

Mehdi Khodamoradi, Ph.D.

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Substance Abuse Prevention Research Center,
Kermanshah University of Medical Sciences,
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EDUCATION

Kerman University of Medical Sciences
Ph.D., Neuroscience

Kerman, Iran
Feb 2011 – Nov 2016

- Dissertation: Effects of phytoestrogens on spatial memory impairment and neurodegeneration in the CA1 region of the hippocampus following KA-induced seizures in ovariectomized rats

Mashhad University of Medical Sciences
M.Sc., Anatomical Sciences

Mashhad, Iran
Sep 2008 - Dec 2010

- Thesis: Comparison of effects of 17 β -estradiol and genistein on seizure-induced dark neurons production in the hippocampus of ovariectomized rats

Shahid Beheshti University of Medical Sciences
B.Sc., Radiology

Tehran, Iran
Sep 2004 - June 2006

Isfahan University of Medical Sciences
A.D., Radiology

Isfahan, Iran
Sep 2002 - June 2004

RESEARCH INTEREST/AREA

- Learning and memory
- Drug addiction
- Sleep

TECHNICAL SKILLS

- Field potential recording (in vivo)
- Histological processing and staining (H&E, Toluidine blue, Nissl, Luxol fast blue, Fluoro-Jade C,...)
- Behavioral tasks (Morris water maze, Novel object recognition, Conditioned place preference,...)
- Western blotting & PCR
- Statistical analysis & Microsoft Office

PUBLICATIONS

- **Khodamoradi M**, Tirgar F, Ghazvini H, Rafeaie R, Tamijani SMS, Karimi N, Yadegari A, Khachaki AS, Akhtari J. Role of the cannabinoid CB1 receptor in methamphetamine-induced social and recognition memory impairment. *Neurosci. Lett.* 2022;779:136634.
- Afshari D, Shakeri J, **Khodamoradi M**, Abadi RNS, Rahkan J, Afshar Hezarkhani L. Efficacy of electroconvulsive therapy in Parkinson's disease: A clinical trial. *Neurosci. Lett.* 2022;772:136449.
- Shahveisi K, Abdoli N, Farnia V, Khazaie H, Hosseini M, Ghazvini H, **Khodamoradi M***. REM sleep deprivation before extinction or reinstatement alters methamphetamine reward memory via D1-like dopamine receptors. *Pharmacol. Biochem. Behav.* 2022;213:173319.
- Ghazvini H, Tirgar F, **Khodamoradi M**, Akbarnejad Z, Rafeaie R, Seyedhosseini Tamijani SM, Asadi-Shekaari M, Esmaeilpour K, Sheibani V. Ovarian hormones prevent methamphetamine-induced anxiety-related behaviors and neuronal damage in ovariectomized rats. *Neurosci. Lett.* 2021;746:135652.
- Farnia V, Afshari D, Abdoli N, Radmehr F, Moradinazar M, Alikhani M, Behrouz B, **Khodamoradi M**, Farhadian N. The effect of substance abuse on depression, anxiety, and stress (DASS-21) in epileptic patients. *Clin. Epidemiol. Glob. Health* 2021,128-131.
- Hassanvand F, Mohammadi T, Ayoubzadeh N, Tavakoli A, Hassanzadeh N, Ipakchi Azimi A, Mirzaei HR, **Khodamoradi M**, Abbaszadeh Goudarzi K, Pourghadamyari H, Zaimy MA. Sildenafil enhances cisplatin-induced apoptosis in human breast adenocarcinoma cells. *J. Cancer Res. Ther.* 2020;16(6):1412-1418.
- Farnia V, Asadi R, Abdoli N, Radmehr F, Alikhani M, **Khodamoradi M**, Behrouz B, Salemi S. Psychometric properties of the Persian version of General Self-Efficacy Scale (GSES) among substance abusers the year 2019–2020 in Kermanshah city. *Clin. Epidemiol. Glob. Health* 2020 8;3:949-953.
- Ghalehnoei H, Ghazvini H, Mellati A, Seyedhosseini Tamijani S M, Rafeaie R, Elyasi L, **Khodamoradi M**, Siahposht Khachaki A, Hosseini M. Effects of estrogen and progesterone on

behavioral impairment and neuronal death in ovariectomized rats induced by methamphetamine. *J. Mazandaran Univ. Med. Sci.* 2020;30(186) :1-12.

