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Iran University of Medical Sciences

College of Medicine, Biochemistry,

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**Highlights of
Qualifications:**

*Researched Nano-drug delivery systems involving wound healing, nitric oxide metabolism, non-invasive laser imaging system and cancer research.

*Patent: "Polymeric Wound Healing Accelerators".
Patent No: 5,519,020. May 21, 1996.

*Strength in developing, analyzing and improving research techniques.

*Language: Fluent in English and Farsi

Education:

*Ph.D. Biochemistry. The University of Akron.
Akron, Ohio. U.S.A. 1996.

*M.S. Biological Sciences. Western Michigan
University. Kalamazoo, MI. 1990

*B.S. Biology. Arak University. Arak. Iran. 1978.

**Professional
Experiences:**

*Biochemistry department head. College of
Medicine. IUMS. Since 2009-2010.

*Biochemistry department head. College of
Medicine. IUMS. Since. 2013-2016.

*Head of animal research department. IUMS.
Since. 2008-2013.

*Faculty member at IUMS. College of Medicine.
Biochemistry dept. Since. 1996-present.

*Member of Commission for Iranian Laboratories
(Article 20 of laboratories). Since 2013-present.

*Part-time faculty member at Razi research center
at Pharmacology dept. IUMS. Since. 2002-present.

*Part-time faculty research at immunology research
Center. IUMS. Since. 2006-present.

- *Head of R&D dept. at Kavoshyar Pharmaceutical Company. Tehran. Since. 2001-2003.
- *Research member at Dubai medical research Center. Dubai. UAE. Since. 1999-2004
- *Member of research committee at college of Medicine. IUMS. Since. 1999-2004.
- *Member of electronic pharmacology science Magazine. Since. 2001-present.
- *Research member at Iranian blood transfusion Organization. Tehran. Since. 1996-2000.
- *Part-time teaching assistant at Akron University, Akron, Oh.U.S.A.1991-1995.
- *Part-time teaching assistant at Kent State University. Kent, Oh.U.S.A. Since. 1995-1996.
- *Assistant research member at International Research and Development, Metavan, MI. Since. 1989-1990.
- *Teaching assistant at Western Michigan University. Kalamazoo. MI. U.S.A. Since. 1978-1981.

Research Areas:

- *Wound healing
- *NO metabolism
- * The role of NO in autoimmune diseases
- *Laser and imaging system in wound healing
- *Drug design and delivery systems
- *Design and application of Polymers and Nano-Particles in wound healing and cancer

Presentations:

- *Presented and participated in many national and International conferences. Since. 1994-present.

Scientific Societies:

- *Member of Iranian Biochemistry Society (IBS), Iranian biotechnology commission (IBC), American Chemical Society (ACS), Wound Healing Society (WHS), Controlled Released Society (CRS), and American Association for The Advancement of Science (AAAS).

Publications:

1. Naser Kakavandi, Shima Rezaee , Seyed Reza Hosseini-Fard , Ghasem Ghasempour, Mohsen Khosravi, Mohammad Shabani, Mohammad Najafi. *Prostaglandin E2 (PGE2) synthesis pathway is involved in coronary artery stenosis and restenosis*. Gene, 2021, 765, 145131.
2. Shima Rezaee, Naser Kakavandi, Mohammad Shabani, Mohsen Khosravi, Seyed R Hosseini-Fard, Mohammad Najafi. *COX and PTGDS Gene Expression Levels in PGD2 Synthesis Pathway are correlated with miR-520 in Patients with Vessel Restenosis*. Endocrine, Metabolic & Immune Disorders-Drug Targets, 2020, 20(9), 1514-1522.
3. B Mehdizadeh, L Maleknia, A Amirabadi, M Shabani. *Glucose sensing by a glassy carbon electrode modified with glucose oxidase/chitosan/graphene oxide nanofibers*. Diamond and Related Materials, 2020, 109, 108073.
4. H Abdeahad, A Bahrami, N Saeedi, M Shabani, M Pezeshki, M Khazaei, et all. *Association between genetic variants at 9p21 locus with risk of breast cancer: A systematic review and meta-analysis*. Pathology-Research and Practice, 2020, 216 (7), 152987.
5. Mohsen Khosravi, Naser Kakavandi, Shima Rezaee, Mohammad Shabani, and Mohammad Najafi. *A Peptide Construct Mediates Focal Adhesion Pathway Through the Activation of Integrin Receptor*. Current Pharmaceutical Design, 2020, 26 (15), 1749-1755.
6. Piran S, Sarmasti S, Shabani M, Kakavandi N, Hosseini B, Khosravi M, Rezaee S, Soltanmohammadi E, Naseri F, Ghasempour G, Mohammadi A, Najafi M. *Associations between fat-soluble vitamins and lipid profile in overweight population*. Recent Patents on Food, Nutrition & Agriculture, 2020, 11(1), 56-62.
7. Ghazaleh Chiari Fard, Laleh Maleknia, Masoud Giahi, Arash Almasian, Mohammad Shabani, S. Ahmad Dehdast. *Synthesis and Characterization of Novel Antibacterial PDDA/ Honey Nanofiber against Gram-Positive and Gram-Negative Bacteria*. Nanomed Res J, 2020, 5(1):75-89,
8. Mehran Pashirzad, Hamid Fiuji, Majid Khazei, Maryam Moradi-Binabaj, Mikhail Ryzhikov, Mohammad Shabani, Amir Avan, Seyed Mahdi Hassanian. *Role of Wnt3a in the pathogenesis of cancer, current status and prospective*. Molecular Biology Reports, 2019. <https://doi.org/10.1007/s11033-019-04895-4>.
9. Mohsen Khosravi, Mohammad Najafi, Abdollah Amirfarhangi, Mahdi Karimi, Fahimeh Fattahi, and Mohammad Shabani. *The Increase of pFAK and THBS1 Protein and Gene Expression Levels in Vascular Smooth Muscle Cells by Histamine-treated M1 Macrophages*. Iran J Allergy Asthma Immunol, 2019, 18(1), 72-79.

