

Personal information:**Name: Ayat Kaeidi****Academic position: Associate professor of physiology****E-mail: a.kayedi@gmail.com and a.kaeidi@rums.ac.ir****Education:**

M.Sc. (2007-2010): Physiology, Biology Department, Shaheed Bahonar University of Kerman, Kerman, Iran.

Ph.D. (2011-2015): Medical Physiology. Physiology Department, Tarbiat Modares University, Tehran, Iran.

Ph.D. research project:

Preparing rat brain slices containing the Locus coeruleus (LC) and Paragigantocellularis (PGi) nuclei; electrophysiological and molecular study of the LC neuronal response in morphine dependence and withdrawal condition in this slice

Research Interests:

- Study of the neurodegeneration and neuroprotection mechanisms in neurological disorders using behavioral, cellular and molecular approaches.
- Study of drug addiction and their mechanism.
- Clinical trial and cohort study in non-communicable diseases fields.
- Study of the cancer mechanisms.

Research Experience

- 1- Electrophysiology: whole cell patch clamp and single unit recording.
- 2- Proteomics: SDS-PAGE, western blotting, immunohistofluorescence, ELIZA.
- 3- Molecular biology: Isolation and electrophoretic analysis of genomic DNA and RNA, Reverse Transcriptase-PCR.
- 4- Cellular studies: Primary and transformed cell culture and cell death analysis methods.

Other techniques:

- A. Animal surgeries like stereotaxic brain and spinal cord cannulation.
- B. Learning and memory studies; Morris Water Maze, Shuttle box, Novel Object Recognition Test (NORT), Y-Maze, elevated plus Maze.
- C. Animal models of nociception: Tail-flick test, hot plate test, von-frey test, formalin test.
- D. Animal models of drug addiction: Morphine withdrawal and tolerance test, CPP test.
- E.

Teaching experiences:

- Teaching medical physiology for students of medicine, dentistry and Ms and PhD Students of physiology and anatomy. Rafsanjan University of Medical Sciences (2015 to present)
- Teaching medical physiology for students of paramedical students (nursing, Radiology, laboratory sciences...). Rafsanjan University of Medical Sciences (2015 to present)

Full Text Publications:

1. Abbasloo E, Abdollahi F, Saberi A, Esmaceli-Mahani S, Kaeidi A, Akhlaghinasab F, et al. Involvement of T-type calcium channels in the mechanism of low dose morphine-induced hyperalgesia in adult male rats. *Neuropeptides*. 2021 Aug 14;90:102185.
2. Bazmandegan G, Fatemi I, Kaeidi A, Khademalhosseini M, Fathinejad A, Amirteimoury M. Calcium dobesilate prevents cisplatin-induced nephrotoxicity by modulating oxidative and histopathological changes in mice. *Naunyn Schmiedebergs Arch Pharmacol*. 2021 Mar;394(3):515–21.
3. Bazmandegan G, Amirteimoury M, Kaeidi A, Shamsizadeh A, Khademalhosseini M, Nematollahi MH, et al. Sumatriptan ameliorates renal injury induced by cisplatin in mice. *Iran J Basic Med Sci*. 2019 May;22(5):563–7.
4. Dehnamaki F, Karimi A, Pilevarian AA, Fatemi I, Hakimizadeh E, Kaeidi A, et al. Treatment with troxerutin protects against cisplatin-induced kidney injury in mice. *Acta Chir Belg*. 2019 Feb;119(1):31–7.

