossadati R, Abbaszadegan MR. Cancer-testis gene expression profiling in esophageal squamous cell carcinoma: identification of specific tumor marker and potential targets for immunotherapy. *Cancer Biol Ther*. 2011 Aug 1;12(3):191-7. Epub 2011 Aug 1. PubMed PMID: 21613820.
- 22:** Raeisossadati R, Farshchian M, Ganji A, Tavassoli A, Velayati A, Dadkhah E, Chavoshi S, Mehrabi Bahar M, Memar B, Rajabi Mashhadi MT, Naseh H, Forghanifard MM, Moghbeli M, Moaven O, Abbaszadegan MR. Quantitative analysis of TEM-8 and CEA tumor markers indicating free tumor cells in the peripheral blood of colorectal cancer patients. *Int J Colorectal Dis*. 2011 Oct;26(10):1265-70. doi:10.1007/s00384-011-1230-8. Epub 2011 May 15. PubMed PMID: 21573768.
- 23:** Abbaszadegan MR, Keify F, Ashrafzadeh F, Farshchian M, Khadivi-Zand F, Teymoozadeh MN, Mojahedi F, Ebrahimzadeh R, Ahadian M. Gene dosage analysis of proximal spinal muscular atrophy carriers using real-time PCR. *Arch Iran Med*. 2011 May;14(3):188-91. doi: 011143/AIM.009. PubMed PMID: 21529108.
- 24:** Gholamin M, Moaven O, Farshchian M, Mahmoudi M, Sankian M, Memar B, Forghani MN, Malekzadeh R, Rajabi-Mashhadi MT, Abbaszadegan MR. Induction of cytotoxic T lymphocytes primed with tumor RNA-loaded dendritic cells in esophageal squamous cell carcinoma: preliminary step for DC vaccine design. *BMC Cancer*. 2010 Jun 7;10:261. doi: 10.1186/1471-2407-10-261. PubMed PMID: 20525404; PubMed Central PMCID: PMC2902443.
- 25:** Moaven O, Raziee HR, Sima HR, Ganji A, Malekzadeh R, A'rabi A, Abdollahi A, Memar B, Sotoudeh M, Naseh H, Nekoui N, Razavipour A, Gholamin M, Dadkhah E, Farshchian M, Abbaszadegan MR. Interactions between Glutathione-S-Transferase M1, T1 and P1 polymorphisms and smoking, and increased susceptibility to esophageal squamous cell carcinoma. *Cancer Epidemiol*. 2010 Jun;34(3):285-90. doi:10.1016/j.canep.2010.03.009. Epub 2010 Apr 20. PubMed PMID: 20409775.

26: Gholamin M, Moaven O, Memar B, Farshchian M, Naseh H, Malekzadeh R, SotoudehM, Rajabi-Mashhadi MT, Forghani MN, Farrokhi F, Abbaszadegan MR. Overexpressionand interactions of interleukin-10, transforming growth factor beta, and vascular endothelial growth factor in esophageal squamous cell carcinoma. World J Surg.2009 Jul;33(7):1439-45. doi: 10.1007/s00268-009-0070-y. PubMed PMID: 19440651.

Interests

Computational systems biology, with particular interest in the study of transcriptional regulation.

Single-cell sequencing for revealing of druggable targets in pediatrics leukemia.