

**PERSONAL DATA:**

First Name: Abbas

Last Name: Aliaghaei

Email: aghaei60@gmail.com

Date of Birth: 23/August/1981

Gender: Male

Country of Origin: Iran

EDUCATION:

Ph.D in Neuroscience, Neuroscience Research Center, Shahid Beheshti University of Medical Sciences

Work History:

Faculty Member, Department of Biology and Anatomical Sciences, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

Research Interests

- 1- Stem cells
 - 2- Neurodegenerative disease
 - 3- Addiction
 - 4- Neuropharmacology
 - 5- Medicinal plants
-

Teaching experience:

Undergraduate: since 2015

Postgraduate: since 2016

Work supervised/under supervision:

- 1- Investigating the neuroprotective effect of Sertoli cells in 3-NP injected rat model of huntington disease: involvement of antioxidant defense system and anti-inflammatory agents. Ph.D. thesis, 2017
 - 2- Studying the effect of low-frequency stimulation on cellular-molecular and morphological changes of hippocampus in seized and non seized male rats. Ph.D. thesis, 2018
 - 3- The destructive effects of tetrahydrocannabinol (THC) on the adult male rat's hippocampus: gene profiling and pathway analysis, electrophysiology study, histopathology and behavioral study. Ph.D. thesis, 2017
 - 4- The effect of methamphetamine administration on the motor coordination, muscle function and histopathology of adult male rat's cerebellum. M.D thesis, 2017
 - 5- The evaluation neurotoxicity and memory impairment effect of tramadol administration on the gene expression profile and histopathological study in adult male rats hippocampus. MSC thesis, 2018
 - 6- The evaluation of neurotoxicity effect of tramadol administration on the gene expression profile and histopathological study in the cerebellum of adult male rats. Ph.D. thesis, 2018
 - 7- The neurotoxicity effect of methadone in adult male rat's hippocampus. Ph.D. thesis, 2020
 - 8- The effects of tramadol on the male rat's striatum: histopathological and electrophysiology study. MSC thesis, 2019
 - 9- The effects of simultaneous use of extracellular vesicles from adipose-derived mesenchymal stem cells and apelin on contusion model of spinal cord injury in rats. Ph.D. thesis, 2018
 - 10- The effect of repeated methamphetamine administration on the gene profile expression, motor coordination and histology study in striatum of adult male rat. Ph.D. thesis, 2018
 - 11- The effect of exogenous melatonin on apoptosis of neuroadrennergic neurons in locus coeruleus of adult male rats after REM sleep deprivation. MSC thesis, 2016
 - 12- Investigating the effect of sertoli cells transplant on neuroprotectivity mechanism in Alzheimer's model of amyloid beta injected rat. 2016
 - 13- The neuroprotective effects of dental pulp stem cells in 3-NP injected rat model of Huntington disease. Ph.D. thesis, 2017
 - 14- Transplantation of dopaminergic neurons differentiated from human chorion-derived stem cells in rat models of Parkinson's disease. Ph.D. thesis, 2018
 - 15- The effect of dopaminergic and serotonergic inputs on clock genes expression and electrical activity in adult suprachiasmatic nucleus rats. Ph.D. thesis, 2019
-

Publications

- 1- Conditioned media of choroid plexus epithelial cells induces Nrf2-activated phase II antioxidant response proteins and suppresses oxidative stress-induced apoptosis in PC12 cells. J Mol Neurosci. 2014 Aug; 53(4):617-25.doi: 10.1007/s12031-014-0228-4.

