

Curriculum Vitae



Maryam Farghadan

Human and Animal Cell Bank, Iranian Biological Resource Center

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Educational Background:

Ph.D., Immunology (2017- 2022)

Department of Immunology, School of Medicine, Tarbiat Modares University, Tehran, Iran.

- **Thesis & Research Dissertation:** *Investigating the effect of miR-211 changes on induction of ER stress-induced apoptosis in Fibroblast-Like Synoviocytes (FLSs) of patients with Rheumatoid Arthritis*

M.Sc., Immunology (2013-2015)

Department of Immunology, Faculty of Science, Semnan University of Medical Science, Semnan, Iran.

- **Thesis & Research Dissertation:** *Investigation of Artemisia Fragrans essential oil effect on mRNA expression of inducible nitric oxide synthase & cyclooxygenase-2 in RAW 264.7 murine macrophage cell line*

B.S., Sciences of Laboratory (2004)

Faculty of Science, Tehran University of Medical Science, Tehran, Iran.

Work Experiences:

- **Director of Human and Animal Cell Bank,** *Human and Animal Cell Bank, Iranian Biological Resource Center (IBRC), Tehran, Iran (2023-present).*
- **Head of Propagation and Distribution of Biological Samples,** *Human and Animal Cell Bank, Iranian Biological Resource Center (IBRC), Tehran, Iran (2022-2023).*

- **Head of Cell Culture Laboratories, Human and Animal Cell Bank, Iranian Biological Resource Center (IBRC), Tehran, Iran (2008-2020).**
- **Head of Cell Lines Storage Section, Human and Animal Cell Bank, Iranian Biological Resource Center (IBRC), Tehran, Iran (2008-2020).**
- **Head of Preparation Laboratory, Human and Animal Cell Bank, Iranian Biological Resource Center (IBRC), Tehran, Iran (2008-2011).**
- **Researcher and Research Assistant, Immunology, Asthma and Allergy Research Institute, Tehran University of Medical Sciences, Tehran, Iran (2005-2007).**

Teaching Experiences:

- **Course of Immunology, University of Science and Culture, Tehran, Iran (February 2023- June 2023).**
- **Course of Advanced Cell Biology, University of Science and Culture, Tehran, Iran (February 2023- June 2023).**
- **The Fourth USERN Fundamentals of Cell Culture School, International Scientific Education & Research Network, Tehran, Iran (February 5-22, 2023).**
- **Workshop on Fundamentals of Cell Culture, 1th International Congress of Laboratory Diagnosis, Tehran, Iran (February 2022).**
- **Workshop on Real-time PCR, Iranian Biological Resource Center (IBRC), Tehran, Iran (December 28-29, 2021).**
- **Workshop on Fundamentals of Cell Culture, Iranian Biological Resource Center (IBRC), Tehran, Iran (2010-2023).**
- **Workshop on Detection of Mycoplasma Contamination in Cell Culture, Iranian Biological Resource Center (IBRC), Tehran, Iran (2011-2019).**
- **Training Course on Advanced Cell Culture, Iranian Biological Resource Center (IBRC), Tehran, Iran (2011-2019).**
- **Training Course on Principles of Animal Cell Culture, Iranian Biological Resource Center (IBRC), Tehran, Iran (2011-2019).**
- **Training Course on Cell banking, Iranian Biological Resource Center (IBRC), Tehran, Iran (2011-2019).**

- ***Training Course on Good Cell Culture and Banking Practice***, Iranian Biological Resource Center (IBRC), Tehran, Iran (2011-2019).
- ***Workshop on Fundamentals of Cell Culture***, Department of Immunology, Faculty of Science, Semnan University of Medical Science, Semnan, Iran (November 2016).
- ***Practical Course of Immunology***, Department of Immunology, Faculty of Science, Semnan University of Medical Science, Semnan, Iran (September 2013 - January 2014).
- ***Workshop on GCCP & Global Cell Culture Problem: Mycoplasma Contamination***, 14th International Congress of Immunology & Allergy, Tehran, Iran (April 2018).
- ***Workshop on Human and Animal Cell Culture***, 14th International Congress of Immunology & Allergy, Tehran, Iran (April 2018).
- ***Workshop on Primary Cell Culture: Mesenchymal Stem Cell Isolation and Culture***, 14th International Congress of Immunology & Allergy, Tehran, Iran (April 2018).

Publications:

- **Articles:**

- 1) *MicroRNA-211-5p overexpression effect on endoplasmic reticulum stress and apoptotic genes in fibroblast-like synoviocytes of rheumatoid arthritis. Iranian Journal of Allergy, Asthma and Immunology, 2022; 21(4):418-428.*
- 2) *Cryopreservation of Iranian Markhoz goat fibroblast cells as an endangered national genetic resource. Molecular Biology Reports, 2021; 48(9):6241-6248.*
- 3) *Isolation, culture and differentiation of human spermatogonial stem cells into differentiated germ cells, osteoblasts and adipocytes. Razi Journal of Medical Sciences, 2019; 26(9):1-9.*
- 4) *Establishment and characteristics of Iranian Sistani cattle fibroblast bank: a way to genetic conservation. Conservation genetics resources, 2017; 9 (2): 305-312.*
- 5) *Establishment and characterization of Caspian horse fibroblast cell bank in Iran. In Vitro Cellular & Developmental Biology-Animal, 2017; 53 (4): 337-343.*

- 6) *The effect of Artemisia Fragrans Willd. Essential oil on inducible nitric oxide synthase gene expression and nitric oxide production in lipopolysaccharide-stimulated murine macrophage cell line. Iranian Journal of Allergy, Asthma and Immunology, 2016; 15(6): 515-524.*
- 7) *Establishment and characterization of epithelial-like cell line from Caspian trout (Salmo trutta caspius) fin tissues. Aquatic Physiology and Biotechnology, 2014; 2(3):69-88.*
- 8) *Effect of anti-epileptic drugs on serum immunoglobulin levels in children. Acta Neurol. Belg, 2010; 110(1): 65-70.*
- 9) *Prevalence of IgA Deficiency in Children with Juvenile Rheumatoid Arthritis. Iranian journal of Allergy, Asthma and Immunology, 2011; 10(1): 35-40.*
- 10) *Selective Immunoglobulin A Deficiency in Iranian Blood Donors: Prevalence, Laboratory and Clinical Findings. Iranian journal of Allergy, Asthma and Immunology, 2008; 7(3): 157-162.*

- **Book:**

- *Principles and Basics of Cell Culture, Published by Dr. Khalili group book, 2022.*

Lectured Articles & Posters in Congress:

- 1) *Establishment of Golpayegani cattle fibroblast bank; a way to genetic resources conservation & reconstruction. The 10th National and 2nd International Animal Science Congress of Iran. Tehran, Iran, August 30-31, 2023.*
- 2) *Cell Culture and Cryopreservation of Sexual Tissues of Three Iranian leopard Cheetahs. The 24th Royan International Congress on Reproductive Biomedicine, Tehran, Iran, August 31 - September 1, 2023.*
- 3) *Evaluation of miR-211-5p overexpression effect on PERK/ATF4/CHOP pathway and apoptosis related genes in FLS cells of rheumatoid arthritis. The 16th International Congress*

of Immunology and Allergy (ICIA2023), Iran University of Medical Science. Tehran, Iran, April 27-29, 2023.

- 4) *The effect of APR246 small molecule on the expression of ER stress genes related to apoptosis in rheumatoid arthritis fibroblast-like synoviocytes. The 16th International Congress of Immunology and Allergy (ICIA2023), Iran University of Medical Science. Tehran, Iran, April 27-29, 2023.*
- 5) *Knockdown of p53 combined with expression of the catalytic subunit of telomerase to immortalize primary human skin fibroblast. The First International and 9th National Biotechnology Congress. Tehran, Iran, May 24-26, 2015.*
- 6) *Standard Storage of Human and Animal Samples: Experiences of Iranian Biological Resource Center (IBRC). The 1th National Congress on Biological Resources, Iranian Biological Resource Center. Tehran, Iran, February 22-23, 2012.*
- 7) *Fibroblasts Bank as Useful Tool in Different Kinds of Biological Research. The 16th National and 4th International Conference of Biology, Ferdowsi University of Mashhad (FUM). Mashhad, Iran, September 14-16, 2010.*
- 8) *Selective Immunoglobulin A Deficiency in Iranian Blood Donors: Prevalence, Laboratory and Clinical Findings. The 27th Congress of the European Academy of Allergology and Clinical Immunology. Barcelona, Spain, June 7-11, 2008.*
- 9) *Selective Immunoglobulin A Deficiency in Iranian Blood Donors: Prevalence, Laboratory and Clinical Findings. The 9th Iranian Congress of Immunology & Allergy. Tehran, Iran, June 17-19, 2008.*
- 10) *Molecular diagnosis of Chronic Granulomatous disease in Iran. The 26th Congress of the European Academy of Allergology and Clinical Immunology. Goteborg, Sweden, June 9-13, 2007.*
- 11) *CYBB gene mutation detection in Iranian patients with x-CGD. The 25th Congress of the European Academy of Allergology and Clinical Immunology. Vienna, Austria, June 10-14, 2006.*

12) *Determining the frequency of IgA deficiency among Iranian blood donors. The 25th Congress of the European Academy of Allergy and Clinical Immunology. Vienna, Austria, June 10-14, 2006.*

Research Projects:

- **Research Assistant**, *Immunology, Asthma and Allergy Research Institute, Tehran University of Medical Sciences, Tehran, Iran (2005-2007):*
 - 1) *Study of IgA deficiency in Iranian blood donors in 2 phases: (I) Investigation of selective IgA deficiency in Iranian blood donors, (II) Investigation of IgG subclasses and inheritance pattern in IgA deficient patients.*
 - 2) *Investigation of IgA, IgM and IgG concentration in Children with Juvenile Rheumatoid Arthritis.*
 - 3) *Identification of allergens in Sycamore pollen.*

- **Project Manager**, *Department of Immunology, Faculty of Science, Semnan University of Medical Science, Semnan, Iran (2013-2015):*
 - 1) *Investigation of Artemisia Fragens essential oil effect on mRNA expression of inducible nitric oxide synthase & cyclooxygenase-2 in RAW 264.7 murine macrophage cell line.*

- **Research Assistant**, *Iranian Biological Resource Center, Tehran, Iran (2008-2018):*
 - 1) *Establishment of molecular and culture methods for identification of Mycoplasma contamination.*
 - 2) *Establishment of dental pulp stem cells collection for research application.*
 - 3) *Establishment of Primary culture from Salmo trutta caspius.*
 - 4) *Establishment of somatic cell collection of two hump camel (Camelus Bactrianus) as a source of iPSCs, future cloning and genetic research for the genetic conservation purpose in Iran.*

- 5) *Establishment of cell line & Gene bank of Caspian horse for registration and conservation of Iranian Animal Resources.*
- 6) *Establishment of cell line & Gene bank of Markhoz goat for registration and conservation of Iranian Animal Resources.*
- 7) *Establishment of cell line collection of Sistani cattle breed for registration and conservation of Iranian Animal Resources.*
- 8) *Establishment of cell line collection of Golpayegani cattle breed for registration and conservation of Iranian Animal Resources.*
- 9) *Establishment of cell line collection of Moghani sheep breed for registration and conservation of Iranian Animal Resources.*
- 10) *Establishment of human and mammalian (Cattle, Sheep, Goat, Mouse, Rat) testicular tissue and primary cells culture collection.*
- 11) *Adaptation of two cell lines growth (HEK-293 and CHO) in serum-free and suspension condition for biotechnological application.*

Certificates of Courses or Workshops:

- ***Training Course on ELISA, Pishtazteb Company, Tehran, Iran (Jan, 2007).***
- ***Workshop on Good Laboratory Practice (GLP), Iranian Biological Resource Center, Tehran, Iran (Aug, 2009).***
- ***Workshop on Fundamentals of Quality System, Iranian Biological Resource Center, Tehran, Iran (Oct, 2009).***
- ***Workshop on Bone Tissue Engineering Using Mesenchymal Stem Cell, Royan International Twin Congress, Tehran, Iran (Sep, 2009).***

- ***Training Course on Principles and Concepts of the Quality Management System, Requirements and Manufacturing and Documentation of International Standards of ISO 9001:2008***, Iranian Management Research Center, Tehran, Iran (Aug, 2010).
- ***Workshop on Microscopes and their functions***, Iranian Biological Resource Center, Tehran, Iran (Feb, 2011).
- ***Workshop on Culture and Maintenance of Mesenchymal Stem Cells***, Royan Institute, Tehran, Iran (Nov, 2012).
- ***Workshop on Flow cytometry and Cell Isolation by MACS Method***, Royan Institute, Tehran, Iran (Oct, 2012).
- ***Workshop on Scientific Writing***, Iranian Biological Resource Center, Tehran, Iran (Sep, 2013).
- ***Workshop on Bioinformatics***, Semnan University of Medical Sciences, Semnan, Iran (Feb, 2013).
- ***Workshop on Biostatistics***, Iranian Biological Resource Center, Tehran, Iran (Dec, 2014).
- ***Workshop on Real-time PCR***, Iranian Biological Resource Center, Tehran, Iran (Mar, 2014).
- ***Workshop on Cryopreservation of Reproductive Tissues and Cells***, Iranian Biological Resource Center, Tehran, Iran (Nov, 2015).
- ***Workshop on Techniques for Identification, Isolation and Analysis of Phytochemicals (TLC, HPLC)***, Iranian Biological Resource Center, Tehran, Iran (Jun, 2015).
- ***Workshop on Primer Designing: Principles and Softwares***, Iranian Biological Resource Center, Tehran, Iran (Aug, 2018).
- ***Workshop on Principles and Requirements of ISO/IEC17025***, Iran High-Tech Laboratory Network, Tehran, Iran (Feb, 2018).
- ***Webinar on Alternative Technologies to Laboratory Animals (ATLA)***, Royan Institute, Tehran, Iran (June, 20120).

Certificates of Congress or Seminar:

- *The 24th Royan International Congress on Reproductive Biomedicine, Tehran, Iran, August 31 - September 1, 2023.*
- *The 16th International Congress of Immunology and Allergy (ICIA2023), Tehran, Iran, April 27-29, 2023.*
- *The Seminar of Immunology, Asthma and Allergy, Tehran, Iran, February 26, 2011.*
- *The 7th Congress on Stem Cell Biology & Technology, Tehran, Iran, September 7-9, 2011.*
- *The Seminar of the International Asthma's Day, Tehran, Iran, May 3, 2010.*
- *The 7th Biennial Seminar of Iranian Society of Asthma and Allergy (ISAA), Tehran, Iran, November 17-19, 2009.*
- *The 2th Tehran Hepatitis Congress, Tehran, Iran, October 7, 2009.*
- *The 10th Congress on Reproductive Biomedicine and the 5th Congress on Stem Cell Biology & Technology, Tehran, Iran, September 23-35, 2009.*
- *The 2th Iranian Asthma Meeting and the 5th Biennial Seminar of Iranian Society of Asthma and Allergy (ISAA), Tehran, Iran, November 14-16, 2005.*
- *First International Congress on Immunodeficiency Disorders, Tehran, Iran, February 28-March 2, 2005.*

Laboratory Techniques Experiences:

- *Design and Management of Cell Culture Laboratory,*
- *Human and Animal Cell Culture (More than 500 types):*
 - ✓ *Primary Cell Culture from different tissues,*
 - ✓ *Cell lines Culture including: Normal and Cancer Cells, Adherent, Semi-Adherent and Suspension Cells.*

- *Isolation, Culture and Characterization of Mesenchymal Stem Cells from Adipose, Bone marrow and Dental pulp tissues,*
- *Cell Banking (According to the methods of International Cell Banks),*
- *Detection of Mycoplasma Contamination in Cell Culture by DNA staining and Microbial direct Culture,*
- *Quality Control of Cell Cultures,*
- *Evaluation of Cell Cytotoxicity by MTT assay,*
- *Cell migration assay,*
- *ELISA,*
- *DNA & RNA Extraction,*
- *PCR and Real- time PCR,*
- *Primer Design,*
- *Diagnostic Methods in Medical Lab,*
- *Immunologic Diagnostic Tests,*
- *Familiar with principles of GLP, GMP, GCCP and Writing of Lab SOPs.*

Awards:

- ***The best Oral Presentations in the 16th International Congress of Immunology and Allergy (ICIA2023), Tehran, Iran, April 27-29, 2023.***
- ***The best Mini-oral Presentations in the 16th International Congress of Immunology and Allergy (ICIA2023), Tehran, Iran, April 27-29, 2023.***
- ***The outstanding member in Iranian Biological Resource Center (IBRC), Tehran, Iran, April 16, 2014.***
- ***A member of the executive committee in the 1th International Congress on Immunodeficiency Disorders, Tehran, Iran, February 28- March 2, 2005.***

- *A member of the executive committee in the 2th Iranian Asthma Meeting and the 5th Biennial Seminar of Iranian Society of Asthma and Allergy (ISAA), Tehran, Iran, November 14-16, 2005.*
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Membership in Scientific Societies:

- *Iranian Society for Immunology and Asthma.*
- *Medical Council of I.R.IRAN.*