

Curriculum Vitae

Fatemeh Abbaszadeh, Ph.D.

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Address: Neuroscience and Neurobiology Research Center, Shahid Beheshti University of Medical Sciences, P.O. Box: 19615-1176, Tehran, Iran.

Educational Background

2018-2023

Ph.D. of in Neuroscience, Iran University of Medical Sciences, Tehran, Iran.

Project Title: Effect of astaxanthin on improvement of motor dysfunction and inflammatory factors in post-SCI edema in male rats. Advised by Dr. Masoumeh Jorjani and Dr. Mohammad Taghi Joghataei.

2011-2018

Pro. Jorjani hired me as a research assistant and lab manager at Neuroscience and Neurobiology Research Center, Shahid Beheshti University of Medical Sciences, Iran.

There is a gap between my Master's and Ph.D. degrees.

2008-2011

Master's Degree in Animal Physiology, Shahed University, Tehran, Iran.

Project Title: Role of glial cells in sex differences in neuropathic pain after spinal cord injury in rat. Advised by Dr. Masoumeh Jorjani and Dr. Majid hassanpour-ezatti.

2004-2008

Bachelor's degree in Zoology, Shahed University, Tehran, Iran.

Professional Experience

2020- Now Executive member in Physiology and Pharmacology Journal. Tehran, Iran.

2014- 2023 Research assistant in neurobiology research center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

2011- 2023 Research assistant and lab manager in neuroscience research center, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

I mentored students in post-doctoral, Ph.D., and master's degrees. This includes rat surgery, behavioral techniques, molecular techniques, cell culture, data analysis, and writing theses and articles. I conducted workshops and webinars to teach lab techniques.

29 April-11 May 2017 Executive member in process of IBRO-APRC Tehran Advanced School of Neuroscience.

14-16 October 2014 Executive member in process of the 4th international symposium on molecular technology drug development and therapeutics., Tehran, Iran.

17-28 October 2014 Scientific member in teaching the laboratory experiments, 4th Tehran IBRO School of Neuroscience.

26 October-6 November 2013 Scientific member in teaching the laboratory experiments, 3rd Tehran IBRO School of Neuroscience.

Skills

▪ **Research Experiences in Rodents**

1. Spinal cord injury models: Unilateral electrolytic lesion on spinothalamic tract (STT), Compression, Contusion.
2. Animal models in the study of Alzheimer's and Parkinson's disease
3. Stereotaxic surgery & micro-injection technique
4. Molecular techniques: Western blot, Immunohistochemistry, Real time PCR, ELISA assay.
5. End-organ histology
6. Cell culture.
7. Behavioral techniques:
Tail flick test, Von Frey filament test, Hot-Plate test, Formalin test, Aceton drop test, Open field test, Rotarod test, BBB test, Inclined plane test, Beam walking test, Forced swimming test, Tail suspension test, Morris water maze, Y Maze, Shuttle box

▪ **Computer Literacy**

1. Statistics Biological Data Analysis (GraphPad Prism®)
2. Familiar to bioinformatics and computer programming language (Python)
3. Office and Photoshop, Adobe illustrator

▪ **Language**

- 1) Farsi; 2) English

Abstracts Presentation:

2023 26th Iranian and 5th International congress of physiology and pharmacology. Semnan, Iran.

2021 10th Basic and Clinical Neuroscience Congress. Tehran, Iran.

2021 25th Iranian and 4th International congress of physiology and pharmacology. Tehran, Iran.

2018 10th International Congress of Laboratory and Clinics- 3rd National Congress of Basic Medical Sciences and the Knowledge-based production. Tehran, Iran.

2012 1st Basic and Clinical Neuroscience Congress. Tehran-Iran.

2011 20th Iranian congress of physiology and pharmacology. Hamedan-Iran.