- 2-** Brain mitochondrial ATP-insensitive large conductance Ca^{+2} -activated K^{+} channel properties are altered in a rat model of amyloid- β neurotoxicity. *Exp Neurol*. 2015 Jul;269:8-16.doi: 10.1016/j.expneurol.2014.12.024.
- 3-** Encapsulated Choroid Plexus Epithelial Cells Actively Protect Against Intrahippocampal A β -induced Long-Term Memory Dysfunction; Upregulation of Effective Neurogenesis with the Abrogated Apoptosis and Neuroinflammation. *J Mol Neurosci*. 2015 Jul;56(3):708-21.doi: 10.1007/s12031-015-0492-y.
- 4-** Dopaminergic Induction of Umbilical Cord Mesenchymal Stem Cells by Conditioned Medium of Choroid Plexus Epithelial Cells Reduces Apomorphine-Induced Rotation in Parkinsonian Rats. *Arch Iran Med*. 2016 Aug;19(8):561-70.
- 5-** Reduction of autophagy markers mediated protective effects of JNK inhibitor and bucladesine on memory deficit induced by A β in rats. *Naunyn Schmiedeberg's Arch Pharmacol*. 2016 May;389(5):501-10.doi: 10.1007/s00210-016-1222-x.
- 6-** Neural differentiation of choroid plexus epithelial cells: role of human traumatic cerebrospinal fluid. *Neural Regen Res*. 2017 Jan;12(1):84-89.doi: 10.4103/1673-5374.198989.
- 7-** Evidence supporting neuroprotective effect of adipose derived stem cells on PC12 cells against oxidative stress induced by H_2O_2 . *Cell Mol Biol (Noisy-le-grand)*. 2017 Mar 31;63(3):1-6. doi: 10.14715/cmb/2017.63.3.1.
- 8-** Synergy Between Choroid Plexus Epithelial Cell-Conditioned Medium and Knockout Serum Replacement Converts Human Adipose-Derived Stem Cells to Dopamine-Secreting Neurons. *Rejuvenation Res*. 2017 Aug;20(4):309-319. doi: 10.1089/rej.2016.1887.
- 9-** Resveratrol Protects Purkinje Neurons and Restores Muscle Activity in Rat Model of Cerebellar Ataxia. *J Mol Neurosci*. 2018 May;65(1):35-42. doi: 10.1007/s12031-018-1065-7.
- 10-** Alterations of neuroimmune cell density and pro-inflammatory cytokines in response to thimerosal in prefrontal lobe of male rats. *Drug Chem Toxicol*. 2019 Mar;42(2):176-186. doi: 10.1080/01480545.2018.1465949.
- 11-** Dopaminergic induction of human adipose-derived mesenchymal stem cells is accompanied by transcriptional activation of autophagy. *Cell Biol Int*. 2018 Dec;42(12):1688-1694.doi: 10.1002/cbin.11056.
- 12-** Therapeutic Potential of Pretreatment with Allograft Sertoli Cells Transplantation in Brain Ischemia by Improving Oxidative Defenses. *J Mol Neurosci*. 2018 Apr;64(4):533-542.doi: 10.1007/s12031-018-1054-x.

13- Human Umbilical Cord Matrix Stem Cells Reverse Oxidative Stress-Induced Cell Death and Ameliorate Motor Function and Striatal Atrophy in Rat Model of Huntington Disease. *Neurotox Res.* 2018 Aug;34(2):273-284.doi: 10.1007/s12640-018-9884-4.

14- Sertoli Cells Avert Neuroinflammation-Induced Cell Death and Improve Motor Function and Striatal Atrophy in Rat Model of Huntington Disease. *J Mol Neurosci.* 2018 May;65(1):17-27.doi: 10.1007/s12031-018-1062-x.

15- Neuro-restorative effect of sertoli cell transplants in a rat model of amyloid beta toxicity. *Behav Brain Res.* 2019 Jul 23;367:158-165.doi: 10.1016/j.bbr.2019.03.030.

16- Dental pulp stem cell transplantation ameliorates motor function and prevents cerebellar atrophy in rat model of cerebellar ataxia. *Cell Tissue Res.* 2019 May;376(2):179-187.doi: 10.1007/s00441-018-02980-x.