- Siyah Mansoory M, Sharini H, Behboudi M, Farnia V, **Khodamoradi M**, Alikhani M. Resting-state effective connectivity in the motive circuit of methamphetamine users: A case controlled fMRI study. *Behav. Brain Res.* 2020 21;383:112498.
- Shahveisi K, Farnia V, Khazaie H, Ghazvini H, **Khodamoradi M***. Novel object recognition memory in REM sleep-deprived rats: role of the cannabinoid CB1 receptor. *Behav. Brain Res.* 2020 2;381:112311.
- Shahveisi K, Khazaie H, Farnia V, **Khodamoradi M***. REM sleep deprivation impairs retrieval, but not reconsolidation, of methamphetamine reward memory in male rats. *Pharmacol. Biochem. Behav.* 2019; 185:172759.
- Marefati N, Mokhtari-Zaer A, Beheshti F, Karimi S, Mahdian Z, **Khodamoradi M**, Hosseini M. The effects of soy on scopolamine-induced spatial learning and memory impairments is comparable to the effects of estradiol. *Horm. Mol. Biol. Clin. Investig.* 2019; Sep 4.
- Abdoli N, Farina V, Salemi S, Zhaleh H, **Khodamordi M**, Ahmadijouybari T, Gholshani S, Alikhani M. The role of aggression and sleep quality on substance abuse in risky drivers. *Int. J. High Risk Behav. Addict.* 2018; 7(4):e60488.
- Ghotbi Ravandi S, Shabani M, Bashiri H, Saeedi Ghoraghani M, **Khodamoradi M**, Nozari M. Ameliorating effects of berberine on MK-801-induced cognitive and motor impairments in a neonatal rat model of schizophrenia. *Neurosci. Lett.* 2019;706:151-157.
- Khalifeh, S., **Khodamoradi, M.**, Hajali, V., Ghazvini, H., Eliasy, L., Kheradmand, A., Farnia, V., Akhtari, J., Shahveisi, K., Ghalehnoei, H., 2019. Naloxone ameliorates spatial memory deficits and hyperthermia induced by a neurotoxic methamphetamine regimen in male rats. *Galen Med. J.* 8,1182.
- **Khodamoradi M**, Ghazvini H, Esmaeili-Mahani S, Shahveisi K, Farnia V, Zhaleh H, Abdoli N, Akbarnejad Z, Saadati H, Sheibani V. Genistein attenuates seizure-induced hippocampal brain-derived neurotrophic factor overexpression in ovariectomized rats. *J. Chem. Neuroanat.* 2018;89:43-50.
- **Khodamoradi M**, Asadi-Shekaari M, Esmaeili-Mahani S, Sharififar F, Sheibani V. Effects of hydro-alcoholic extract of soy on learning, memory and synaptic plasticity deficits induced by seizure in ovariectomized rats. *Basic. Clin. Neurosci.* 2017;8(5):395-403.
- Ghazvini H, Shabani M, Asadi-Shekaari M, Khalifeh S, Esmaeilpour K, **Khodamoradi M**, Sheibani V. Estrogen and progesterone replacement therapy prevent methamphetamine-induced synaptic plasticity impairment in ovariectomized rats. *Addict. Health* 2016;8(3):145-156.
- **Khodamoradi M**, Asadi-Shekaari M, Esmaeili-Mahani S, Esmaeilpour K, Sheibani V. Effects of genistein on cognitive dysfunction and hippocampal synaptic plasticity impairment in an ovariectomized rat kainic acid model of seizure. *Eur. J. Pharmacol.* 2016;786:1-9.

- Ghazvini H, Khaksari M, Esmailpour K, Shabani M, Asadi-Shekaari M, **Khodamoradi M**, Sheibani V. Effects of treatment with estrogen and progesterone on the methamphetamine-induced cognitive impairment in ovariectomized rats. *Neurosci. Lett.* 2016;619:60-7.
- Salari M, Sheibani V, Saadati H, Pourrahimi A, Khaksarihadad M, Esmaeelpour K, **Khodamoradi M**. The compensate effect of regular exercise on long-term memory impairment in sleep deprived female rats. *Behav. Processes* 2015;119:50-7.
- Ebrahimzadeh Bideskan AR, Hosseini M, Mohammadpour T, Karami R, **Khodamoradi M**, Nemati Karimooy H, Alavi H. Effects of soy extract on pentylenetetrazol-induced seizures in ovariectomized rat. *J. Integr. Med.* 2011;9(6):611-8.
- Saeedi Borujeni MJ, **Khodamoradi M**, Haghiri H. A case report of speech disorders following bilateral congenital abnormality in globus pallidus. *Medical Journal of Mashhad University of Medical Sciences* 2013; 56(3):182-186. (Persian).

