

Arash Javeri MD, PhD

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EDUCATION

- **Ph.D.**, Faculty of Medicine, The University of Sydney, Sydney, Australia 2004-2009
 - Field of study: Skin cancer
 - Thesis title: Role of human 8-oxoguanine-DNA glycosylase 1 and Cockayne syndrome B enzymes in UVA-induced genetic damage in human skin
 - Supervisor: Prof. Gary M. Halliday
- **Master of Medicine** in Reproductive Health Sciences and Human Genetics, The University of Sydney, Sydney, Australia 2000-2002
- **M.D.**, Shahid-Beheshti University of Medical Sciences, Tehran, Iran 1989-1996

RESEARCH INTERESTS

- Cancer cell signaling
- Reprogramming of cancer cells by miRNAs
- The role of miRNAs in carcinogenesis
- Reprogramming of somatic and mesenchymal stem cells by miRNAs (mirPS)
- Application of mesenchymal stem cells in regenerative medicine

CURRENT POSITION

Head of the Department of Stem Cells and Regenerative Medicine since August 2018
National Institute of Genetic Engineering and Biotechnology, Tehran, Iran

Assistant Professor and Senior Research Scientist 2009-present
National Institute of Genetic Engineering and Biotechnology, Tehran, Iran

CURRENT RESEARCH ACTIVITIES

- Suppression of METTL3 by shRNA in breast, melanoma and colon cancer cells; the impact on several hallmarks of cancer.
- Combined application of miR-1 and miR-34a mimics for suppression of cancer stem cells in human breast cancer.
- The multimodal anti-tumor effects of miR-195 on human colon cancer.
- Regulation of mTOR signaling in human breast, skin and colon cancer cells by miR-302/367 cluster.
- Reprogramming and induction of apoptosis in breast and colon cancer cells by miR-302/367 cluster and miR-16.

- Studying the effect of acetylsalicylic acid (ASA) and valproic acid on reprogramming of breast cancer cells by miR-302/367 cluster.
- Generation of human induced pluripotent stem cells from adipose tissue-derived stem cells (ADSCs) by miR-302/367 cluster.

PREVIOUS POSITIONS AND RESEARCH ACTIVITIES

PhD Student and Casual Academic Tutor 2004-2008

Discipline of Dermatology, Bosch Institute, Sydney Cancer Center, The University of Sydney, NSW, Australia

- Study of the role of hOGG1 and CSB genes and proteins in DNA damage and repair following UV irradiation using a reconstructed model of human skin
- Study of MHC Class II immune cells in human epidermis in regards to application of vitamin D and solar-simulated UV (collaboration)
- Worked as a PBL (Problem Based Learning) tutor with medical students in different fields of medicine including: gastrointestinal disorders, cardiology, neurology, respiratory disorders, nephrology and reproductive science

Research Scientist 2002 - 2004

The Research Center for Gastroenterology and Liver Diseases (RCGLD), Taleghani Hospital, Tehran, Iran

- Investigation of the relation between Epstein-Barr and HPV 16 and 18 infection, and esophageal squamous cell carcinoma
- NOD2/CARD15 mutational analysis in patients with Crohn Disease

Research Scientist 2003 - 2004

The National Research Institute of Tuberculosis and Lung Disease (NRITLD), Tehran, Iran.

- Study of the genetic polymorphisms of GST M1, T1, and P1 genes in melanoma, BCC of skin and non-small cell carcinoma of lung

TEACHING EXPERIENCE 2011-present

Courses

- Cell cycle checkpoints: PhD students
- Cancer biology (molecular and cellular mechanisms): MSc students
- Principles of animal cell culture: MSc students

Supervisory roles

- The main supervisor of 17 masters' and 3 PhD students
- The study advisor of 14 masters' and 2 PhD students.

GENE DISCOVERIES

Mus musculus natriuretic peptide precursor A variants NPPA-M1, M2 and M3 (Nppa) mRNA, complete cds, alternatively spliced; Accession numbers KC526925-7.

