

Scientific Curriculum Vita, Leila Satarian (last update: Feb., 2019).

Applicant Information

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Personal Information

Surname: Satarian

First name: Leila

Gender: Female

Nationality: Iranian

Employment

2015- Current: Assistant Professor in Eye group (Brain and cognitive science), Department of Stem cell and Developmental Biology, Royan Institute for Stem Cell Biology and Technology ACECR, Tehran, Iran.

Educational and research Background

2013-2015: Chief researcher & Postdoc Fellow in Eye group Department of Stem Cells and Developmental Biology, Royan Institute for Stem Cell Biology and Technology ACECR, Tehran, Iran.

2008-2013: Ph.D. Student in Medical Physiology, Dept. Physiology, School of Medical Sciences, Tarbiat Modares Univ., Tehran, Iran.

Ongoing Projects

- 1- **Leila Satarian***, Zahra SeyedRazizadeh, Sara Poosty, Farzad Pakdel and Hossein Baharvand, Neuroregenerative and Neuroprotective Effect of Extracellular Vesicles delivery via Intravenous Injection on Optic Nerve Crushed Mice. * Corresponding author
- 2- **Leila Satarian** and Hossein Baharvand, Defined culture of human embryonic stem Cells GMP grade and Xeno-free derivation of Retinal pigmented epithelial cells.

Full Text Publications

- 3- Mokhtarzadeh Khanghahi A, Satarian L, Deng W, Baharvand H, Javan M. In vivo conversion of astrocytes into oligodendrocyte lineage cells with transcription factor Sox10; Promise for myelin repair

in multiple sclerosis. *PLoS One*. 2018 Sep 13;13 (9):e0203785. doi: 10.1371/journal.pone.0203785. eCollection 2018.

- 4- Karamali F, Esfahani MN, Hajian M, Ejeian F, Satarian L, Baharvand H. Hepatocyte growth factor promotes the proliferation of human embryonic stem cell derived retinal pigment epithelial cells. *J Cell Physiol*. 2018 Sep 7. doi: 10.1002/jcp.27194.
- 5- Behroozi F, Abdkhodaie MJ, Abandansari HS, Satarian L, Molazem M, Al-Jamal KT, Baharvand H. Engineering folate-targeting diselenide-containing triblock copolymer as a redox-responsive shell-sheddable micelle for antitumor therapy in vivo. *Acta Biomater*. 2018 Aug;76:239-256. doi: 10.1016/j.actbio.2018.05.031. Epub 2018 Jun 19.
- 6- Behroozi F, Abdkhodaie MJ, Abandansari HS, Satarian L, Ashtiani MK, Jaafari MR, Baharvand H. Smart liposomal drug delivery for treatment of oxidative stress model in human embryonic stem cell-derived retinal pigment epithelial cells. *Int J Pharm*. 2018 Sep 5;548(1):62-72. doi: 10.1016/j.ijpharm.2018.05.056. Epub 2018 May 23.
- 7- Nami F, Basiri M, Satarian L, Curtiss C, Baharvand H, Verfaillie C. Strategies for In Vivo Genome Editing in Nondividing Cells. *Trends Biotechnol*. 2018 Aug;36(8):770-786. doi: 10.1016/j.tibtech.2018.03.004. Epub 2018 Apr 21. Review.
- 8- Karamali F, Esfahani MN, Taleahmad S, Satarian L, Baharvand H. Stem cells from apical papilla promote differentiation of human pluripotent stem cells towards retinal cells. *Differentiation*. 2018 May - Jun;101:8-15. doi: 10.1016/j.diff.2018.02.003. Epub 2018 Mar 2.
- 9- Leila Taghiyar, Mahdi Hesaraki, Forough Azam Sayahpour, Leila Satarian, Samaneh Hosseini, Nasser Aghdami, Mohamadreza Baghaban Eslaminejad, Msh homeobox 1 (Msx1)- and Msx2- overexpressing bone marrow- derived mesenchymal stem cells resemble blastema cells and enhance regeneration in mice, *Journal of Biological Chemistry*, 2017, jbc. M116. 774265.
- 10- Satarian L, Nourinia R, Safi S, Kanavi MR, Jarughi N, Daftarian N, Arab L, Aghdami N, Ahmadi H, Baharvand H. Intravitreal Injection of Bone Marrow Mesenchymal Stem Cells in Patients with Advanced Retinitis Pigmentosa; a Safety Study. *J Ophthalmic Vis Res*. 2017 Jan-Mar;12(1):58-64. doi: 10.4103/2008-322X.200164.
- 11- Shahbazi E, Moradi S, Nemati S, Satarian L, Basiri M, Gourabi H, Zare Mehrjardi N, Günther P, Lampert A, Händler K, Hatay FF, Schmidt D, Molcanyi M, Hescheler J, Schultze JL, Saric T, Baharvand H. Conversion of Human Fibroblasts to Stably Self-Renewing Neural Stem Cells with a Single Zinc-Finger Transcription Factor. *Stem Cell Reports*. 2016 Apr 12;6(4):539-551. doi: 10.1016/j.stemcr.2016.02.013. Epub 2016 Mar 24.
- 12- Parvini M, Satarian L, Parivar K, Javan M, Tondar M, Ahmad S, Baharvand H. Human pluripotent stem cell-derived retinal pigmented epithelium in retinal treatment: from bench to bedside. *Mol Neurobiol*. 2014 Oct;50(2):597-612. doi: 10.1007/s12035-014-8684-y. Epub 2014 Apr 3. Review.
- 13- Satarian L, Javan M, Kiani S, Hajikaram M, Mirnajafi-Zadeh J, Baharvand H. Engrafted human induced pluripotent stem cell-derived anterior specified neural progenitors protect the rat crushed optic nerve. *PLoS One*. 2013 Aug 19;8(8):e71855. doi: 10.1371/journal.pone.0071855. eCollection 2013.
- 14- Saeed Pazhoohan, Leila Satarian, Ali-Akbar Asghari, Mehdi Salimi, Ali-Reza Mani, Sahar Kiani, Mohammad Javan, Valproic acid attenuates disease symptoms and increases endogenous myelin repair