Publications:

Published

- 1) Seyede Nazanin Zarneshan, Elham Arkan, Amir Kiani, Seyede Zahra Hosseini, **Fatemeh Abbaszadeh**, Sajad Fakhri. Protective effects of polydatin amphiphilic chitosan nanocarriers against an aluminum chloride-induced model of Alzheimer's disease in rats: relevance to its anti-inflammatory and antioxidant effects. Naunyn-Schmiedeberg's Archives of Pharmacology. **January 2025**
- 2) Leila Almasi, Elham Arkan, Mohammad Hosein Farzaei, Amin Iranpanah, Cyrus Jalili, **Fatemeh Abbaszadeh**, Faranak Aghaz, Sajad Fakhri, Javier Echeverría. Preparation of Tragopogon graminifolius-loaded electrospun nanofibers and evaluating its wound healing activity in a rat model of skin scar. Frontiers in Pharmacology. **January 2025**
- 3) Fatemeh Abbaszadeh, Sajad Fakhri, Behrang Shiri Varnamkhashti, Seyed Zachariah Moradi, Mohammad Reza Khirehgesh, Javier Echeverría. Phytochemicals from edible flowers prevent neurodegenerative diseases via the gut-brain axis. Food Bioscience. **December 2024**
- 4) Boshra Hashemi, Sajad Fakhri, Amir Kiani, **Fatemeh Abbaszadeh**, Shahram Miraghaee, Mohammad Mohammadi, Javier Echeverría. Anti-neuropathic effects of astaxanthin in a rat model of chronic constriction injury: passing through opioid/benzodiazepine receptors and relevance to its antioxidant and anti-inflammatory effects. Frontiers in Pharmacology. **November 2024**
- 5) Akram Yarmohammadi, Elham Arkan, Houshang Najafi, **Fatemeh Abbaszadeh**, Khodabakhsh Rashidi, Sana Piri, Sajad Fakhri. Protective effects of astaxanthin solid lipid nanoparticle as a promising candidate against acute kidney injury in rats. Naunyn-Schmiedeberg's Archives of Pharmacology. **November 2024**
- 6) Sadaf Fayazzadeh, Sajad Fakhri, **Fatemeh Abbaszadeh**, Mohammad Hosein Farzaei. Role of l-arginine/nitric oxide/cyclic GMP/KATP channel signaling pathway and opioid receptors in the antinociceptive effect of rutin in mice. Behavioural Pharmacology. **October 2024**
- 7) Faezeh Sadat Bagheri Bavandpouri, Atefeh Azizi, **Fatemeh Abbaszadeh**, Amir Kiani, Mohammad Hosein Farzaei, Ehsan Mohammadi-Noori, Sajad Fakhri, Javier Echeverría. Polydatin attenuated neuropathic pain and motor dysfunction following spinal cord injury in rats by employing its anti-inflammatory and antioxidant effects. Frontiers in Pharmacology. **August 2024**
- 8) **Fatemeh Abbaszadeh**, Pegah Javadpour, Mohammad Mehdi Mousavi Nasab, Masoumeh. Jorjani. The Role of Vitamins in Spinal Cord Injury: Mechanisms and Benefits. Oxidative Medicine and Cellular Longevity. **June 2024**
- 9) Abbas Alimoradian, **Fatemeh Abbaszadeh**, Masoumeh Jorjani. Testosterone signaling pathways for reducing neuropathic pain in a rat model of spinothalamic tract lesion. Iranian Journal of Basic Medical Sciences. **2024**
- 10) Pegah Javadpour, **Fatemeh Abbaszadeh**, Abolhassan Ahmadiani, Mohsen Rezaei, Rasoul Ghasemi. Mitochondrial Transportation, Transplantation, and Subsequent Immune Response in Alzheimer's Disease: An Update. Molecular Neurobiology. **February 2024**.
- 11) Zahra Mansouri, Fariba Khodagholi, Jalal Zaringhalam, **Fatemeh Abbaszadeh**, Rasoul Ghasemi, Nader Maghsoudi. Intranasal CEPO-FC prevents attention deficits in streptozotocin-

induced rat model of Alzheimer's disease: Focus on synaptic plasticity-related factors. EXCLI. **April 2024**.

12) Sajad Fakhri, Seyed Zachariah Moradi, **Fatemeh Abbaszadeh**, Farahnaz Faraji, Roshanak Amirian, Dona Sinha, Emily G McMahon, Anupam Bishayee. Targeting the key players of phenotypic plasticity in cancer cells by phytochemicals. Cancer and Metastasis Reviews. **2024**

13) Bita Firouzan, Farideh Irvanpour, **Fatemeh Abbaszadeh**, Valery Akparov, Jalal Zaringhalam, Rasoul Ghasemi, Nader Maghsoudi. Dipeptide mimetic of BDNF ameliorates motor dysfunction and striatal apoptosis in 6-OHDA-induced Parkinson's rat model: Considering Akt and MAPKs signaling. Behavioural Brain Research. **August 2023**

14) **Fatemeh Abbaszadeh**, Masoumeh Jorjani, Mohammad Taghi Joghataei, Samira Raminfar, Soraya Mehrabi. Astaxanthin ameliorates spinal cord edema and astrocyte activation via suppression of HMGB1/TLR4/NF- κ B signaling pathway in a rat model of spinal cord injury. Naunyn-Schmiedeberg's Archives of Pharmacology. **May 2023**

15) Sajad Fakhri, Ebrahim Darvish, Fatemeh Narimani, Seyed Zachariah Moradi, **Fatemeh Abbaszadeh**, Haroon Khan. The regulatory role of non-coding RNAs and their interactions with phytochemicals in neurodegenerative diseases: a systematic review. Briefings in Functional Genomics. **January 2023**

16) Sajad Fakhri, **Fatemeh Abbaszadeh**, Leila Dargahi, Ramin Pouriran, Masoumeh Jorjani. Astaxanthin ameliorates serum level and spinal expression of macrophage migration inhibitory factor following spinal cord injury. Behavioural pharmacology. **October 2022**.

17) Mahtab Ramezani, Leila Simani, Mahdiye Golestani Fard, **Fatemeh Abbaszadeh**, Shahin Shadnia, Increased levels of neurofilament light chain in suicide attempters' serum. Translational Neuroscience. **August 2022**.

18) Sajad Fakhri, Shahryar Sabouri, Amir Kiani, Mohammad Hosein Farzaei, Khodabakhsh Rashidi, Ahmad Mohammadi-Farani, Ehsan Mohammadi-Noori, **Fatemeh Abbaszadeh**. Intrathecal administration of naringenin improves motor dysfunction and neuropathic pain following compression spinal cord injury in rats: relevance to its antioxidant and anti-inflammatory activities. The Korean journal of pain. **July 2022**.

19) **Fatemeh Abbaszadeh**, Masoumeh Jorjani, Mohammad-taghi Joghataei, Soraya Mehrabi. Astaxanthin Modulates Autophagy, Apoptosis, and Neuronal Oxidative Stress in a Rat Model of Compression Spinal Cord Injury. Neurochemical Research. **April 2022**.

20) Mohammad Astarak, Sajad Fakhri, **Fatemeh Abbaszadeh**, Samira shirooei. Mohammad Hosein Farzaei The role of neuroprotective and antioxidant effects in reducing motor dysfunction, mechanical allodynia and heat hyperalgesia caused by spinal cord injury in rats following intrathecal administration of metformin. Iranian Journal of Physiology and Pharmacology. **May 2022**

21) Sajad Fakhri, **Fatemeh Abbaszadeh**, Seyed Zachariah Moradi, Hui Cao, Haroon Khan, Jianbo Xiao. Effects of Polyphenols on Oxidative Stress, Inflammation, and Interconnected Pathways during Spinal Cord Injury. Oxidative Medicine and Cellular Longevity. **January 2022**.

22) **Fatemeh Abbaszadeh**, Masoumeh Jorjani. A review of the physiopathology and animal models of spinal cord injury. Iranian Journal of Physiology and Pharmacology, **October 2021**

- 23) Abbas Alimoradian, **Fatemeh Abbaszadeh**, Masoumeh Jorjani, Mehdi Sadegh. The behavioral and molecular effects of estradiol and progesterone on a rat model of spinothalamic tract lesion. Physiology and Pharmacology. **December 2022**.
- 24) Leila Simani, Mahtab Ramezani, Ehsan Mohammadi, **Fatemeh Abbaszadeh**, Ehsan Karimialavijeh, Hossein Pakdaman. Association of Changed Serum Brain Biomarkers with Perihematomal Edema and Early Clinical Outcome in Primary ICH Patients. The Neurologist. **November 2021**.
- 25) Samira Mohammadi, Sajad Fakhri, Ahmad Mohammadi-Farani, Mohammad Hosein Farzaei, **Fatemeh Abbaszadeh**. Astaxanthin engages the L-arginine/NO/cGMP/KATP channel signaling pathway toward antinociceptive effects. Behavioural Pharmacology. **September 2021**.
- 26) Naser Moradi, Sajad Fakhri, Mohammad Hosein Farzaei, **Fatemeh Abbaszadeh**. The antinociceptive activity of naringenin passes through L-arginine/NO/cGMP/KATP channel pathway and opioid receptors. Behavioural Pharmacology. **September 2021**
- 27) **Fatemeh Abbaszadeh**, Mina Afhami, Elham Saghaei, Kobra Naseri, Majid Hassanpour-ezatti, Masoumeh Jorjani. Sex influence on sensory responses following spinothalamic tract injury in rats. Physiology and Pharmacology. **July 2021**.
- 28) Sajad Fakhri, Merve Tomas, Esra Capanoglu, Yaseen Hussain, **Fatemeh Abbaszadeh**, Baiyi Lu, Xiaolan Hu, Jianlin Wu, Liang Zou, Antonella Smeriglio, Jesus Simal-Gandara, Hui Cao, Jianbo Xiao, Haroon Khan. Antioxidant and anticancer potentials of edible flowers: where do we stand? Critical Reviews in Food Science and Nutrition. **June 2021**.
- 29) Sajad Fakhri, **Fatemeh Abbaszadeh**, Masoumeh Jorjani. On the therapeutic targets and pharmacological treatments for pain relief following spinal cord injury: A mechanistic review. Biomedicine & pharmacotherapy. **April 2021**.
- 30) Sajad Fakhri, Amir Kiani, Cyrus Jalili, **Fatemeh Abbaszadeh**, Sana Piri, Mohammad H Farzaei, Mohsen Rastegari-Pouyani, Ehsan Mohammadi-Noori, Haroon Khan. Intrathecal Administration of Melatonin Ameliorates the Neuroinflammation- Mediated Sensory and Motor Dysfunction in A Rat Model of Compression Spinal Cord Injury. Current Molecular Pharmacology. **December 2020**.
- 31) Sajad Fakhri, Yasaman Ahmadpour, Hoda Rezaei, Leila Kooshki, Seyed Zachariah Moradi, Amin Iranpanah, Mohammad Mehdi Gravandi, **Fatemeh Abbaszadeh**, Farnia Ghanbarveis. The antinociceptive mechanisms of melatonin: role of L-arginine/nitric oxide/cyclic GMP/KATP channel signaling pathway. Behavioural Pharmacology. **September 2020**.
- 32) Sajad Fakhri, **Fatemeh Abbaszadeh**, Ramin Pouriran, Masoumeh Jorjani. The effects of intrathecal ketamine on improving sensory-motor function in a rat model of compression spinal cord injury. Physiology and Pharmacology. **July 2020**.
- 33) **Fatemeh Abbaszadeh**, Sajad Fakhri, Haroon Khan. Targeting apoptosis and autophagy following spinal cord injury: Therapeutic approaches to polyphenols and candidate phytochemicals. Pharmacological Research. **July 2020**.
- 34) Leila Mohaghegh Shalmani, Neda Valian, Safura Pournajaf, **Fatemeh Abbaszadeh**, Leila Dargahi, Masoumeh Jorjani. Combination therapy with astaxanthin and epidermal neural crest stem cells improves motor impairments and activates mitochondrial biogenesis in a rat model of spinal cord injury. Mitochondrion. **March 2020**.

- 35) Sajad Fakhri, **Fatemeh Abbaszadeh**, Masoumeh Jorjani, Mohammad Pourgholami. The effects of anticancer medicinal herbs on vascular endothelial growth factor based on pharmacological aspects: a review study. Nutrition and Cancer. **October 2019**.
- 36) Razieh Samandari, Majid Hassanpour-Ezatti, Sajad Fakhri, **Fatemeh Abbaszadeh**, Masoumeh Jorjani, Sex differences and gonadal hormones roles on the glutamate level, after spinal cord injury in rats: A microdialysis study. Basic and clinical neuroscience. **May 2019**.
- 37) Sajad Fakhri, Leila Dargahi, **Fatemeh Abbaszadeh**, Masoumeh Jorjani. Effects of astaxanthin on sensory-motor function in a compression model of spinal cord injury: Involvement of ERK and AKT signaling pathway, European journal of pain. **November 2018**.
- 38) Sajad Fakhri, Leila Dargahi, **Fatemeh Abbaszadeh**, Masoumeh Jorjani. Astaxanthin attenuates neuroinflammation contributed to the neuropathic pain and motor dysfunction following compression spinal cord injury. Brain Research Bulletin. **September 2018**.
- 39) Sajad Fakhri, **Fatemeh Abbaszadeh**, Leila Dargahi, Masoumeh Jorjani. Astaxanthin: A Mechanistic Review on its Biological Activities and Health benefits, Pharmacological Research. **August 2018**
- 40) Sajad Fakhri, **Fatemeh Abbaszadeh**, Masoumeh Jorjani. Astaxanthin as a potent neuroprotective agent. Pajoohandeh. **2017**.
- 41) Alireza Masoudi, Leila Dargahi, **Fatemeh Abbaszadeh**, Mohammad Hosein Pourgholami, Alireza Asgari, Mehdi Manoochehri, Masoumeh Jorjani. Neuroprotective effects of astaxanthin in a rat model of spinal cord injury. Behavioural Brain Research. **April 2017**.
- 42) Mina Afhami, **Fatemeh Abbaszadeh**, Elham Saghaei, Kobra Naseri, Mohammad Javan, Masoumeh Jorjani. The demyelination and altered motor performance following electrolytic lesion in the ventrolateral white matter of spinal cord in male rats: Benefit of post-injury administration of estradiol. Physiology and Pharmacology. **September 2016**.
- 43) Elham Saghaei, **Fatemeh Abbaszadeh**, Kobra Naseri, Samar Ghorbanpoor, Mina Afhami, Ali Haeri, Farzaneh Rahimi, Masoumeh Jorjani. Estradiol attenuates spinal cord injury-induced pain by suppressing microglial activation in thalamic VPL nuclei of rats. Neuroscience Research. **February 2013**
- 44) Kobra Naseri, Elham Saghaei, **Fatemeh Abbaszadeh**, Mina Afhami, Ali Haeri, Farzaneh Rahimi, Masoumeh Jorjani. Role of microglia and astrocyte in central pain syndrome following electrolytic lesion at the spinothalamic tract in rats. Journal of Molecular Neuroscience. **June 2012**.

Books

- 1- **Fatemeh Abbaszadeh**, Sajad Fakhri, Sana piri and Haroon Khan: Chapter 1: Phytonutrients in the Treatment of Gastrointestinal Cancer: Bentham Books. **2023**, <https://benthambooks.com/book/9789815049633>