JOURNAL PUBLICATIONS

* Corresponding author

Faghih H, **Javeri A***, Amini H, Taha MF. (2019) Directed differentiation of human adipose tissue-derived stem cells to dopaminergic neurons in low-serum and serum-free conditions. *Neurosci Lett*. 2019 Jun 25;708:134353. doi: 10.1016/j.neulet.2019.134353.

Ahmadalizadeh Khanehsar M, Hoseinbeyki M, Taha MF, **Javeri A***. (2020) Repression of TGF- β signaling in breast cancer cells by miR-302/367 cluster. *Cell Journal*. Vol. 21(4).

Forouzan Jahromi Z, **Javeri A***, **Taha MF***. (2019) Tumor suppressive effects of the pleiotropically acting miR-195 in colorectal cancer cells. *EXCLI Journal*, 2019 Apr 9; 18: 243-252.

Rezaii M*, Oryan S, **Javeri A**. (2019) Curcumin nanoparticles incorporated collagen-chitosan scaffold promotes cutaneous wound healing through regulation of TGF- β 1/Smad7 gene expression. *Materials Science and Engineering: C*, Vol. 98, May 2019: 347-357.

Haghi M, Taha MF, **Javeri A***. (2019) Suppressive effect of exogenous miR-16-5p and miR-34a-5p on tumorigenesis of breast cancer cells. *J Cell Biochem*. 2019 Mar 27. doi: 10.1002/jcb.28608.

Ramezankhani B, Taha MF, **Javeri A***. (2019) Vitamin C counteracts miR-302/367-induced reprogramming of human breast cancer cells and restores their invasive and proliferative capacity. *J Cell Physiol*. 2018 Sep 7. doi: 10.1002/jcp.27081.

Taha MF*, **Javeri A**, Karimipour M, Yamaghani MS. (2018) Priming with oxytocin and relaxin improves cardiac differentiation of adipose tissue-derived stem cells. *J Cell Biochem*. 2018 Oct 25. doi: 10.1002/jcb.27868.

Rashidipour A, **Javeri A**, Taha MF*. (2018) Study of the exogenous induction of OCT4 and concomitant P53 inhibition on the expression of pluripotency genes in human ADSCs. *Medical Daneshvar*, 2018; 25 (133): 4-0.

Hasani Lialestani S, **Javeri A**, Asadi A, Taha MF*. (2018) A combination of bFGF and BMP4 enhances cardiac differentiation of human adipose tissue-derived stem cells. *Research in Medicine: The Quarterly Journal of School of Medicine, Shahid Beheshti University of Medical Sciences*. 2018 (Accepted for publication).

Soheilifar MH, Javeri A, Amini H, Taha MF*. (2017) Generation of dopamine-secreting cells from human adipose tissue-derived stem cells in vitro. *Rejuvenation Res*. 2017 Dec 5. doi: 10.1089/rej.2017.1994.

Motamen Salehi P, Foroutan T, **Javeri A**, Taha MF*. (2017) Extract of mouse embryonic stem cells induces the expression of pluripotency genes in human adipose tissue-derived stem cells. *Iran J Basic Med Sci*, 20 (11), 1200-1206.

Faghih H, **Javeri A***, Taha MF*. (2017) Impact of early subcultures on stemness, migration and angiogenic potential of adipose tissue-derived stem cells and their resistance to in vitro ischemic condition. *Cytotechnology*. 2017 May 23. doi: 10.1007/s10616-017-0104-5.

Maadi H, Moshtaghian A, Taha MF, Mowla SJ, Kazeroonian A, Haass NK, **Javeri A***. (2016) Multimodal tumor suppression by miR-302 cluster in melanoma and colon cancer. *Int J Biochem Cell Biol.* 2016 Dec;81(Pt A):121-132. doi: 10.1016/j.biocel.2016.11.004. Epub 2016 Nov 10.

Khaledi N, Fayazmilani R, Gaeini AA, **Javeri A.** (2016) Progressive Resistance Training Modulates the Expression of ACTN2 and ACTN3 Genes and Proteins in the Skeletal Muscles. *American Journal of Sports Science and Medicine*, 2016, Vol. 4, No. 2, 26-32.

