

Somayeh Niknazar

Professional Position: Assistant Professor of Medical Physiology, Functional Neurosurgery Research Center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

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EDUCATION

Fellowship., Research, Education & Technology Shahid Beheshti University of Medical Sciences	2020 - 2021 Tehran – Iran
Ph.D., Medical Physiology Iran University of Medical Sciences	2009 - 2013 Tehran – Iran
M.Sc., Medical Physiology Tabriz University of Medical Sciences	2005 - 2008 Tabriz- Iran
B.Sc., Nursing Shahid Beheshti University of Medical Sciences	1989- 2003 Tehran - Iran

RESEARCH EXPERIENCE

Assistant Professor - Functional Neurosurgery Research Center& Hearing Disorders Research Center, Shahid Beheshti University of Medical Sciences	2016/10 - Present Tehran – Iran
Research Assistant – Hearing Disorders Research Center and Phytochemistry Research Center, Shahid Beheshti University of Medical Sciences	2014-2016 Tehran – Iran
Ph.D. - Iran University of Medical science Department of <i>Medical Physiology</i> , Faculty of Medicine Advisors: A. Nahavandi, M. Karimi Project: <i>Evaluation of possible changes of hippocampal BDNF & TrKB genes expression induced by stress in adult rats and their offspring (molecular, hormonal & behavioral tests)</i> Two first author articles and oral - poster presentation	2009 - 2013 Tehran - Iran
M.Sc. - Iran University of Medical Sciences Department of Physiology, Faculty of Medicine Advisor: N. Ahmadi Asl, S.Farajnia Project: <i>The effects of regular exercise on expression of endothelin-1 in the rats' lung tissue</i> Two first author articles and poster presentation	2005 – 2008 Tehran - Iran
Student Teacher and Advisor – Shahid Beheshti University of Medical Sciences	2014-present Tehran - Iran

- Taught, supervised and mentored and all laboratory techniques and statically for M.Sc. and PhD students for their final research project

Teacher– Iran University of Medical Sciences, Faculty of Medicine. 2011-2013
Medical Physiology Tehran - Iran

Teacher –Tehran Azad University, Faculty of Medicine. 2011-2013
Medical Physiology Tehran - Iran

Teacher - Shahid Beheshti University of Medical Sciences 2017-2019
 • Taught part of course of physiology of hearing and balance for medical student. Tehran - Iran

GRANTS AND AWARDS

Research Grant - Iran ministry of health and medical education grant for hearing loss project 2018 – 2021
 Tehran – Iran

Research Grant - Iran ministry of health and medical education grant for Ph.D. project 2011 – 2013
 Tehran – Iran

Full Scholarship - Iran ministry of health and medical education scholarship for Ph.D. student 2009 – 2013
 Tehran – Iran

Top rank - Awards as the annual selected student in School of Medicine, Iran University of Medical science 2013
 Tehran – Iran

Top rank - The first rank of student in physiology professional board, Iran University of Medical science. 2011
 Tehran – Iran

Top rank - Awards as the annual selected student in School of Medicine, Tabriz University of Medical science. 2012
 Tehran – Iran

Awards as best oral presentation, The 3rd National Festival and the International Congress on Stem Cells and Regenerative Medicine 2018
 Tehran – Iran

Awards as best poster presentation, The 3rd National Festival and the International Congress on Stem Cells and Regenerative Medicine 2018
 Tehran – Iran

Awards as best oral presentation in young investigator section, Basic and Clinical Neuroscience Congress 2008
 Tabriz – Iran

PUBLICATION

1. **S Niknazar** ^(correspond), N Bazgir, et al. Assessment of prognostic biomarkers in sudden sensorineural hearing loss: A systematic review and meta-analysis, (2023). Clinical Biochemistry
2. Ali asghar Peyvandi, Alireza Zali, **Somayeh Niknazar** ^(correspond), et al. Strategies for Stem Cell-Based Therapy for Inner Ear Cochlear Regeneration, (2023). Physiology and Pharmacology

3. Azimzadeh Z, Omidvari S, **Niknazar S**, et al. Exploring Amygdala Structural Changes and Signaling Pathways in Postmortem Brains: Consequences of Long-Term Methamphetamine Addiction, (2023). Anatomy & cell biology
4. Azadeh Shahrokhi Raeini, **Somayeh Niknazar**, et al. The effect of folic acid supplementation on damage caused by chronic cerebral hypo-perfusion in the hippocampus: the role of antioxidant agents and homocysteine, (2023). Nutrire
5. Abbaszadeh, H. A, **Niknazar. S**, et al. The Therapeutic Effect of Human Stem Cell Therapy on the Expanded Disability Status Scale Improvement in Multiple Sclerosis (2023). The Journal of Cellular and Molecular Anesthesia
6. **Niknazar. S**, Abbaszadeh, H. A., et al. Combined treatment of retinoic acid with olfactory ensheathing cells protect gentamicin-induced SGNs damage in the rat cochlea in vitro (2022). Molecular and Cellular Neuroscience.
7. Zali, A., Safari, S., Rahmati Roodsari, S. and **Niknazar, S** ^(correspond), 2022. Molecular and cellular basis of misfolded proteins in neurodegenerative diseases. Int Clin Neurosci J
8. Saeed Vafaei-Nezhad, **Somayeh Niknazar**, et al: Therapeutic Effects of Photobiomodulation Therapy on Multiple Sclerosis by Regulating the Inflammatory Process and Controlling Immune Cell Activity: A Novel Promising Treatment (2022). Journal of Lasers in Medical Science.
9. . Behnaz Ahrabi , Fatemeh Sadat Tababtabee Mirkabad , **Somayeh Niknazar.** , et al. Photobiomodulation therapy and cell therapy improved Parkinson diseases by neuro-regeneration and tremor inhibition: A review (2022). Journal of Lasers in Medical Sciences
10. Khoshsirat, Shahrokh, **Somayeh Niknaza** ^(correspond), et al. "Apelin-13 prevents apoptosis in the cochlear tissue of noise- exposed rat via Sirt-1 regulation." Journal of chemical neuroanatomy (2021)
11. Mirakabad, F. S. T., **Niknazar, S., ... &** Abbaszadeh, H. A. NUPR1-CHOP expression, autophagosome formation and apoptosis in the postmortem striatum of chronic methamphetamine user (2021). Journal of Chemical Neuroanatomy
12. Ali Asghar Peyvandi, **Somayeh Niknazar** ^(correspond), et al, Molecular Mechanisms and Signaling Pathways Involved in immunopathological events of Covid-19, (2021). Physiology and Pharmacology
13. Vafaei-Nezhad S, **Niknazar S**, et al, Therapeutics effects of [Pyr1] apelin-13 on rat contusion model of spinal cord injury: An experimental study, Journal of Chemical Neuroanatomy
14. Ayatollahi, Seyed Abdolmajid, **Somayeh Niknazar**, et al ^(correspond). "Ginkgo biloba modulates hippocampal BDNF expression in a rat model of chronic restraint stress-induced depression." Physiology and Pharmacology (2020). Physiology and Pharmacology
15. Simani, L., **Niknazar, S**, et al (2020). Elevated blood-based brain biomarker levels in patients with epileptic seizures: a systematic review and meta-analysis. ACS Chemical Neuroscience,

16. Khoshsirat, Shahrokh, **Somayeh Niknazar**, et al. "LC3 and ATG5 overexpression and neuronal cell death in the prefrontal cortex of postmortem chronic methamphetamine users." , Journal of Chemical Neuroanatomy(2020).
17. Mehrjerdi, Fatemeh Zare, **Somayeh Niknazar**, et al. "Carvacrol reduces hippocampal cell death and improves learning and memory deficits following lead-induced neurotoxicity via antioxidant activity." Naunyn-Schmiedeberg's archives of pharmacology (2020).
18. **Somayeh niknazar**, Ali asghar peyvandi, et al. Protective Effect of [Pyr1]-Apelin-13 on Oxidative Stress-Induced Apoptosis in Inner Ear Hair Cell -Like Cell. European Journal of Pharmacology, (2019).
19. Ginkgo biloba modulates hippocampal BDNF expression in a rat model of chronic restraint stress-induced depression. Seyed Abdolmajid Ayatollahi, **somayeh Niknazar** ^(correspond) , et al (2019), physiology& pharmacology.
20. A.A. Peyvandi, **S. Niknazar**^(correspond), et al. Deferoxamine promotes mesenchymal stem cell homing in noise- induced injured cochlea through PI3K/AKT pathway. (2018). Cell Proliferation
21. Ali Asghar Peyvandi, **Somayeh Niknazar**^(correspond), et al. Critical role of SDF-1/CXCR4 signaling pathway in stem cell homing in the deafened rat cochlea after acoustic trauma (2018), Neural Regeneration Research.
22. **Somayeh Niknazar**, Arezo Nahavandi, et al. "Hippocampal NR3C1 DNA methylation can mediate part of preconception paternal stress effects in rat offspring. (2017). " Behavioural brain research.
23. **Niknazar, S.**, Nahavandi, A, et al. Effect of Maternal Stress Prior to Conception on Hippocampal BDNF Signaling in Rat Offspring (2016). Molecular Neurobiology.
24. **Niknazar, S.**, Nahavandi, A, et al. Comparison of the Adulthood Chronic Stress Effect on Hippocampal BDNF Signaling in Male and Female Rats (2016). Molecular neurobiology
25. Bakhtiarzadeh, F., **Niknazar, S.** et al, (2018). Axonal transport proteins and depressive like behavior, following Chronic Unpredictable Mild Stress in male rat. Physiology & behavior.
26. Abbaszadeh HA, **Niknazar S.** et al. Stem cell transplantation and functional recovery after spinal cord injury: a systematic review and meta-analysis (2018). Anatomy & cell biology
27. Esfahani, M, **Niknazar, S.**, et al, 2015. Prolyl hydroxylase inhibitors act as agents to enhance the efficiency of cell therapy. Expert opinion on biological therapy.
28. Mahmoudiasl, G. R., **Niknazar, S.**, et al (2019). Nod-like receptor protein 3 and nod-like receptor

protein 1 inflammasome activation in the hippocampal region of postmortem methamphetamine chronic user. Bratislavske lekarske listy.

29. Mahila Lotfi Aski , **Somayeh Niknazar** , et al (2018). Neuroprotective effect of berberine chloride on cognitive impairment and hippocampal damage in experimental model of vascular dementia.
30. **Niknazar, S.**, Nahavandi, A, et al., (2013). Parents' adulthood stress induces behavioral and hormonal alterations in male rat offspring. Behavioural brain research.
31. Mehrjerdi, F.Z., **Niknazar, S.**, et al, (2013). Increased phosphorylation of mTOR is involved in remote ischemic preconditioning of hippocampus in mice. Brain research.
32. Khaksari, M., **Niknazar, S.**, et al, (2016). The role of erythropoietin in remote renal preconditioning on hippocampus ischemia/reperfusion injury. The Journal of Physiological Sciences.
33. **Niknazar somayeh**, Farajnia Safar, et al. 2008. The effects of three months' exercise on expression of endothelin-1 in the lung tissue, Asian journal of biological Science.
34. Daniali, S., **Niknazar, S.**, et al., (2013). Chronic Ritalin Administration during Adulthood Increases Serotonin Pool in Rat Medial Frontal Cortex. Iranian biomedical journal
35. Noori-Daloii, F., **Niknazar, S.**, et al. (2015). Knocking Down the DRD2 by shRNA Expressing Plasmids in the Nucleus Accumbens Prevented the Disrupting Effect of Apomorphine on Prepulse Inhibition in Rat. Journal of Sciences, Islamic Republic of Iran
36. Roozbahany, N.A. and **Niknazar, S** ^(correspond) (2016). Cell Therapy Development in Hearing Loss. Journal of Hearing Sciences and Otolaryngology
37. Peyvandi, A., **Niknazar, S.**, et al., (2016). Comparison of Peritonsillar Infiltration of Lidocaine and Bupivacaine for Management of Postoperative Pain of Tonsillectomy. Journal of Hearing Sciences and Otolaryngology
38. Khoshsirat, S., Roozbahany, N. A., & **Niknazar, S** ^(correspond). (2017). Approaches of auditory hair cells induction from stem cells. The Journal of Otorhinolaryngology and Facial Plastic Surgery.
39. Khoshsirat, S., Roozbahany, N. A., & **Niknazar, S** ^(correspond) (2017). Signaling Pathways Involved in Auditory Hair Cells Development. The Journal of Otorhinolaryngology and Facial Plastic Surgery.
40. Marjan Sadeghi, **Somayeh Niknazar**, et al (2017), Deferoxamine on the Up regulation of Chemokine Receptor 2 in Bone Marrow Stromal Stem Cells. The Journal of Otorhinolaryngology and Facial Plastic Surgery.
41. **Niknazar, S.** and Khoshsirat, S., (2018). Current and Future Treatment Options for Hearing Loss. The Journal of Otorhinolaryngology and Facial Plastic Surgery.

42. Abbaszadeh, Hojjat Allah, **Somayeh Niknazar**, et al (2018). "Trehalose increase proliferation and decrease apoptosis in hair cells induced by Hydrogen peroxides." Journal of Otorhinolaryngology and Facial Plastic Surgery.
43. **Niknazar, Somayeh**, Hojjat-Allah Abbaszadeh, et al (2019). "Chronic Noise Exposure Activates Apoptosis Signaling Pathway in the Rat Auditory Cortex." Journal of Hearing Sciences and Otolaryngology
44. **Niknazar, S.**, Peyvandi, A. A., et al (2019). Ribbon Synapse Reformation: A Key Role for the Hearing Restoration; A Review. Journal of Hearing Sciences and Otolaryngology, 5(2), 1-6
45. Khoshsirat, Shahrokh, **Somayeh Niknazar**, et al (2019) . "Exosome therapy in spinal cord injury: A review." Journal of Hearing Sciences and Otolaryngology
46. Khoshsirat, Shahrokh, **Somayeh Niknazar**, et al (2019). "Cell Therapy and Tissue Engineering in Bone Defect Reconstruction; A Review." Journal of Otorhinolaryngology and Facial Plastic Surgery.
47. F. Zare Mehrjerdi , **S. Niknazar**, A. Shahrokhi Racini (2018) , "The effect of carvacrol on blood pressure and blood cell number in lead-exposed rats"Iranian Journal of Medicinal and Aromatic Plants,

PROJECT

Project 1: *Defroxamin Effect on Mesenchymal stem cell homing in Rats' cochlear Hair Cell damage*
One corresponding author article and one oral presentation

Project 2: *CXCR4/SDF-1 axis role in stem cell homing in noise induced hearing loss of rat model.*
One corresponding author article

Project 3: *Combined treatment of Retinoic acid and olfactory ensheathing cells on rat's spiral ganglion neurons restoration after experimental lesion*
One first author article

Project 4: *Hippocampal NR3C1 DNA Methylation Role in Paternal Stress Effects Inheritance to Next Generation in Rat*
One first author article and one oral presentation (Best oral presentation)

Project 5: *Maternal Adulthood Stress Effect on Hippocampal BDNF Signaling in Rat Offspring*
One first author article

Project 6: *Protective effect of Apelin-13 on oxidative stress-induced apoptosis in hair cell-like cells derived from bone marrow mesenchymal stem cells*
One first author article and one oral presentation (Best oral presentation)

Project 7: *Apelin-13 effects on apoptosis signaling pathway in the cochlear tissue of noise-exposed rat*
One corresponding author article

Project 8: *Ginkgo biloba effect on hippocampal BDNF expression in a rat model of chronic restraint stress-induced depression*

One corresponding author article

Project 9: *The effect of pre-conditioning of All-trans retinoic acid on oxidative stress-induced apoptosis to hair-like cells in culture medium*

One first author article

Project 10: *Study of survival of transplanted stem cell via round window in deaf rat cochlea.*

One first author article and one poster presentation (Best poster presentation)

Project 11: *Study of promoter methylation of Dopamine transporter (DAT) and dopamine receptor D2 (DRD2) in patients with drug addiction*

One first author article (Under Review)

Project 12: *Correlation between Electrophysiological Properties and Biochemical Assays In Hair-cell-like cells Differentiation Capacity from Bone Marrow stem cells.*

Project 13: *Maternal adulthood noise exposure effect on methylation of SNAREs (SNAP, syntaxin -1, and synaptobrevin) genes and hearing threshold in rat offspring*

Project 14: *Therapeutic effect of Exosomes from Coenzyme Q10 pretreated adipose-derived mesenchymal stem cells on Spinal Cord Injury model in rats*

Project 15: *Protective effect of coenzyme Q10 in oxidative stress -induced premature senescence in the cultivated neural stem cell*

Project 16: *Evaluation of differentiation of bone marrow mesenchymal stem cells into hair cell-like cell in co-culture with organ corti*

One first author article

Project 17: *Investigation of Stem Cell Therapy Effect in Regenerating of Damaged Hair Cell in the Inner Ear: Systematic Review*

One first author article

Project 18: *Study of noise exposure effect on Bax, Bcl-2 and Caspase-3 genes expression in rat auditory cortex*
One first author article

Project 19: *Evaluation of differentiation of bone marrow mesenchymal stem cells into hair cell-like cell in co-culture with organ of corti.*

One first author article

Project 20: *The effect of pre-conditioning of All-trans retinoic acid on oxidative stress-induced apoptosis to hair-like cells in culture medium*

One corresponding author article

Project 21: *Study of Molecular Mechanisms and Signaling Pathways Involved in Covid-19 pathogenesis*

One corresponding author article

Project 22: *Study of Prognostic role of biomarkers in sudden sensorineural hearing loss*

Project 23: *Therapeutic effect of mesenchymal stem cells and their exosomes in multiple sclerosis disease*

Project 24: *Investigation of Hippocampal BDNF Signaling Pathway alteration in Rat Offspring from the Stressed Father*

-Co –Worker

Project 25- *Investigating the effects of astaxanthin on the recovery of patients with complete spinal cord injury: phase 1 & 2 clinical trial*

Project 26- *Effects of neural stem cells in Astrogliosis process in rats with spinal cord injury (2015).*

Project 27- *Study of therapeutic effects of mesenchymal stem cells and IPS in the treatment of Parkinson's disease*

Project 28- *The effects of cell therapy and gene therapy on multiple sclerosis*

Project 29- *The effects of simultaneous use of extracellular vesicles from adipose-derived mesenchymal stem cells and apelin on contusion model of spinal cord injury in rat (2020)*

Project 30- *Comparison of the therapeutic effect of Iranian and foreign astaxanthin on (Vitapharma) the recovery of patients with complete spinal cord injury*

Project 31- *Bone marrow Stem Cell Transplantation and Functional Recovery after Spinal Cord Injury in rat model*

Project 32- *Investigating the effects of apelin on neuronal protection, reduction of apoptosis and gliosis, and functional recovery in rats with Huntington's model induced by 3-NP*

Project 33- *Systematic review and meta-analysis of cerebrovascular complications after spinal cord surgery*

BOOK

Translator:

The Auditory System Anatomy, Physiology, and Clinical Correlates (Issue 1&2) (2021)

Author:

Medicine, Treatment and Familiarity with Covid-19 Vaccines (Persian, 2022)

Covid-19 in Men, Women, Children and During Pregnancy (Persian, 2022)

Researchers Conducted on Covid-19 Vaccines and Researchers on the Effects of Corona Vaccines on Children, Teenagers and Pregnant Women (Persian, 2022)

Editorial board:

Journal of Otorhinolaryngology and Facial Plastic Surgery (ORLFPS)

Reviewer:

PLOS ONE Journal- Iranian Journal of Pharmaceutical Research- Journal of Lasers in Medical Sciences

Brain and Behavior- Nutrition & Metabolism- Phytotherapy Research- Journal of Cellular Physiology

Journal of Food Biochemistry- Journal of International Medical Research- Social Neuroscience

WORKSHOP

- 1) Neurosetreology Workshop, Iran University of Medical Science, 5-6 May 2009.
- 2) Behavioral Methods in Neuroscience Workshop, Tehran University of Medical Science, 9-10 June 2009.
- 3) Electrophysiology (patch-clamp) Workshop, Shahid Beheshti University of Medical Science, November 2009.
- 4) Isolation and culture of mesenchymal stem cells workshop, Iran University of Medical Science, November 2009.
- 5) The signal recording systems (Power lab) workshop, Iran University of Medical Science, February 2009.
- 6) National symposium of neuroscience workshop, Golestan University of Medical Science, January 2010.
- 7) First Annual Conference/ Workshop on Neural Stem Cells , Tehran University of Medical Science, 26-30 2011.
- 8) Methods of Search in data base of medical sciences, Iran University of Medical Science, 2014
- 9) R Programing Workshop, Shahid Beheshti University of Medical Science, 2023

CONGRESS

- 1) Iranian Congress of Genetic, Tehran, Iran, 2007
- 2) 19 th Physiology and pharmacology congress, Tehran, Iran, 2009
- 3) 3rd Biennial Schizophrenia International Research Conference / Schizophrenia Research, Florence, Italy, 2012.
- 4) Basic and Clinical Neuroscience congress, Tehran, Iran, 2012.
- 5) 21th Physiology and pharmacology congress, Tabriz, Iran, 2013
- 6) Basic and Clinical Neuroscience congress, Tehran, Iran, 2018
- 7) The 3rd National Festival and the International Congress on Stem Cells and Regenerative Medicine, Tehran, Iran, 2018