* Corresponding author

RESEARCH PROJECTS

❖ **Kermanshah University of Medical Sciences (KUMS) Projects:**

- PI: Local efficiency analysis of resting-state functional brain network in methamphetamine users.
- PI: Effects of cannabinoid CB1 receptor antagonist rimonabant on object recognition memory impairment induced by chronic sleep deprivation in rats.
- Co-PI: Investigate of brain map in healthy subjects after sleep deprivation using functional magnetic resonance imaging.
- PI: Age-dependent effects of methamphetamine on locomotor activity, anxiety-like behavior, and spatial memory in REM sleep-deprived rats
- PI: Effects of sleep deprivation during pregnancy on methamphetamine-induced conditioned place preference in the offspring: a possible role for D1-like and D2-like dopamine receptors.
- PI: A possible role for group I metabotropic glutamate receptors (mGluR1 and mGluR5) on long-term potentiation in rat hippocampus following methamphetamine administration.
- PI: Effect of cannabinoid CB1 receptor antagonism on object recognition memory impairment induced by REM sleep deprivation in rat.
- PI: Sex-dependent effects of sleep deprivation on the extinction and reinstatement of

methamphetamine in male and female rats.

- PI: Effect of paradoxical (REM) sleep deprivation on retrieval and reconsolidation of methamphetamine reward memory in rat.

❖ **Iran National Science Foundation (INSF) Projects:**

- PI: An investigation of the role of D1-like and D2-like dopamine receptors on the extinction and reinstatement of methamphetamine and methamphetamine-induced hyperlocomotion and hyperthermia in the sleep-deprived rats.
- Co-PI: The effect of cannabinoid CB1 receptors antagonism on methamphetamine-induced object recognition memory impairment in rat.
- Co-PI: The validity and reliability of the Risk Taking Questionnaire-18 Items (RT-18) and Suicide Behaviors Questionnaire-Revised (SBQ-R) in the youth, addicts, and suicide attempters.

INTERNATIONAL SCHOOLS & INTERNSHIP

- 2nd IBRO/APRC Chandigarh Neuroscience School: Basic and Research Concepts of Neuropsychiatric Disorders. Dec 14 - 22, 2016. Chandigarh, India.
- IBRO/APRC Varanasi School: Molecular Advancements in Neurobiology. Sep 5 - 20, 2015. Varanasi, India.
- 3rd Tehran IBRO School of Neuroscience: Molecular, Electrophysiological & Behavioral Approaches. Oct 26 - Nov 6, 2013. Tehran, Iran.
- Internship at Cognitive Brain Mapping Laboratory, RIKEN Brain Science Institute. Sep 5 - 15, 2011. 2-1 Hirosawa, Wako-shi, Saitama, 351-0198, Japan.

CONGRESS

- Maternal sleep deprivation affects methamphetamine reward memory in male offspring: role of dopamine receptors. 9th Basic and Clinical Neuroscience Congress. Dec 9-11, 2020; Tehran, Iran.
- Rimonabant prevents reinstatement of methamphetamine-seeking behavior in the sleep-deprived rats. 7th Basic & clinical neuroscience congress. Dec 12-14, 2018; Tehran, Iran.
- Genistein protects against kainate-induced BDNF overexpression and ultrastructural damage in the hippocampus. Basic & clinical neuroscience congress. Dec 20-22, 2017; Tehran, Iran.

- Naloxone attenuates methamphetamine-induced cognitive impairment in rat. 11th Annual International Addiction Science Congress. Sep 13-15, 2017; Tehran, Iran.
- The effects of estradiol, genistein and soy extract on dark neurons production in the hippocampus and dentate gyrus of ovariectomized rats after repeated seizures. 21st international Iranian congress of physiology and pharmacology. 23-27 Aug 2013; Tabriz, Iran.
- A case report of speech disorders following bilateral congenital abnormality in globus pallidus. Proceeding of the basic and clinical neuroscience congress. 7-9 Nov 2012; Tehran, Iran.
- The effect of soy extract on pentylenetetrazole-induced repeated seizures in ovariectomized rat. The first international epilepsy congress. 9-12 Dec 2010; Mashhad, Iran.

MEMBERSHIP

- Iran Neuroscience Society

REFERENCES

- **Mahmoud Hosseini, Ph.D.** Professor. Department of Physiology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. Electronic address: hosseinim@mums.ac.ir.
- **Mohammad Shabani, Ph.D.** Professor. Neuroscience Research Center, Institute of Neuropharmacology, Kerman University of Medical Sciences, Kerman, Iran. Electronic address(es): shabani@kmu.ac.ir, shabanimoh@yahoo.com.
- **Ali Reza Ebrahimzadeh Bideskan, Ph.D.** Professor. Department of Anatomy and Cell Biology, School of Medicine, Mashhad University of Medical Sciences, Mashhad, Iran. Electronic address: ebrahimzadehba@mums.ac.ir.