5. Esmaili-Mahani S, Rezaeezadeh-Roukerd M, Esmailpour K, Abbasnejad M, Rasoulia B, Sheibani V, et al. Olive (*Olea europaea* L.) leaf extract elicits antinociceptive activity, potentiates morphine analgesia and suppresses morphine hyperalgesia in rats. *J Ethnopharmacol.* 2010 Oct 28;132(1):200–5.
6. Fatemi I, Saeed-Askari P, Hakimzadeh E, Kaeidi A, Esmail-Moghaddam S, Pak-Hashemi M, et al. Long-term metformin therapy improves neurobehavioral functions and antioxidative activity after cerebral ischemia/reperfusion injury in rats. *Brain Res Bull.* 2020 Oct;163:65–71.
7. Fatemi I, Hadadianpour Z, Fatehi F, Shamsizadeh A, Hasanshahi J, Abbasfard M, et al. The role of locus coeruleus nucleus TRPV1 receptors in the development and expression of morphine dependence. *Iran J Basic Med Sci.* 2019 Oct;22(10):1186–91.
8. Fatemi I, Heydari S, Kaeidi A, Shamsizadeh A, Hakimzadeh E, Khaluoi A, et al. Metformin ameliorates the age-related changes of d-galactose administration in ovariectomized mice. *Fundam Clin Pharmacol.* 2018 Aug;32(4):392–9.
9. Fatemi I, Amirteimoury M, Shamsizadeh A, Kaeidi A. The effect of metformin on morphine analgesic tolerance and dependence in rats. *Res Pharm Sci.* 2018 Aug;13(4):316–23.
10. Hadadianpour Z, Fatehi F, Ayoobi F, Kaeidi A, Shamsizadeh A, Fatemi I. The effect of orexin-A on motor and cognitive functions in a rat model of Parkinson’s disease. *Neurol Res.* 2017 Sep;39(9):845–51.
11. Hajjalizadeh Z, Nasri S, Kaeidi A, Sheibani V, Rasoulia B, Esmaili-Mahani S. Inhibitory effect of *Thymus caramanicus* Jalas on hyperglycemia-induced apoptosis in in vitro and in vivo models of diabetic neuropathic pain. *J Ethnopharmacol.* 2014 May 14;153(3):596–603.
12. Hajjalizadeh Z, Esmaili-Mahani S, Sheibani V, Kaeidi A, Atapour M, Abbasnejad M. Changes in the gene expression of specific G-protein subunits correlate with morphine insensitivity in streptozotocin-induced diabetic rats. *Neuropeptides.* 2010 Aug;44(4):299–304.
13. Hakimzadeh E, Zamanian M, Giménez-Llort L, Sciorati C, Nikbakhtzadeh M, Kujawska M, et al. Calcium Dobesilate Reverses Cognitive Deficits and Anxiety-Like Behaviors in the D-Galactose-Induced Aging Mouse Model through Modulation of Oxidative Stress. *Antioxid Basel Switz.* 2021 Apr 23;10(5):649.
14. Hakimzadeh E, Kaeidi A, Taghipour Z, Mehrzadi S, Allahtavakoli M, Shamsizadeh A, et al. Ceftriaxone improves senile neurocognition damages induced by D-galactose in mice. *Iran J Basic Med Sci.* 2020 Mar;23(3):368–75.
15. Hakimzadeh E, Hassanshahi J, Kaeidi A, Nematollahi MH, Taghipour Z, Rahmani M, et al. Ceftriaxone improves hepatorenal damages in mice subjected to D-galactose-induced aging. *Life Sci.* 2020 Oct 1;258:118119.

16. Hassanshahi J, Mirzahosseini-Pourranjbar A, Hajjalizadeh Z, Kaeidi A. Anticancer and cytotoxic effects of troxerutin on HeLa cell line: an in-vitro model of cervical cancer. *Mol Biol Rep.* 2020 Aug;47(8):6135–42.
17. Heidari Barchi Nezhad R, Asadi F, Abtahi Froushani SM, Hassanshahi G, Kaeidi A, Khanamani Falahati-Pour S, et al. The effects of transplanted mesenchymal stem cells treated with 17- β estradiol on experimental autoimmune encephalomyelitis. *Mol Biol Rep.* 2019 Dec;46(6):6135–46.
18. Javidi MA, Kaeidi A, Mortazavi Farsani SS, Babashah S, Sadeghizadeh M. Investigating curcumin potential for diabetes cell therapy, in vitro and in vivo study. *Life Sci.* 2019 Dec 15;239:116908.
19. Jebali A, Noroozi Karimabad M, Ahmadi Z, Khorramdel H, Kaeidi A, Mirzaei M, et al. Attenuation of inflammatory response in the EAE model by PEGylated nanoliposome of pistachio oils. *J Neuroimmunol.* 2020 Oct 15;347:577352.
20. Kaeidi A, Amirteimoury M, Zare M-S, Nazari A, Hakimizadeh E, Hassanshahi J, et al. Effects of valsartan on morphine tolerance and dependence in rats. *Res Pharm Sci.* 2021 Jun;16(3):286–93.
21. Kaeidi A, Taghipour Z, Allahtavakoli M, Fatemi I, Hakimizadeh E, Hassanshahi J. Ameliorating effect of troxerutin in unilateral ureteral obstruction induced renal oxidative stress, inflammation, and apoptosis in male rats. *Naunyn Schmiedebergs Arch Pharmacol.* 2020 May;393(5):879–88.
22. Kaeidi A, Sahamsizadeh A, Allahtavakoli M, Fatemi I, Rahmani M, Hakimizadeh E, et al. The effect of oleuropein on unilateral ureteral obstruction induced-kidney injury in rats: the role of oxidative stress, inflammation and apoptosis. *Mol Biol Rep.* 2020 Feb;47(2):1371–9.
23. Kaeidi A, Maleki M, Shamsizadeh A, Fatemi I, Hakimizadeh E, Hassanshahi J. The therapeutic approaches of renal recovery after relief of the unilateral ureteral obstruction: A comprehensive review. *Iran J Basic Med Sci.* 2020 Nov;23(11):1367–73.
24. Kaeidi A, Hajjalizadeh Z, Jahandari F, Fatemi I. Leptin attenuates oxidative stress and neuronal apoptosis in hyperglycemic condition. *Fundam Clin Pharmacol.* 2019 Feb;33(1):75–83.
25. Kaeidi A, Taati M, Hajjalizadeh Z, Jahandari F, Rashidipour M. Aqueous extract of *Zizyphus jujuba* fruit attenuates glucose induced neurotoxicity in an in vitro model of diabetic neuropathy. *Iran J Basic Med Sci.* 2015 Mar;18(3):301–6.
26. Kaeidi A, Azizi H, Javan M, Ahmadi Soleimani SM, Fathollahi Y, Semnianian S. Direct Facilitatory Role of Paragigantocellularis Neurons in Opiate Withdrawal-Induced Hyperactivity of Rat Locus Coeruleus Neurons: An In Vitro Study. *PloS One.* 2015;10(7):e0134873.

27. Kaeidi A, Rasoulilian B, Hajializadeh Z, Pourkhodadad S, Rezaei M. Cisplatin toxicity reduced in human cultured renal tubular cells by oxygen pretreatment. *Ren Fail.* 2013;35(10):1382–6.
28. Kaeidi A, Esmaeili-Mahani S, Abbasnejad M, Sheibani V, Rasoulilian B, Hajializadeh Z, et al. Satureja khuzestanica attenuates apoptosis in hyperglycemic PC12 cells and spinal cord of diabetic rats. *J Nat Med.* 2013 Jan;67(1):61–9.
29. Kaeidi A, Esmaeili-Mahani S, Sheibani V, Abbasnejad M, Rasoulilian B, Hajializadeh Z, et al. Olive (*Olea europaea* L.) leaf extract attenuates early diabetic neuropathic pain through prevention of high glucose-induced apoptosis: in vitro and in vivo studies. *J Ethnopharmacol.* 2011 Jun 14;136(1):188–96.
30. Kaviani E, Rahmani M, Kaeidi A, Shamsizadeh A, Allahtavakoli M, Mozafari N, et al. Protective effect of atorvastatin on d-galactose-induced aging model in mice. *Behav Brain Res.* 2017 Sep 15;334:55–60.
31. Kazemi M, Taghavi M-M, Shabanizadeh A, Taghipour Z, Kaeidi A, Shariati-Kohbanani M. Investigation of grape sap on wingless/integrated and β -catenin genes expression with histological factors on the hair follicle in rat. *Res Pharm Sci.* 2020 Aug;15(4):350–7.
32. Mozafari N, Shamsizadeh A, Fatemi I, Allahtavakoli M, Moghadam-Ahmadi A, Kaviani E, et al. CX691, as an AMPA receptor positive modulator, improves the learning and memory in a rat model of Alzheimer's disease. *Iran J Basic Med Sci.* 2018 Jul;21(7):724–30.
33. Niknia S, Kaeidi A, Hajizadeh MR, Mirzaei MR, Khoshdel A, Hajializadeh Z, et al. Neuroprotective and antihyperalgesic effects of orexin-A in rats with painful diabetic neuropathy. *Neuropeptides.* 2019 Feb;73:34–40.
34. Rahmani M-R, Shamsizadeh A, Moghadam-Ahmadi A, Kaeidi A, Allahtavakoli M. Monoacylglycerol lipase inhibitor, JZL-184, confers neuroprotection in the mice middle cerebral artery occlusion model of stroke. *Life Sci.* 2018 Apr 1;198:143–8.
35. Rasoulilian B, Hajializadeh Z, Esmaeili-Mahani S, Rashidipour M, Fatemi I, Kaeidi A. Neuroprotective and antinociceptive effects of rosemary (*Rosmarinus officinalis* L.) extract in rats with painful diabetic neuropathy. *J Physiol Sci JPS.* 2019 Jan;69(1):57–64.
36. Rasoulilian B, Kaeidi A, Rezaei M, Hajializadeh Z. Cellular Preoxygenation Partially Attenuates the Antitumoral Effect of Cisplatin despite Highly Protective Effects on Renal Epithelial Cells. *Oxid Med Cell Longev.* 2017;2017:7203758.
37. Rasoulilian B, Kaeidi A, Pourkhodadad S, Dezfoulian O, Rezaei M, Wahhabaghai H, et al. Effects of pretreatment with single-dose or intermittent oxygen on Cisplatin-induced nephrotoxicity in rats. *Nephro-Urol Mon.* 2014 Sep;6(5):e19680.
38. Saffar S, Fatemi I, Rahmani M, Hassanshahi J, Sahamsizadeh A, Allahtavakoli M, et al. The effect of epigallocatechin-3-gallate on morphine-induced memory impairments in rat: EGCG effects on morphine neurotoxicity. *Hum Exp Toxicol.* 2020 Jul;39(7):994–1002.

39. Shibani F, Sahamsizadeh A, Fatemi I, Allahtavakoli M, Hasanshahi J, Rahmani M, et al. Effect of oleuropein on morphine-induced hippocampus neurotoxicity and memory impairments in rats. *Naunyn Schmiedebergs Arch Pharmacol*. 2019 Nov;392(11):1383–91.
40. Sistani S, Fatemi I, Shafeie SA, Kaeidi A, Azin M, Shamsizadeh A. The effect of Wi-Fi electromagnetic waves on neuronal response properties in rat barrel cortex. *Somatosens Mot Res*. 2019 Dec;36(4):292–7.
41. Zakeri M, Fatemi I, Kaeidi A, Zakeri MA, Hakimizadeh E, Hassanipour M, et al. Pro-neurocognitive and anti-sarcopenic benefits of one-year metformin therapy in ovariectomized aged mice. *Clin Exp Pharmacol Physiol*. 2019 Dec;46(12):1133–40.
42. Zamanian M, Shamsizadeh A, Esmaeili Nadimi A, Hajizadeh M, Allahtavakoli F, Rahmani M, et al. Short-term effects of troxerutin (vitamin P4) on muscle fatigue and gene expression of Bcl-2 and Bax in the hepatic tissue of rats. *Can J Physiol Pharmacol*. 2017 Jun;95(6):708–13.
43. Zare L, Esmaeili-Mahani S, Abbasnejad M, Rasoulilian B, Sheibani V, Sahraei H, et al. Oleuropein, chief constituent of olive leaf extract, prevents the development of morphine antinociceptive tolerance through inhibition of morphine-induced L-type calcium channel overexpression. *Phytother Res PTR*. 2012 Nov;26(11):1731–7.