17- Methamphetamine induces neurotoxicity-associated pathways and stereological changes in prefrontal cortex. *Neurosci Lett.* 2019 Nov 1;712:134478. doi: 10.1016/j.neulet.2019.134478.

18- Methamphetamine administration impairs behavior, memory and underlying signaling pathways in the hippocampus. *Behav Brain Res.* 2020 Feb 3;379:112300.doi: 10.1016/j.bbr.2019.112300.

19- Differential gene expression and stereological analyses of the cerebellum following methamphetamine exposure. *Addict Biol.* 2020 Jan;25(1):e12707.doi: 10.1111/adb.12707.

20- Nigral injection of 6-hydroxydopamine induces changes in spatial arrangement of striatal neuron and glial cells. *Front Biosci (Schol Ed).* 2019 Jan 1;11:1-8.

21- Complementation of dopaminergic signaling by Pitx3-GDNF synergy induces dopamine secretion by multipotent Ntera2 cells. *J Cell Biochem.* 2020 Jan;121(1):200-212.doi: 10.1002/jcb.29109.

22- Long-term administration of high-dose methylphenidate-induced cerebellar morphology and function damage in adult rats. *J Chem Neuroanat.* 2020 Jan;103:101712.doi: 10.1016/j.jchemneu.2019.101712.

23- Curcumin protects purkinje neurons, ameliorates motor function and reduces cerebellar atrophy in rat model of cerebellar ataxia induced by 3-AP. *J Chem Neuroanat.* 2019 Dec;102:101706.doi: 10.1016/j.jchemneu.2019.101706.

24- Sciatic nerve injury alters the spatial arrangement of neurons and glial cells in the anterior horn of the spinal cord. *Neural Regen Res.* 2019 Oct;14(10):1833-1840.doi: 10.4103/1673-5374.257539.

25- Neuroprotective effect of exogenous melatonin on the noradrenergic neurons of adult male rats' locus coeruleus nucleus following REM sleep deprivation. *J Chem Neuroanat.* 2019 Oct;100:101656.doi: 10.1016/j.jchemneu.2019.101656.

26- Tramadol: a Potential Neurotoxic Agent Affecting Prefrontal Cortices in Adult Male Rats and PC-12 Cell Line. *Neurotox Res.* 2020 Aug;38(2):385-397.doi: 10.1007/s12640-020-00214-z.

27- Proinflammatory Cytokines in the Olfactory Mucosa Result in COVID-19 Induced Anosmia. *ACS Chem Neurosci.* 2020 Jul 1;11(13):1909-1913.doi: 10.1021/acscchemneuro.0c00249.

28- Allograft of Sertoli Cell Transplantation in Combination with Memantine Alleviates Ischemia-Induced Tissue Damages in An Animal Model of Rat. *Cell J.* 2020 Oct;22(3):334-343.doi: 10.22074/cellj.2020.6689.

29- From dysregulated microRNAs to structural alterations in the striatal region of METH-injected rats. *J Chem Neuroanat.* 2020 Nov;109:101854. doi: 10.1016/j.jchemneu.2020.101854.

30- Exposure to methamphetamine exacerbates motor activities and alters circular RNA profile of cerebellum. *J Pharmacol Sci.* 2020 Sep;144(1):1-8.doi: 10.1016/j.jphs.2020.05.010.

31- Tissue Plasminogen Activator Loaded PCL Nanofibrous Scaffold Promoted Nerve Regeneration After Sciatic Nerve Transection in Male Rats. *Neurotox Res.* 2021 Apr;39(2):413-428.doi: 10.1007/s12640-020-00276-z.

32- The effect of 3-nitropropionic acid on behavioral dysfunction, neuron loss and gliosis in the brain of adult male rats: The case of prefrontal cortex, hippocampus and the cerebellum. *Toxicon.* 2020 Aug;183:44-50.doi: 10.1016/j.toxicon.2020.05.012.

