Farzaneh Eskandari

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Education

M.Sc. (2011-2014)

Animal Physiology, Biology Department, Arak University, Arak, Iran.

Ph.D. (2016-2022)

Medical Physiology. Department of physiology and Neurophysiology Research Center, Faculty of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Ph.D. research project: Investigation the effect of maternal separation stress on neuroendocrine and metabolic response to chronic social defeat stress along with evaluation of expression alterations of CRHR1 and FKBP5 and epigenetic modifications of FKBP5 in hypothalamus of young adult male rat offspring.

Research interests

- Type 2 Diabetes
- Neuroendocrinology
- Behavioral Physiology
- Molecular Biology

Research Experience

- Western blotting
- Molecular biology: Isolation and electrophoretic analysis of genomic DNA and RNA, Reverse Transcriptase-PCR, Methylation-specific PCR, Primer designing
- Glucose tolerance test, blood sampling and Pancreatic islet isolation
- ELISA, Enzymatic assays
- Preparation of histological slides
- Other techniques:
  A. Social defeat stress
  B. Behavioral assessments of anxiety, depression and learning and memory
  C. Evaluation of sperm parameters

Teaching Experience

- Teaching medical physiology for students of dentistry, pharmacy and MSc students of anatomy. Shahid Beheshti University of Medical Sciences.
- Teaching laboratory physiology for students of medicine, Dentistry, Pharmacy. Shahid Beheshti University of Medical Sciences.
- Teaching medical physiology for students of paramedical students. Shahid Beheshti University of Medical Sciences.

Research projects (as a principal investigator PI)

- Investigation the effect of maternal separation stress on the induction of depressive like behavior and spatial memory deficits in response to adulthood chronic social defeat stress along with evaluation of HPA axis activity and hippocampal IL-1β level in young adult male rat offspring. 2021. Grant No. 28929

  شواری پژوهشی کمیته پژوهشی دانشجویان دانشگاه ع پ شهید بهشتی ۱۳۹۷ اتمام ۱۳۹۸

- Investigation the effect of maternal separation stress on neuroendocrine and metabolic response to chronic social defeat stress along with evaluation of expression alterations of CRHR1 and FKBP5 and epigenetic modifications of FKBP5 in hypothalamus of young adult male rat offspring. Grant No. 16909.

  مصوب مرکز تحقیقات علوم اعصاب دانشگاه ع پ شهید بهشتی ۱۳۹۹ اتمام ۱۴۰۱

- Investigation the effect of maternal separation stress on oxidative stress markers in young adult male rat offspring in response to chronic social defeat stress. Approval code: IR.SBMU.REC.1397.103

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۰ اتمام ۱۴۰۱

- Investigating the effect of 4-phenyl butyric acid (4-PBA) on systemic oxidative and inflammatory damages in high fat high fructose diet-streptozotocin-induced type 2 diabetes in male rats

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۲ اتمام ۱۴۰۳

- Investigating the effect of 4-phenyl butyric acid (4-PBA) on systemic and local oxidative and inflammatory damages in high fat high fructose diet-streptozotocin-induced type 2 diabetes in male rats

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۳

- Investigating the effect of 4-phenyl butyric acid (4-PBA) on ER stress markers and WFS1 expression in relation to pancreatic isolated islets' insulin secretion in high fat high fructose diet-streptozotocin-induced type 2 diabetes in male rats

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۳

- Investigation of the effect of endoplasmic reticulum stress inhibition on SGLT-1 expression and oxidative stress in the cardiac tissue of male rats fed a high palm fat and fructose diet.

مصوب دانشگاه علوم پزشکی اصفهان ۱۴۰۳

Research projects (as co-investigator)

- Evaluation of the effect of stress during prepregnancy, pregnancy and lactation periods on lipid profies and inflammation of the hippocampus and the role of possible changes of these factors in anexity, depression and spatial memory in male rat offspring, Ethic code: IR.SBMU.PHNS.REC.1401.133

مصوب مرکز تحقیقات نوروفیزیولوژی دانشگاه ع پ شهید بهشتی ۱۴۰۱

- Investigating high-fat-high-fructose diet consumption effect during fetal-neonatal and adulthood periods on unfolded protein response (UPR) pathway components expression in pancreatic tissue, induction of leptin resistance and glucose homeostasis in male rat offspring

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۲

- Investigating the effect of metabolic stress caused by high-fat / high fructose diet during fetal-neonatal and adulthood periods on endoplasmic reticulum homeostasis in pancreas and hypothalamus tissues, induction of leptin resistance and glucose metabolism in male rat offspring

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۲

- Investigating high-fat high-fructose diet effects during perinatal and adulthood periods on the induction of endoplasmic reticulum stress, pyroptosis and non-alcoholic fatty liver disease in adult rat offspring: the inhibitory effect of 4-phenyl butyric acid