10. Amirhossein Bahreyni, Amir Avan, Mohammad Shabani, Mikhail Ryzhikov, Hamid Fiuji, Saman Soleimanpour, Majid Khazaei, Seyed Mahdi Hassanian. *Therapeutic potential of A2 adenosine receptor pharmacological regulators in the treatment of cardiovascular diseases, recent progress, and prospective*. Journal of Cellular Physiology, 2019, 234 (2), 1295-1299.
11. Mohammad Shabani, Mostafa Irandoost, Maryam Kashnian, Yousef Khazaei Monfared. *Comparison of Nitric Oxide and Prostanoids between Preeclampsia and Normal Pregnant women*. J Biochem Tech, 2018, Special Issue (2), 170-174.
12. Bitā Hosseini, Mohammad Shabani, Asghar Mohammadi, Faezeh Naseri, Elham Soltanmohammadi, Sadegh Piran, Gholam Ali Javdan and Mohammad Najafi. *Waist-to-Hip Ratio (WHR) is Conversely Correlated to LAMP-2 Gene Expression Level: A Predictor for Lysosomal Lipid Entrance System*. Current Nutrition & Food Science, 2017, 13, 1-6.
13. Faezeh Naseri, Asghar Mohammadi, Bitā Hosseini, Mohammad Shabani, Sadegh Piran, Elham Soltanmohammadi, Mohammad Najafi. *PCSK9-related LDL-C value is correlated to Rab5 isoform expression level*. Gene Reports, 2017, 6, 128-131.
14. Zafar Gholinejad, Nejat Kheiripour, Mitra Nourbakhsh, Davod Ilbeigi, Kiarash Behroozfar, Zahra Hesari, Abolfazl Golestani, Mohammad Shabani, Nahid Einolahi. *Extracellular NAMPT?Visfatin induces proliferation through ERK1/2 and AKT and inhibits apoptosis in breast cancer cells*. Peptides, 2017, 92, 9-15.
15. Paria Arfa-Fatollahkhani, Arezo Nahavandi, Hossein Abtahi Shabnam Anjidani, Sahar Borhani Seyed Behnam Jamei, Mohammad Shabani, Saeed Mehrzadi, Ali Shahbazi. *The effect of luteinizing hormone reducing agent on anxiety and novel object recognition memory in gonadectomized rats*. Basic and Clinical Neuroscience, 2017, 8 (2), 113-120.
16. Asghar Mohammadi, Mohammad Shabani, Faezeh Naseri, Bitā Hosseini, Elham Soltanmohammadi, Sadegh Piran, Mohammad Najafi. *Circulating PCSK9 affects serum LDL cholesterol levels more than SREBP-2 expression*. Adv. Clin. Exp.Med, 2017, 26 (4), 655-659.
17. Seyed reza Hosseini Fard, Asghar Mohammadi, Mohammad Najafi, Mohammad Shabani, Gholamali Javdan. *Relationship between sterolregulatory element-binding protein-2 gene expression level and lipid profile*. J. Mazandaran.Unive.Med.Sci., 2016, 26(140), 24-32.
18. Zohreh Jagravi, Mohammad Najafi, and Mohammad Shabani. *Investigation of Histone Lysine-Specific Demethylase 5D (KDM5D) Isoform Expression in Prostate Cancer Cell Line: a System Apporoach*. Iranian Biomedical Journal, 2016, 20(2), 117-121.