33- Grafted human chorionic stem cells restore motor function and preclude cerebellar neurodegeneration in rat model of cerebellar ataxia. *Metab Brain Dis.* 2020 Apr;35(4):615-625.doi: 10.1007/s11011-020-00543-0.

34- Evaluating the effect of transplanting umbilical cord matrix stem cells on ischemic tolerance in an animal model of stroke. *Neurol Res.* 2021 Mar;43(3):225-238.doi: 10.1080/01616412.2020.1839698.

35- Tramadol exposure upregulated apoptosis, inflammation and autophagy in PC12 cells and rat's striatum: An in vitro- in vivo approach. *J Chem Neuroanat.* 2020 Nov;109:101820.doi: 10.1016/j.jchemneu.2020.101820.

36- Transplantation of human dental pulp stem cells compensates for striatal atrophy and modulates neuro-inflammation in 3-nitropropionic acid rat model of Huntington's disease. *Neurosci Res.* 2020 Dec 22;S0168-0102(20)30505-8.doi: 10.1016/j.neures.2020.12.002.

37- Chronic administration of methylphenidate did not affect memory and GDNF levels but increase astrogliosis in adult male rat's hippocampus. *J Chem Neuroanat.* 2020 Oct;108:101818.doi: 10.1016/j.jchemneu.2020.101818.

38- Bilateral striatal transplantation of human olfactory stem cells ameliorates motor function, prevents necroptosis-induced cell death and improves striatal volume in the rat model of Huntington's disease. *J Chem Neuroanat.* 2021 Mar;112:101903.doi: 10.1016/j.jchemneu.2020.101903.

39- Elderberry diet ameliorates motor function and prevents oxidative stress-induced cell death in rat models of Huntington disease. *Brain Res.* 2021 Jul 1;1762:147444.doi: 10.1016/j.brainres.2021.147444.

40- Therapeutics effects of [Pyr1] apelin-13 on rat contusion model of spinal cord injury: An experimental study. *J Chem Neuroanat.* 2021 Apr;113:101924.doi: 10.1016/j.jchemneu.2021.101924.

41- Long-Term Effects of Hippocampal Low-Frequency Stimulation on Pro-Inflammatory Factors and Astrocytes Activity in Kindled Rats. *Cell J.* 2021 Apr;23(1):85-92.doi: 10.22074/cellj.2021.7139.

42- Chronic Exposure to Tramadol Induces Neurodegeneration in the Cerebellum of Adult Male Rats. *Neurotox Res.* 2021 Apr 5.doi: 10.1007/s12640-021-00354-w.

43- Tramadol-induced apoptosis in auditory hair cells of adult male rats. *J Chem Neuroanat.* 2022 Dec;126:102172. doi: 10.1016/j.jchemneu.2022.102172.

43- COVID-19 causes neuronal degeneration and reduces neurogenesis in human hippocampus. *Apoptosis.* 2022 Dec;27(11-12):852-868. doi: 10.1007/s10495-022-01754-9

44- Elderberry Diet Restores Spermatogenesis in the Transient Scrotal Hyperthermia-Induced Mice. *Reprod Sci.* 2022 Dec;29(12):3373-3386. doi: 10.1007/s43032-022-00865-7.

45- Age-related histopathological and biochemical testicular damages were ameliorated by vitamin C administration. *Rev Int Androl.* 2023 Apr-Jun;21(2):100327. doi: 10.1016/j.androl.2021.10.001.

46- Combined molecular, structural and memory data unravel the destructive effect of tramadol on hippocampus. *Neurosci Lett.* 2022 Feb 6;771:136418. doi: 10.1016/j.neulet.2021.136418.