Taha MF, **Javeri A**, Majidizadeh T, Valojerdi MR. (2016) Both BMP4 and serum have significant roles in differentiation of embryonic stem cells to primitive and definitive endoderm. *Cytotechnology*, 2016, 68(4):1315-24.

Taha MF*, **Javeri A***. (2015) The expression of NPPA splice variants during mouse cardiac development. *DNA and Cell Biology*, 2015 Jan;34(1):19-28. doi: 10.1089/dna.2014.2600.

Bahmani L, Taha MF, **Javeri A***. (2014) Coculture with embryonic stem cells improves neural differentiation of adipose tissue-derived stem cells. *Neuroscience*, 2014 July 11, 272: 229-239.

Khaleghi M, Taha MF*, Jafarzadeh N, **Javeri A***. (2014) Atrial and ventricular specification of adipose tissue derived stem cells (ADSC) is stimulated by different doses of BMP4. *Biotechnology Letters*, 2014 Dec;36(12):2581-9. DOI: 10.1007/s10529-014-1637-8.

Jafarzadeh N, **Javeri A**, Khaleghi M, Taha MF*. (2014) Oxytocin improves proliferation and neural differentiation of adipose tissue-derived stem cells. *Neuroscience Letters*. 2014 Apr 3;564:105-10. doi:10.1016/j.neulet.2014.02.012.

Taha MF*, **Javeri A**, Kheirkhah O, Majidizadeh T, Khalatbary AR. (2014) Neural differentiation of mouse embryonic and mesenchymal stem cells in a simple medium containing synthetic serum replacement. *Journal of Biotechnology*, 172: 1– 10.

Taha MF*, **Javeri A**, Rohban S, Mowla SJ. (2014) Upregulation of pluripotency markers in adipose tissue-derived stem cells by miR-302 and leukemia inhibitory factor. *BioMed Research International*, 2014;2014:941486. doi: 10.1155/2014/941486.

Javeri A*, Ghaffarpour M, Taha MF, Houshmand M. (2013) Downregulation of miR-34a in breast tumors is not associated with either p53 mutations or promoter hypermethylation while it correlates with metastasis. *Medical Oncology*, 2013 Mar;30(1):413.

Taha MF*, Valojerdi MR, Hatami L, **Javeri A.** (2012) Electron microscopic study of mouse embryonic stem cell-derived cardiomyocytes. *Cytotechnology*, 2012 Mar;64(2):197-202.

Javeri A, Lyons JG, Huang XX, Halliday G*. (2011) Downregulation of Cockayne syndrome B protein reduces human 8-oxoguanine DNA glycosylase-1 expression and repair of ultraviolet radiation induced 8-oxo-7,8-dihydro-2'-deoxyguanine. *Cancer Science*, 102(9):1651-8.

Damian D*, Kim YJ, Dixon K, Halliday G, **Javeri A**, Mason R. (2010) Topical calcitriol protects from UV-induced genetic damage but suppresses immunity in humans. *Experimental Dermatology*, 2010 Aug;19(8):e23-30.

Javeri A, Huang XX, Bernerd F, Mason R, Halliday GM*. (2008) Human 8-oxoguanine-DNA glycosylase 1 protein and gene are expressed more abundantly in the superficial than basal layer of human epidermis. *DNA Repair*, 7:1542-1550.

Derakhshan F*, Naderi N, Farnood A, Firouzi F, Habibi M, Rezvany MR, **Javeri A**, Bahari A, Balaii H, Rad MG, Aghazadeh R, Zali MR. (2008) Frequency of three common mutations of CARD15/NOD2 gene in Iranian IBD patients. *Indian Journal of Gastroenterology*, 27(1):8-11.

Javeri A, Huang XXJ, Halliday GM*. Melanoma and UV Signature Mutations. (2005) *The Melanoma Letter*, (23) 4:1-2.

Farnood A*, Naderi N, Firouzi F, Rezvani MR, **Javeri A**, Bahari A, Aghazadeh R, Habibi M, Zali MR. (2005) The frequency of three common mutations of CARD15/NOD2 gene in Iranian IBD patients. *Medical Science Journal of Islamic Azad University*, 2005, 15(3): 107-112.