by recruiting neural stem cells and oligodendrocyte progenitors in focal experimental autoimmune encephalomyelitis, *Neurodegenerative disease journal*,2013.

- 15- Pouya A, Satarian L, Kiani S, Javan M, Baharvand H. Human induced pluripotent stem cells differentiation into oligodendrocyte progenitors and transplantation in a rat model of optic chiasm demyelination. *PLoS One*. 2011;6(11):e27925. doi: 10.1371/journal.pone.0027925. Epub 2011 Nov 18.
- 16- Amir Zarebkohan, Mohammad Javan, Leila Satarian, Abolhasan Ahmadiani; Effect of chronic administration of morphine on the gene expression level of sodium-dependent vitamin C transporters in rat hippocampus and lumbar spinal cord. *Journal of Molecular Neuroscience*, 38,236-242, 2009, PMID: 19418264.
- 17- Leila Satarian, Mohammad Javan, Yaghoub Fathollahi, Epinephrine inhibits analgesic tolerance to intrathecal administrated morphine and increases the expression of calcium- calmodulin dependent protein kinase II α , *Neuroscience letter*, 430,213-217, 2007, PMID:18053645.

Interests

- 1- Eye development
- 2- Retinal regeneration
- 3- Cellular and molecular aspects of stem cells differentiation to retinal cells
- 4- Transplantation and cell therapy of stem cells-derived retinal cells in retinal diseases
- 5- Invention an animal model of wet age macular degeneration and retinoblastoma
- 6- In vitro and in vivo gene therapy
- 7- Drug delivery in posterior segment of the eye
- 8- Optic nerve regeneration

Hobbies

- 1- Mounting
- 2- Basketball
- 3- Reading the historical books

Trainings

- 1- As a lab visitor for train the mice visual behavioral in department of neurobiology in CRTD, Dresden, Germany, 11- 30 Sep 2016. Head of Lab: Prof. Marius Ader.
- 2- Participated in three-day workshop entitled "Good clinical practices (GCP)" by Cell Tech Pharmed Company and Neometrix consulting Inc, 31Aug-2 Sep, 2014.