مصوب معاونت تحقیقات و فناوری دانشگاه ع پ شهید بهشتی ۱۴۰۳

- The effects of Naringenin and metformin on oxidative stress markers, expression GLP-1R and pancreatic isolated islets' insulin secretion in fructose-induced diabetic adult male rats

طرح مشترک مصوب معاونت تحقیقات و فناوری دانشگاه علوم پزشکی شهید بهشتی و مرکز تحقیقات طب سنتی و آب درمانی ۱۴۰۳

- Study of high-fat-high-fructose diet effect during pre-pregnancy-pregnancy-lactation periods on the alterations of amygdala insulin content, endoplasmic reticulum stress and inflammation, peripheral insulin resistance and depression and anxiety disorders due to re-exposure to that diet combined with restraint stress in adult male rat offspring

مصوب معاونت تحقیقات و فناوری دانشگاه علوم پزشکی شهید بهشتی ۱۴۰۳

Journal Publications

ISI:

1. Binayi F, Saeidi B, Farahani F, Izadi MS, **Eskandari F**, Azarkish F, et al. Sustained feeding of a diet high in fat resulted in a decline in the liver's insulin-degrading enzyme levels in association with the induction of oxidative and endoplasmic reticulum stress in adult male rats: evaluation of 4-phenylbutyric acid. Heliyon. 2024

2. Mina Sadat Izadi, **Farzaneh Eskandari**, Homeira Zardooz. Long-term consumption of high-fat fructose diet increased the pancreatic-derived factor level and impaired glucose and lipid metabolisms in male rats. *Physiology and Pharmacology 27 (2023) 132-140*

3. Fateme Binayi, Javad Fahanik-babaei, Mina Salimi, **Farzaneh Eskandari**, Mohammad Sahraei, Ali Ghorbani Ranjbary, Rasoul Ghasemi, Mehdi Hedayati, Fariba Khodagholi, Afsaneh Eliassi, Homeira Zardooz. Endoplasmic reticulum stress inhibition ameliorated WFS1 expression

alterations and reduced pancreatic islets' insulin secretion induced by high-fat diet in rats. *Sci Rep. 2023;13(1):1860.*

4. **Farzaneh Eskandari**, Mina Salimi, Fateme Binayi, Mohammad-Amin Abdollahifar, Mohamad Eftekhary, Mehdi Hedayati, Hossein Ghanbarian, Homeira Zardooz. Investigating the Effects of Maternal Separation on Hypothalamic–Pituitary–Adrenal Axis and Glucose Homeostasis under Chronic Social Defeat Stress in Young Adult Male Rat Offspring. *Neuroendocrinology*. *Published Online First: 09 September 2022. doi: 10.1159/000526989.*

5. Mina Sadat Izadi, **Farzaneh Eskandari**, Fatemeh Binayi, Mina Salimi, Fatemeh Sadat Rashidi, Mehdi Hedayati, Leila Dargahi, Hossein Ghanbarian, Homeira Zardooz. Oxidative and endoplasmic reticulum stress develop adverse metabolic effects due to the high-fat high-fructose diet consumption from birth to young adulthood. *Life Sciences*. *Published Online First: 09 September 2022. https://doi.org/10.1016/j.lfs.2022.120924.*

6. Mina Salimi, **Farzaneh Eskandari**, Fateme Binayi, Afsaneh Eliassi, HosseinGhanbarian, Mehdi Hedayati, Javad Fahanik-babaei, Mohamad Eftekhary, Rana Keyhanmanesh & Homeira Zardooz. Maternal stress induced endoplasmic reticulum stress and impaired pancreatic islets' insulin secretion via glucocorticoid receptor upregulation in adult male rat offspring. *Scientific Report. 2022. Jhttps://doi.org/10.1038/s41598-022-16621-5*

7. Mina Salimi, **Farzaneh Eskandari**, Fariba Khodagholi, Mohammad-Amin Abdollahifar, Mehdi Hedayati, Homeira Zardooz, Rana Keyhanmanesh. Perinatal stress exposure induced oxidative stress, metabolism disorder, and reduced GLUT-2 in adult offspring of rats. *Hormones. Published Online First: 22 August 2022. https://doi.org/10.1007/s42000-022-00393-8-w.*

8. **Farzaneh Eskandari**, Mina Salimi, Mehdi Hedayati, Homeira Zardooz. Maternal separation induced resilience to depression and spatial memory deficit despite intensifying hippocampal inflammatory responses to chronic social defeat stress in young adult male rats. *Behavioural Brain Research. Published Online First: 19 February 2022. https://doi.org/10.1016/j.bbr.2022.113810.*

9. **Farzaneh Eskandari**, Mina Salimi, Fariba Khodagholi, Mehdi Hedayati, Homeira Zardooz. Investigation of the effects of maternal separation on the pancreatic oxidative and infammatory damages along with metabolic impairment in response to chronic social defeat stress in young adult male rats. *J Diabetes Metab Disord*. *2021. https://doi.org/10.1007/s40200-021-00902-3*.