19. Zohreh Jangravi, Mehdi Sharif tabar, Mehdi Mirzaei, Pouria Parsamatin, Hghighat Vakilian, Mehdi Alikhani, Mohammad Shabani, Paul Haynes, Ann K. Goodchild, Hamid Gourabi, Hossein Baharvand, and Ghasem HosseiniSalekdeh. *Two Splice Variants of Y Chromosome-Located Lysine-Specific Demethylase 5D Have Distinct Function in prostate Cancer Cell Line (DU-145)*. Journal of Proteom Research, 2015, 14 (9), 3492-3502.
20. Jafar Maleki, Mitra Nourbakhsh, Mohammad Shabani, Mohsen Korani, Seyed Manouchehr Nourazarian, Mohammad Reza Ostadali Dahaghi, Mohammad Hossein Moghadasi. *17 β -Estradiol Stimulates Generation of Reactive Species Oxygen and Nitric Oxide in Ovarian Adenocarcinoma Cells (OVCAR3)*. Iran.J.Cancer Preven, 2015. 8 (3), e2332.
21. Ardavan Ghazanchaei, Shohreh Shargh, Mohammad Shabani, Mohammad Najafi, and Seyed Manouchehr Nourazarian. *Detection of Dientamoeba fragilis in patients referred to Chaloos Medical Care Centers by nested-polymerase chain reaction (PCR) method*. African J. of Biotech, 2012, 11 (7), 4079-4082.
22. Mohammad Najafi, Behnam Alipoor, Mohammad Shabani, Abdollah Amirfarhangi, Hassan Ghasemi. *Association between rs4673 (C/T) and rs13306294 (A/G) haplotypes of NAD(P)H oxidase p22phox gene and severity of stenosis in coronary arteries*. Gene, 2012, 499: 231-217.
23. Vhid Salimi, Mohammad Shabani, Mitra Nourbakhsh and Masoumeh Tavakoli-Yaraki. *Involvement of 15-lipoxygenase-1 in the regulation of breast cancer cell death induced by sodium butyrate*. Cytotechnology, 2016, 68: 2519-2528.
24. Bitah Hosseini, Mohammad Shabani, Asghar Mohammadi, Faezeh Naseri, Elham Soltanmohammadi, Sadegh Piran and Mohammad Najafi. *Plasma PCSK9 level affects passively LAMP-2 expression, an evidence of transcription network*. Gene Reports, 2016, 4: 258-263.
25. Elham Soltanmohammadi, Sadegh Piran, Asghar Mohammadi, Bitah Hosseini, Faezeh Naseri, Mohammad Shabani, Mohammad Najafi. *Serum sdLDL-C and cellular SREBP-2 dependent cholesterol levels, is there a challenge on targeting PCSK9?* J. Med. Biochem, 2016, 35 (4), 410-415.
26. M. Najafi, F. Parto, P. Mohammadi, and M. Shabani. *Plasma nitric oxide and oxidized LDL in systemic lupus erythematosus (SLE)*. LaboratoriumMedizin, 2014, 38 (6), 319-324.
27. H Abtahi, M Shabani, SB Jameie, AH Zarnani, STalebi, N Lakpour, H Heidari-Vala, H Edalatkhah, M.A Akhondi, M Amiri, A RMahmoudi & M R Sadeghi. *Regulation of luteinizing hormone receptor in hippocampal neurons following different long- Lasting treatments of castrated adult rate*. Indian. J. of EXP. Biol, 2013, (51). 218-227.

28. S.M. Nourazarian, G. Iragian, M. Najafi, M. Nourbakhsh, G. Maleki and M. Shabani. *The Effect of Lactobacillus reuteri on Bone Morphogenetic Protein- 7 and Beta Transforming Growth Factor Gene Expressions in Streptozotocin- induced Diabetic Rat's Kidneys*. Pakistan. J of Biol. Sci., 2012, 15(8), 374-379.
29. Zahedi, F. Heydari Nasrabadi, M. Tajabadi Ebrahimi, M. Shabani, M. and Aboutalebi, H. *The effect of Lactobacillus brevis isolated from Iranian traditional cheese on cutaneous wound healing in rats*. J. of Cell and Animal Biol, 2011, 5(12). 265-270.
30. H. Abtahi, M. R. Sadeghi, M. Shabani, H. Edalatkhah, R. Hadavi, M. M Akhondi and S. Talebi. *Causes of bimodal melting curve: Asymmetric guanine cytosine (GC) distribution causing two peaks in melting curve and affecting their shapes*. African. J. of Biotech, 2011, 10(50), 10196-10203.
31. Jahagiri Y.N, Shabani M, Vatankhah N, Hashemian J and Akbari K. *A Combination of 670 nm and 810 nm Diode Lasers for Wound Healing Acceleration in Diabetic Rats*. Photomedicine and Laser Surgery, 2010, 28(5), 621-627.
32. Issa Normohammadi, Mostafa Atash Basteh. Abolfazl Mehdizadeh, Mohammad Shabani. *Assessment of antioxidant enzyme levels in mild and severe preeclampsia and normal pregnancies*. M.S.J. of I.A.U., 2010, 19 (4), 262-267.
33. A. Roostazadeh Mianden M. Firoozrai M. Shabani. *Changes in erythrocyte glutathione peroxidase activity and plasma total antioxidant level due to Securidaca securidace extract in diabetic rats*. