



# Nazila Fathi Maroufi

Assiastant Professor at Tabriz University of Medical Sciences

## Profile

As an academic member, I have an established history of collaboration with prestigious research institutions and a strong record of publishing scientific articles in international journals. I am deeply committed to enhancing educational quality and improving teaching and learning processes. I strive to leverage my strong communication skills and ability to work effectively in specialized teams to advance educational, research, and therapeutic practices. Furthermore, I consider it my duty to remain current with the latest educational and research methodologies and techniques. I am particularly passionate about guiding students toward academic and professional success, especially in the fields of cancer research and organoid technology.

\*Scopus ID: 57222437458

\*<https://scholar.google.com/citations?user=4nElZpMAAAAJ&hl=en>

## Education

- Post-Doc in McGill university
- PhD degree in Clinical Biochemistry; Tabriz University of Medical Sciences, Tabriz-Iran (average: 18.33, Start: 2/20/2016- Finish: 6/23/2021). Title of PhD thesis: The effect of melatonin and apatinib on the vasculogenic mimicry by cancer stem cells from breast cancer cell line (thesis quality: excellent (19.88))
- MSc degree in Clinical Biochemistry; Tabriz University of Medical Sciences, Tabriz-Iran (average: 18.82, Start: 9/22/2012- Finish: 2/4/2016). Title of MSc thesis: Effects of High and Low Doses of Folic Acid on the Soluble Receptor Activator of Nuclear Factor-kappa B Ligand/Osteoprotegerin Ratio during Pregnancy(thesis quality : excellent (19.64))
- Bachelor's degree in Biology; University of Tabriz, Tabriz-Iran (average: 16.62, Start: 9/23/2006- Finish: 7/22/2010).

## Employment History

- Faculty Member, Department of Biochemistry and Clinical Laboratories, Tabriz University of Medical Sciences

## Details

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📍 Tabriz

🎂 1988

💍 Married

## Teaching

Instructor of Biochemistry, Tabriz University of Medical Sciences, Iran

Instructor of Biochemistry, Islamic Azad University, Marand Branch

Instructor of Biochemistry, Islamic Azad University, Tabriz Branch

## Language

English ★★★★★

Azari Mother tongue

Persian ★★★★★

## Lab Skills

ELISA (enzyme-linked immunosorbant assay)

Western blotting

Cell and tissue culture

Organoid culture

Cellular proliferation and apoptosis assays

- Deputy of Education for Graduate Studies, Department of Biochemistry and Clinical Laboratories, Tabriz University of Medical Sciences

## Research Project

- Investigating the Effect of Melatonin on Vasculogenic Mimicry Formation by Breast Cancer Stem Cells under Hypoxic Conditions
- Development of a Rapid Diagnostic Test Strip for Cardiac Troponin-I in Serum of Myocardial Infarction Patients
- Investigating the Effect of Apatinib on Apoptosis Induction and Cell Cycle Arrest in a Breast Cancer Cell Line (Role: Principal Investigator)
- Investigating the Molecular Mechanism of Myristicin-Loaded NLCs in Enhancing the Efficacy of Docetaxel Chemotherapy in Breast Cancer (Role: Principal Investigator)
- Investigating the Effect of Valsartan and Cyclosporine on Renal Erythropoietin Gene Expression in Male Rats
- Investigating the Combined Effect of Melatonin and Apatinib on Vasculogenic Mimicry Formation by Breast Cancer Stem Cells" (Role: Co-Investigator)
- Investigating the Effect of Thymoquinone and Vandetanib on Molecular Markers of Vasculogenic Mimicry in Breast Cancer Stem Cells (Role: Key Collaborator / Co-Investigator)
- "Investigating the Anti-Invasive Effects of Melatonin-Loaded PEGylated Gold Nanoparticles on the MDA-MB-231 Breast Cancer Cell Line" (Role: Key Collaborator / Co-Investigator)
- Formulation of Quinacrine in Albumin Nanoparticles to Enhance Docetaxel Efficacy and Induce Apoptosis in a Lung Cancer Cell Line
- Investigating the Effect of Thymoquinone on VEGFR-2 Expression and Inhibition of Vasculogenic Mimicry in Breast Cancer Stem Cells" (Role: Key Collaborator / Co-Investigator)
- Investigating the In Vitro Effects of Naringenin-Loaded NLCs on Enhancing Oxaliplatin Efficacy through Apoptosis Induction in Colon Cancer Chemotherapy" (Role: Key Collaborator / Co-Investigator)
- Comparing the Effects of High-Dose vs. Low-Dose Folic Acid Supplementation During Pregnancy on the Serum RANKL/OPG Ratio" (Role: Key Collaborator / Co-Investigator)
- Comparing the Effect of Folic Acid Supplementation During Pregnancy on Homocysteine and Lipoprotein(a) Levels in MTHFR 677C>T Polymorphism Carriers" (Role: Co-Investigator)

PAS staining

VM formation assay

Molecular Biology

MTT assay

Clinical trial studies

- Investigating the Effect of Urapidil on Tumor Growth in BALB/c Mice with Breast Cancer" (Role: Principal Investigator )

## Books

- Molecular basis of prevalent cancers from formation to diagnosis (ISBN: 978-964-517-61-3. Tabriz-Iran, 2016)
- Biochemistry for Midwifery Students (Tehran, Iran)
- Golden Biochemistry textbook with key points, authorship questions and questions of the Ministry of Health in recent years (ISBN: 978-600-883-71-38. Tehran-Iran, 2018)

## International Cooperation

- Cooperation with Brunel University of London
- Cooperation with Erasmus University of the Netherlands
- Cooperation with Eastern Mediterranean University of Turkey
- Cooperation with the University of Western Ontario, Canada
- Cooperation with La Sapienza University of Italy
- Cooperation with Kyoto University, Japan

## Honors

- Graduated at the top of my class (1st rank) in the Clinical Biochemistry doctorate program at Tabriz University of Medical Sciences (Entry: 2016)
- Recipient of a Dean's Commendation for outstanding performance in the master's program.
- Recognized as an Outstanding National Researcher by the Student Research Committee of Iran's Ministry of Health.
- Talent Office Member, Tabriz University of Medical Sciences | Faculty of Medicine (2016-2018).
- Award of Appreciation, 20th National Thesis Festival of Iran, for doctoral thesis in Medical Sciences (2022).
- Graduated at the top of my class (1st rank) in the Clinical Biochemistry master program at Tabriz University of Medical Sciences (Entry: 2013)
- Dean's Commendation for exemplary performance and contributions to the doctorate program, Tabriz University of Medical Sciences.
- Achieved 5th national rank on the competitive entrance exam for the Clinical Biochemistry doctorate program.
- Selected Member, Brilliant Talents Office, Tabriz University of Medical Sciences (Doctoral Level, Clinical Biochemistry).

## Published scientific papers

- N1-Methylnicotinamide: An Anti-Ovarian Aging Hormetin?
- Current approaches in identification and isolation of cancer stem cells
- A glimpse into molecular mechanisms of embryonic stem cells pluripotency: Current status and future perspective
- The Role of SOX Family in Cancer Stem Cell Maintenance: With a Focus on SOX2

- Inhibitory effect of melatonin on hypoxia-induced vasculogenic mimicry via suppressing epithelial-mesenchymal transition (EMT) in breast cancer stem cells.
- The apatinib inhibits breast cancer cell line MDA-MB-231 in vitro by inducing apoptosis, cell cycle arrest, and regulating nuclear factor- $\kappa$ B (NF- $\kappa$ B) and mitogen-activated protein kinase (MAPK) signaling pathways
- $\beta$ -Lapachone attenuates cognitive impairment and neuroinflammation in beta-amyloid induced mouse model of Alzheimer's disease
- Epididymosomes: the black box of Darwin's pangenesi
- Lactoferrin suppresses LPS-induced expression of HMGB1, microRNA 155, 146, and TLR4/MyD88/NF- $\kappa$ B pathway in RAW264. 7 cells
- Targeting vasculogenic mimicry by phytochemicals: a potential opportunity for cancer therapy
- Targeting cancer stem cells by melatonin: Effective therapy for cancer treatment
- Influence of single nucleotide polymorphism in IL-27 and IL-33 genes on breast cancer
- Sensitization of A-549 lung cancer cells to Cisplatin by Quinacrine-loaded lipidic nanoparticles via suppressing Nrf2 mediated defense mechanism
- Vascular mimicry: changing the therapeutic paradigms in cancer
- Dapagliflozin attenuates high glucose-induced endothelial cell apoptosis and inflammation through AMPK/SIRT1 activation
- Evaluation of the diagnostic and Predictive value of glutamic acid decarboxylase, Zinc Transporter 8 serum levels in Alzheimer's disease
- Potential Therapeutic Effects of Melatonin Mediate via miRNAs in Cancer
- The regulatory role of pivotal microRNAs in the AKT signaling pathway in breast cancer
- Therapeutic potentials of Apatinib in cancer treatment: Possible mechanisms and clinical relevance
- Current progress in hepatic tissue regeneration by tissue engineering
- An evaluation on potential anti-inflammatory effects of  $\beta$ -lapachone
- The potential therapeutic effect of melatonin on human ovarian cancer by inhibition of invasion and migration of cancer stem cells
- Effects of folic acid supplementation on serum homocysteine and lipoprotein (a) levels during pregnancy
- Glutathione and pH-responsive fluorescent nanogels for cell imaging and targeted methotrexate delivery
- The potential therapeutic effects of melatonin on breast cancer: an invasion and metastasis inhibitor
- Improved anticancer effects of epigallocatechin gallate using RGD-containing nanostructured lipid carriers
- Formulation of Stattic as STAT3 inhibitor in nanostructured lipid carriers (NLCs) enhances efficacy of doxorubicin in melanoma cancer cells
- Application of  $\alpha$ -tocotrienol-loaded biocompatible precirrol in attenuation of doxorubicin dose-dependent behavior in HUH-7 hepatocarcinoma cell line
- N1-Methylnicotinamide: Is It Time to Consider as a Dietary Supplement for Athletes?
- Taq1B polymorphism of cholesteryl ester transfer protein (CETP) and its effects on the serum lipid levels in metabolic syndrome patients
- In vivo and in vitro impact of miR-31 and miR-143 on the suppression of metastasis and invasion in breast cancer
- Association of IL-10, IL-18, and IL-33 genetic polymorphisms with recurrent pregnancy loss risk in Iranian women

- Association of rs1946518 C/A polymorphism in promoter region of interleukin 18 gene and breast cancer risk in Iranian women: A case-control study
- Effects of High and Low Doses of Folic Acid on the Soluble Receptor Activator of Nuclear Factor-kappa B Ligand/Osteoprotegerin Ratio during Pregnancy
- Effects of interleukin-1 receptor antagonist (IL-1Ra) gene 86 bp VNTR polymorphism on recurrent pregnancy loss: a case-control study
- Anti-inflammatory activity of emu oil-based nanofibrous scaffold through downregulation of IL-1, IL-6, and TNF- $\alpha$  pro-inflammatory cytokines
- Decreasing serum homocysteine and hypocholesterolemic effects of Bovine lactoferrin in male rat fed with high-cholesterol diet
- Association between vitamin D deficiency and prevalence of metabolic syndrome in female population: a systematic review
- The effect of factor-xi (rs3756008) polymorphism on recurrent pregnancy loss in Iranian Azeri women
- Effect of Apatinib plus melatonin on vasculogenic mimicry formation by cancer stem cells from breast cancer cell line
- Xanthomicrol: Effective therapy for cancer treatment
- The potential therapeutic effects of Galbanic acid on cancer
- Melatonin and Apatinib: Potential Therapeutic Agents in Cancer Treatment through Vascular Mimicry Formation: A Review
- 2014, Maternal obesity and pregnancy complications, National Congress on strategies to improve health and reduce maternal mortality, Tehran, Iran.
- 2017, The role of tumor suppressor Genes and cell cycle Regulatory Checkpoint in the skin presented third National Congress of Dermatology in the northwest of the country, Tabriz, Iran.
- 2015, Phytochemical and Naturally derived: Can be useful for wound healing, second National Congress of Dermatology in the Northwest of the country, Tabriz, Iran.
- Is arbutin an effective antioxidant for the discount of oxidative and nitrosative stress in Hep-G2 cells exposed to tert-butyl hydroperoxide?
- The effects of high and low doses of folic acid on oxidation of protein levels during pregnancy: a randomized double-blind clinical trial
- Analysis of cervical lesions for presence of HSV-2 and HPV-16 and HPV-18 in Iranian patients by PCR
- Different expression of Micro RNA-126, 133a and 145 in aorta and saphenous vein samples of patients undergoing coronary artery bypass graft surgery
- Copper and zinc in stage I multiple myeloma: relation with ceruloplasmin, lipid peroxidation, and superoxide dismutase activity
- The role of folic acid in carcinogenesis, diagnosis, and treatment of cancer
- Effect of Auraptene on angiogenesis in Xenograft model of breast cancer
- An Evaluation on Potential Anti-oxidant and Anti-inflammatory Effects of Crocin
- Vascular Mimicry: A potential Therapeutic Target in Breast Cancer
- The potential therapeutic effect of melatonin in oxaliplatin combination therapy against chemoresistant colorectal cancer cells.
- Modulatory effects of miRNAs in doxorubicin resistance: A mechanistic view
- 2014, Reversing Immune Defects Caused by Alcohol Exposure With Epigenetic Targets presented , International Addiction Science Congress, Tehran, Iran.
- 2018, Which is better in childhood obesity: prevention or cure, 9th National Conference on Children's Endocrine and Metabolism, Tabriz, Iran.
- 2015, Clinical application of antibody based biosensors, laboratory and clinical congress, Tehran, Iran.

- 2017, The role of stem cells in breast cancer presented, 7th Annual Congress of the Scientific Association of Women's Cancers of Iran, Tehran, Iran
- 2017, Infantile Monoamine Neurotransmitter Disorders: Clinical characteristics and Pharmacotherapy, The third congress between International and 16th National Congress of Pediatric Neurology of Iran, Tabriz, Iran.
- 2024, Association between vitamin D deficiency and prevalence of metabolic syndrome in female population: a systematic review, 16th National Congress and 9th International Congress of Biochemistry and Biology, Tehran, Iran.
- 2016, Zinc Homeostasis and Its relation with development and progression of Breast cancer .6th International Laboratory and Clinical Congress
- 2020, Association between vitamin D deficiency and prevalence of metabolic syndrome in female population: a systematic review, 16th National Congress and 9th International Congress of Biochemistry and Biology, Tehran, Iran.

## Editorial Board Member&Scientific Paper Reviewer

- Reviewer of GENE journal
- Reviewer of Process biochemistry
- Reviewer of International Journal of Biomedicine and Public Health
- Reviewer of Function and integrative Genomics
- Reviewer of Journal of immunology research
- Reviewer of Future Medicinal Chemistry
- Reviewer of Experimental Cell Research
- Reviewer of Pharmaceutical Sciences
- Reviewer of Journal of oncologie
- Reviewer of Frontier in oncology
- Reviewer of JoVE review
- and A reviewer for more than 20 journals

## References

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