10. **Farzaneh Eskandari**, Hamid Reza Momeni. Silymarin protects plasma membrane and acrosome integrity in sperm treated with sodium arsenite. *Int J Reprod BioMed***.** Vol. 14. No. 1. pp: 47-52, January 2016.

11. **Farzaneh Eskandari**, Hamid Reza Momeni. Protective effect of silymarin on viability, motility and mitochondrial membrane potential of ram sperm treated with sodium arsenite**.** *Int J Reprod BioMed. Vol. 14. No. 6. pp: 397-402, June 2016.*

ISC:

12. **Farzaneh Eskandari,** Hamid Reza Momeni. Effect of silymarin on DNA and nuclear integrity of ram sperm Treated with sodium arsenite. *Journal of Cell & Tissue (JCT)*. 2017, 7(4): 429-436. (in Persian)

Conference Presentations

1. **Farzaneh Eskandari**, Homeira Zardooz. The influence of 4-phenyl butyric acid on energy and glucose homeostasis in type 2 diabetic male rats. *IDF WORLD DIABETES CONGRESS 7-10April 2025, Bangkok, Thailand.*

2. **Farzaneh Eskandari**, Mina Salimi, Homeira Zardooz. Investigating the effect of maternal separation stress on lipid profile, peripheral and central content of leptin and occurrence of depressive-like behavior in adult male rat offspring under chronic social defeat stress. *21st International Congress of Endocrinology 1-3 March 2024, Dubai, UAE*

3. **Farzaneh Eskandari**, Mina Salimi, Homeira Zardooz, Mehdi Hedayati. Maternal separation facilitated spatial learning and promoted resilience to depression and memory deficit independent of corticosterone elevation in response to chronic social defeat stress in young adult male rats. *5th International and 26th National Congress of Physiology and Pharmacology. 2023*

4. **Farzaneh Eskandari**, Homeira Zardooz, Mehdi Hedayati. Maternal separation intensified HPA axis and metabolic dysregulations in chronic social defeated adult male rats. *International Diabetes Federation Congress 2022. 5 to 8 December 2022.*

5. Mina Izadi, **Farzaneh Eskandari,** Fatemeh Binayi, Leila Dargahi, Homeira Zardooz. High-fat-fructose feeding from birth to adulthood impaired glucose tolerance and insulin secretion and content in rats. *International Diabetes Federation Congress 2022. 5 to 8 December 2022.*

6. **Farzaneh Eskandari**, Homeira Zardooz, Mehdi Hedayati. Investigation of the effects of maternal separation on glucose stimulated insulin secretion and content of pancreatic isolated islets along with beta cell numbers in young adult male rat offspring in response to chronic social defeat stress. *The 13th international congress of endocrine disorders. 10th to 12th November, 2021*.

7. **Farzaneh Eskandari**, Homeira Zardooz, Mehdi Hedayati. The influence of maternal separation on depressive symptoms and energy homeostasis in young adult male rat offspring subjected to chronic social defeat stress. *International Diabetes Federation Virtual Congress 2021. 6 to 11 December 2021.*

8. **Farzaneh Eskandari**, Homeira Zardooz, Fariba Khodagholi, Mehdi Hedayati. Maternal separation aggravated pancreatic oxidative and inflammatory damages in chronic social defeated adult male rats. *4th International congress of Turkish Neuroendocrinology Society 2020. 26-28 November 2020.*
9. Payam Shahsavar, Roya Ranjbar, **Farzaneh Eskandari**, Soheila Maghami, Homeira Zardooz. Chronic early life maternal deprivation induced depressive like behavior in young adult male rats. *3rd international congress of physiology and pharmacology (FAOPS satellite congress) 2019.*

10. **Farzaneh Eskandari**, Hamid Reza Momeni. THE PROTECTIVE EFFECT OF SILYMARIN ON DNA INTEGRITY AND NUCLEAR CONDENSATION OF RAM SPERM. *3rd National Congress on medicinal plants. 15-16 May 2014.*

11. **Farzaneh Eskandari**, Hamid Reza Momeni. The protective effect of silymarin on viability, motility and mitochondrial membrane potential of ram sperm treated with sodium arsenite. *2oth National Congress of Iranian Journal of Reproductive Medicine. 11-13 June 2014.*

12. **Farzaneh Eskandari**, Hamid Reza Momeni. The protective effect of Silymarin on plasma membrane and acrosome integrity in sperm treated with sodium arsenite. *The 11th Iranian Congress of Anatomical Sciences. 19-21 February 2014.*