- 3- Injury and regeneration of the nervous system course in Nantong University, China at 10/21/2013 to 10/31/2013 awarded by International Brain research organization school.
- 4- As a lab visitor for train the mice optic nerve surgery in department of neurobiology in Boston Children's Hospital, Harvard University, Boston, USA, 1- 29 Sep 2013. Head of Lab: Prof. Larry Benowitz.

Research Experiences

- 1- Human Embryonic and induced pluripotent Stem Cells: Maintenance, and Differentiation (Neural and retinal cells).
- 2- Animal retinal model disease; optic nerve degeneration and Age macular degeneration model.
- 3- Cell transplantation in intravitreal and sub-retinal space of rats and mice.
- 4- Histopathology of the eye.

Membership of Society

- 1- The membership of International Society for Stem Cell Research (ISSCR), 2013-now.
- 2- Member of Japan Neuroscience Society, 2007-now.
- 3- Member of Iran ophthalmology society, 2012-now.
- 4- Member of Associated research and vision society, 2108 – now.

Teaching experiences

Course	Location (University)	Level	Date	No. presentation
Immune histology	University of Shahid Beheshti	PhD of Neuroscience	2013-2014	1
Physiology	University of Scince & Culture	MSc of Developmental Biology	2013-2018	5

Awards

- 1- The winner of Du Pré Grants as selected by The MS International Federation, 2013.
- 2- The winner of Developmental biology award as selected by developmental biology magazine, 2013.
- 3- The winner of travel award for excellent presentation at neuro2010 as selected by the Japan neuroscience society (Sep 2010).
- 4- The winner of travel award for excellent presentation at neuro2008 as selected by the Japan neuroscience society (July 2008).
- 5- The winner of travel award for excellent presentation at neuro2007 as selected by the Japan neuroscience society (Sep 2007).

- 6- The winner of grant research from national Institute for medical research development, 2018, 962244.
- 7- The winner of research award from Iran national science foundation, 2018, 97007005.
- 8- The winner of DCERF travel award for ARVO2019 in Vancouver, Canada (Feb 2019).

Editorial Board member

- 1- Yakhteh Medical Journal / Cell Journal (2013-now), IRAN.
- 2- Brain Metabolic disease (2018-now), USA.

Social Activities

1. Member of Charity Association for Health Research in Iran.
2. Collective recreation such mountain climbing and sports.
3. Teaching of Stem Cells and Regenerative Medicine to general population.
4. Managing the training short courses for graduate students who wanted to enter the lab.

Workshop Presentation

- 1- Participated in the teaching process of the 7th Tehran IBRO school of Neuroscience for teaching the visual measurement techniques, May 7-21, 2017, Tehran, Iran.
- 2- Participated in the teaching process of the 4th Tehran IBRO school of Neuroscience for teaching the Immunofluorescent techniques, Oct 17-18, 2014, Tehran, Iran.
- 3- Participated in organizing of the 6th IBRO-Associated school and the 1st Neuroscience orientation summer program, August 26th-Sep. 21st 2006, Tehran, Iran.

Speaker in international meetings and congresses

NO	TITLE	LOCATION	DATE
1.	Retinal cell therapy	International Congress on IANR VIII & 12th GCNN , Tehran, Iran	27th -30th April 2015
2.	Retinal pigmented epithelium derived human embryonic stem cell differentiation	International Congress on regenerative medicine, Mashhad, Iran	23rd -26th May 2017

Published Chapter Books in English

- 1- Leila Satarian, Fazel Samani, Chapter 8, Techniques in Neuroscience Research, ISBN: 078-600-5394-74-0, Tarbiat Modares, 2013.

References

Prof. Hossein Baharvand

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Prof. Larry Benowitz, PhD

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