- 47-** The effect of dopaminergic neuron transplantation and melatonin co-administration on oxidative stress-induced cell death in Parkinson's disease. *Metab Brain Dis* . 2022 Dec;37(8):2677-2685. doi: 10.1007/s11011-022-01021-5.
- 48-** Chronic exposure to methadone impairs memory, induces microgliosis, astrogliosis and neuroinflammation in the hippocampus of adult male rats. *J Chem Neuroanat* . 2022 Nov;125:102139. doi: 10.1016/j.jchemneu.2022.102139.
- 49-** Sertoli cell transplantation attenuates microglial activation and inhibits TRPC6 expression in neuropathic pain induced by spinal cord injury. *Physiol Behav* . 2022 Jul 1;251:113807. doi: 10.1016/j.physbeh.2022.113807.
- 50-** Chronic exposure to methadone induces activated microglia and astrocyte and cell death in the cerebellum of adult male rats. *Metab Brain Dis* . 2023 Jan;38(1):323-338. doi: 10.1007/s11011-022-01108-z.
- 51-** Melittin ameliorates motor function and prevents autophagy-induced cell death and astrogliosis in rat models of cerebellar ataxia induced by 3-acetylpyridine. *Neuropeptides* . 2022 Dec;96:102295. doi: 10.1016/j.npep.2022.102295.
- 52-** Therapeutic Effects of Edaravone on Azoospermia: Free Radical Scavenging and Autophagy Modulation in Testicular Tissue of Mice. *J Reprod Infertil* . 2022 Apr-Jun;23(2):73-83. doi: 10.18502/jri.v23i2.8990
- 53-** Non-apoptotic cell death such as pyroptosis, autophagy, necroptosis and ferroptosis acts as partners to induce testicular cell death after scrotal hyperthermia in mice. *Andrologia* . 2022 Mar;54(2):e14320. doi: 10.1111/and.14320.
- 54-** Melittin administration ameliorates motor function, prevents apoptotic cell death and protects Purkinje neurons in the rat model of cerebellar ataxia induced by 3-Acetylpyridine. *Toxicol* . 2022 Jan 15;205:57-66. doi: 10.1016/j.toxicol.2021.11.008.
- 55-** Impaired spermatogenesis caused by busulfan is partially ameliorated by treatment with conditioned medium of adipose tissue derived mesenchymal stem cells. *Biotech Histochem* . 2022 Feb;97(2):107-117. doi: 10.1080/10520295.2021.1905182.
- 56-** Human olfactory epithelium-derived stem cells ameliorate histopathological deficits and improve behavioral functions in a rat model of cerebellar ataxia. *J Chem Neuroanat* . 2022 Mar;120:102071. doi: 10.1016/j.jchemneu.2022.102071.
- 57-** Dopamine D1 Receptor-Mediated Regulation of Per1, Per2, CLOCK, and BMAL1 Expression in the Suprachiasmatic Nucleus in Adult Male Rats. *J Mol Neurosci* . 2022 Mar;72(3):618-625. doi: 10.1007/s12031-021-01923-6.
- 58-** Insulin Ameliorates Folliculogenesis in An Experimental Model of PCOS Mice. *Int J Fertil Steril* . 2023 Jan 1;17(1):22-27. doi: 10.22074/ijfs.2022.543499.1228

59- Photobiomodulation therapy reverses spermatogenesis arrest in hyperthermia-induced azoospermia mouse model. *Lasers Med Sci* . 2023 Apr 27;38(1):114. doi: 10.1007/s10103-023-03780-8.

60- Elderberry diet improves gut-brain axis dysfunction, neuroinflammation, and cognitive impairment in the rat model of irritable bowel syndrome. *Metab Brain Dis* . 2023 Jun;38(5):1555-1572. doi: 10.1007/s11011-023-01187-6.

61- Photobiomodulation Therapy Improves Spermatogenesis in Busulfan-Induced Infertile Mouse. *Reprod Sci* . 2021 Oct;28(10):2789-2798. doi: 10.1007/s43032-021-00557-8.

62- Functional and structural alternations in the choroid plexus upon methamphetamine exposure. *Neurosci Lett* . 2021 Nov 1;764:136246. doi: 10.1016/j.neulet.2021.136246

63- An effective method for establishing animal models of azoospermia and oligospermia. *Andrologia* . 2021 Aug;53(7):e14095. doi: 10.1111/and.14095.

64- The role of Tetrahydrocannabinol in inducing disrupted signaling cascades, hippocampal atrophy and memory defects. *J Chem Neuroanat* . 2021 Apr;113:101943. doi: 10.1016/j.jchemneu.2021.101943.

65- Inflammatory Response Leads to Neuronal Death in Human Post-Mortem Cerebral Cortex in Patients with COVID-19. *ACS Chem Neurosci* . 2021 Jun 16;12(12):2143-2150. doi: 10.1021/acscchemneuro.1c00111.

66- COVID-19 disrupts spermatogenesis through the oxidative stress pathway following induction of apoptosis. *Apoptosis* . 2021 Aug;26(7-8):415-430. doi: 10.1007/s10495-021-01680-2.

67- Chronic scrotal hyperthermia induces azoospermia and severe damage to testicular tissue in mice. *Acta Histochem* . 2021 May;123(4):151712. doi: 10.1016/j.acthis.2021.151712.

68- Curcumin-Loaded Iron Particle Improvement of Spermatogenesis in Azoospermic Mouse Induced by Long-Term Scrotal Hyperthermia. *Reprod Sci*. 2021 Feb;28(2):371-380. doi: 10.1007/s43032-020-00288-2.

69- Photobiomodulation therapy improved functional recovery and overexpression of interleukins-10 after contusion spinal cord injury in rats. *J Chem Neuroanat* . 2021 Nov;117:102010. doi: 10.1016/j.jchemneu.2021.102010

70- COVID-19 disrupts the blood-testis barrier through the induction of inflammatory cytokines and disruption of junctional proteins. *Inflamm Res* . 2021 Dec;70(10-12):1165-1175. doi: 10.1007/s00011-021-01497-4.

71- Effect of Sertoli Cell Transplant and Rapamycin Pretreatment on Middle Cerebral Artery Occlusion-Induced Brain Ischemia in a Rat Model. *Exp Clin Transplant* . 2021 Nov;19(11):1204-1211. doi: 10.6002/ect.2021.0198.

72- Bone Marrow Mesenchymal Stem Cell Condition Medium Loaded on PCL Nanofibrous Scaffold Promoted Nerve Regeneration After Sciatic Nerve Transection in Male Rats. *Neurotox Res*. 2021 Oct;39(5):1470-1486. doi: 10.1007/s12640-021-00391-5.

73- Sertoli cell-conditioned medium restores spermatogenesis in azoospermic mouse testis. *Cell Tissue Res* . 2020 Mar;379(3):577-587. doi: 10.1007/s00441-019-03092-w.

74- Photobiomodulation restores spermatogenesis in the transient scrotal hyperthermia-induced mice. *Life Sci* . 2020 Aug 1;254:117767. doi: 10.1016/j.lfs.2020.117767.

75- Photobiomodulation therapy compensate the impairments of diabetic bone marrow mesenchymal stem cells. *Lasers Med Sci* . 2020 Apr;35(3):547-556. doi: 10.1007/s10103-019-02844-y.

76- Effect of Sertoli Cell Transplantation on Reducing Neuroinflammation-Induced Necroptosis and Improving Motor Coordination in the Rat Model of Cerebellar Ataxia Induced by 3-Acetylpyridine. *J Mol Neurosci* . 2020 Jul;70(7):1153-1163. doi: 10.1007/s12031-020-01522-x.

77- Minocycline induces the expression of intra-accumbal glutamate transporter-1 in the morphine-dependent rats. *Asian J Psychiatr* . 2019 Dec;46:70-73. doi: 10.1016/j.ajp.2019.10.007.

78- Peripheral axotomy-induced changes of motor function and histological structure of spinal anterior horn. *Eur J Transl Myol* . 2019 Jan 17;29(1):7945. doi: 10.4081/ejtm.2019.7945.