Bakayev VV*, Mohammadi F, Bahadori M, Sheikholslami M, **Javeri A**, Masjedi MR, Velayati AA. (2004) Arylamine N-acetyltransferase 2 slow acetylator polymorphisms in unrelated Iranian individuals. *European Journal of Clinical Pharmacology*, 60: 467-471.

BOOKS

Principles of Animal Cell Culture and Tissue Engineering, by Masoumeh Fakhr Taha PhD and Arash Javeri MD, PhD. Publisher: National Institute of Genetic Engineering and Biotechnology (NIGEB), Tehran, Iran. First Edition, November 2016, ISBN: 978-964-8516-098.

PROCEEDINGS OF THE CONFERENCES

Faghieh H, **Javeri A**, Taha MF. The impact of miR-302/367 cluster on pluripotency and dopaminergic differentiation of human adipose tissue-derived stem Cells. *14th Congress on Stem Cell Biology and Technology*, Royan Institute, August 2019, Tehran, Iran.

Rezania MA, **Javeri A**, Taha MF. The impact of acetylsalicylic acid (Aspirin) on reprogramming of breast cancer cells by miR-302/367 cluster. *The 3rd International and 11th National Iranian Biotechnology Science Congress*, Tehran, Iran, September 2019.

Bazargani A, **Javeri A**, Taha MF Anti-tumor effects of METTL3 suppression by shRNA in human melanoma and colorectal cancer cells. *The 3rd International and 11th National Iranian Biotechnology Science Congress*, Tehran, Iran, September 2019.

Afshar Khamseh R, Taha MF, **Javeri A**. The role of miR-146a-5p and CXCR4 in tumorigenesis of colorectal cancer cells. *The 3rd international personalized medicine congress of Iran*, 13-15 February, 2019, Tehran, Iran.

Faghieh H, **Javeri A**, Taha MF. Dopaminergic Induction of Human Adipose Tissue-Derived Stem Cells under Serum-Free and Low-Serum Conditions. *The 3rd National Festival & International Congress on Stem Cell & Regenerative Medicine*, November 28-December 01, 2018, Tehran, Iran.

Haghi M, **Javeri A**, Taha MF. The impact of miR-16 and miR-34a overexpression on the migratory and invasive potential of breast cancer cells. *The 1st International Congress on Biomedicine*, December 18-21, 2017, Tehran, Iran.

Haghi M, **Javeri A**, Taha MF. MiR-16 and miR-34a collaborate in breast tumor suppression. *Nastaran Symposium 2017*, November 29-December 1, 2017, Mashad, Iran. Oral presentation and winner of the 1st poster award.

Haghi M, **Javeri A**, Taha MF. Overexpression of miR-34a and miR-16 synergistically promotes apoptosis in breast cancer cells. *2nd International Tehran Breast Cancer Congress (TBCC9)*, October 18-20, 2017, Tehran, Iran. Oral presentation.

Atashkar N, **Javeri A**, Taha MF. Valproic acid reverses the epithelial to mesenchymal transition and induces apoptosis in miR-302/367-transfected human breast cancer cells. *13th Congress on Stem Cell Biology and Technology, Royan Institute, September 2017, Tehran, Iran.*

Taha MF, Rashidipour A, **Javeri A**. Overexpression of OCT4A and P53 inhibition upregulates the expression of pluripotency markers in adipose tissue-derived stem cells. *13th Congress on Stem Cell Biology and Technology, Royan Institute, September 2017, Tehran, Iran.*

Taha MF, Saghafi Yamaghani M, **Javeri A**. Oxytocin and Relaxin Synergistically Induce Cardiac Differentiation of Adipose Tissue-derived Stem Cells. *13th Congress on Stem Cell Biology and Technology, Royan Institute, September 2017, Tehran, Iran.*

Forouzan Jahromi Z, Taha MF, **Javeri A**. miR-195 induces apoptosis and modulates expression of some invasion and angiogenesis genes in human colon cancer. *Cancer Cell Biology, the 2nd IASBS Symposium in Biological Sciences*. November 10-11, 2016, Zanjan, Iran. Oral presentation and winner of the best poster.

Ahmadalizadeh Khansar M, **Javeri A**, Taha MF. Embryonic Stem Cell-Specific miR-302/367 Cluster Modulates Transforming Growth Factor- β Signaling Pathway in Human Breast Cancer Cells. *12th Congress on Stem Cell Biology and Technology, Royan Institute, September 2016, Tehran, Iran.*

Hoseinbeyki M, **Javeri A**, Taha MF. MiR-16 augments the effect of miR-302/367 cluster on reprogramming and inhibition of cell cycle in breast cancer cells. *2nd International and 14th Iranian Genetics Congress, May 21-23, 2016, Tehran, Iran.* Oral presentation and winner of the best poster.

Faghieh H, **Javeri A**, Taha MF. The Impact of Early Subcultures on Gene Expression Profile and Resistance to Some Toxic Conditions in Human Adipose Tissue-Derived Stem Cells. *12th Congress on Stem Cell Biology and Technology, Royan Institute, September 2016, Tehran, Iran.*

Ramezankhani B, **Javeri A**, Taha MF. The Role of Ascorbic Acid in Reprogramming of Breast Cancer Cells by miR-302/367 Cluster. *Royan International Twin Congress, September 2-4, 2015, Tehran, Iran.*

Javeri A, Taha MF, Bahmani L. Coculture with Embryonic Stem Cells Improves Neural Differentiation of Adipose Tissue-Derived Stem Cells. *Royan International Twin Congress, September 3-5, 2014, Tehran, Iran.*

Khaledi N, Fayazmilani R, **Javeri A**. The role of ACTN2 gene expression after damaging exercise in slow-twitch muscles. *19th Annual Congress of the ECSS 2014, Netherland, Amesterdam; July 2014.* Conference paper.

Taha MF, **Javeri A**. The Expression of NPPA Splice Variants During Cardiac Differentiation of Mouse Mesenchymal and Embryonic Stem Cells. *Royan International Twin Congress, September 3-5, 2014, Tehran, Iran.*

Maadi H, Moshtaghian A, Taha MF, **Javeri A**. ES cell-specific miR-302 Reprograms Skin and Colon Cancer Cells, and Modulates Apoptosis, Metastasis and Angiogenesis Markers. *Royan International Twin Congress, September 3-5, 2014, Tehran, Iran.*

Javeri A. The Role of Non-coding RNAs in Cellular Reprogramming and Stem Cell Maintenance. Invited speaker to the first *Comprehensive National Congress of Novel Findings in Biology, May 2014, Tehran, Iran.*

Javeri A. Reconstruction of Artificial Human Skin for Research and Therapeutic Purposes. *The First National Congress on Application of Biomaterials in Regenerative Medicine. National Institute of Genetic Engineering and Biotechnology, Feb. 2014, Tehran, Iran.*

Bahmani L, **Javeri A**, Taha MF. Neural Differentiation of Adipose Tissue-Stem Cells Is Improved Following Coculture with Embryonic Stem Cells. *Cell J (Yakhteh) 2013; Volume 15, Supplement 1. Royan International Twin Congress, The 9th Royan Congress on Stem Cell Biology and Technology. Tehran, Iran.*

Khaleghi M, Taha MF, **Javeri A**, Jafarzadeh N. The Effects of Bone Morphogenetic Protein-4 on Cardiomyocyte Differentiation of Mouse. *Cell Journal (Yakhteh) 2013; Volume 15, Supplement 1. The 9th Royan Congress on Stem Cell Biology and Technology. Tehran, Iran.*

Bahmani L, **Javeri A**, Taha MF. ADSCs/ESCs Co-culture: a novel approach to increase the proliferation of ADSCs. *The 3rd International Student Biotechnology Congress, 6-8 May 2013; Tehran, Iran.*

Zahra Zamanzadeh, Taha MF, **Javeri A**. Pluripotency features in adipose tissue-derived stem cells. *The 3rd International Student Biotechnology Congress, 6-8 May 2013; Tehran, Iran.*

Soheilifar MH, Taha MF, **Javeri A**. Transdifferentiation of Human Adipose Tissue-Derived Stem Cells to Dopaminergic Neurons. *Royan International Twin Congress, The 9th Congress on Stem Cell Biology and Technology, September 2013, Tehran, Iran.*

Jafarzadeh N, Taha MF, **Javeri A**. Oxytocin improves neuronal differentiation of adipose tissue-derived stem cells. *Royan International Twin Congress, The 9th Congress on Stem Cell Biology and Technology, September 2013, Tehran, Iran.*

Bahmani L, **Javeri A**, Taha MF. Retinoic acid promotes neural differentiation of mouse adipose tissue-derived stem cells. *The 17th International Congress of Biology. September 2012; Kerman, Iran.*

Jafarzadeh N, Taha MF, **Javeri A**, Khaleghi M. The effects of oxytocin on neural differentiation from mouse adipose tissue-derived stem cells. *The 17th International Congress of Biology. September 2012; Kerman, Iran.*

Khaleghi M, Taha MF, **Javeri A**, Jafarzadeh N. The effects of bone morphogenetic protein-4 (BMP-4) on cardiomyocyte differentiation of mouse adipose tissue-derived stem cells. *The 17th International Congress of Biology. September 2012; Kerman, Iran.*

Kheirkhah O, Taha MF, **Javeri A**, Khalatbari Jafari A. Neural differentiation of adipose tissue-derived stem cells in low-serum media. *First Annual Conference on Neural Stem Cells, October 26-30, 2011, Tehran, Iran.*

Javeri A, Lyons JG, Halliday GM, Huang XX. Human 8-oxoguanine DNA glycosylase-1 and Cockayne syndrome B proteins and their interaction are necessary for DNA repair after UV irradiation in human skin. *Presentation at the 5th Australian Health and Medical Research Congress (AHMRC), 14th-18th November 2010, Melbourne, Australia.*

Javeri A, Huang XX, Bernerd F, Mason RS, Halliday GM. hOGG1 protein and gene are expressed more abundantly in the superficial than basal layer of human skin epidermis. *Oral presentation at the 5th annual conference of the Australian Society for Dermatology Research (ASDR), May 21-22, 2008, Sydney, Australia.*

Javeri A, Huang XX, Bernerd F, Mason RS, Halliday GM. hOGG1 protein and gene are expressed more abundantly in the superficial than basal layer of human skin epidermis. *Oral presentation at the 12th Congress of the European Society for Photobiology, Bath, UK, Sep. 1-6, 2007.*

Halliday GM, Huang XX, Bernerd F, **Javeri A**. Suberythemal ultraviolet A and B both induce p53 mutations. *Presentation at the 15th International Congress on Photobiology, Dusseldorf, Germany, 18-23 June, 2009.*

Halliday GM, **Javeri A**, Agar N, Jones A, Russo P, Barnetson R.St.C. Poor expression of OGG1 at the base of human skin may cause higher levels of UVA-induced DNA damage at this layer. *Proceedings of the 3rd international conference on oxidative stress in skin medicine and biology, Andros, Greece, 21-24 September 2006. Page 19.*

Javeri A, Huang XX, Lyons G, Mason RS, Halliday GM. hOGG1 protein and gene are expressed more abundantly in the superficial than basal layer of human skin epidermis. *The 5th College of Health Sciences Research Conference, From Cell to Society, Leura, Blue Mountains, Sydney, Australia, Nov 9-10, 2006.*

Javeri A, Huang XXJ, Mason R, Halliday GM. Stratification of hOGG1 protein and hOGG1 gene expression in the epidermal layer of human skin. *Presented in Mutagenesis and Experimental pathology Society of Australasia (MEPSA), October 2005, Adelaide, Australia.*

Ghaziani T, Sendi H, **Javeri A**, et al. Absence of EBV, HPV 16 and 18 DNA in patients with esophageal squamous cell carcinoma. *The Annual Congress of Gastroenterology and Liver Diseases, 2003, Tehran, IRAN.*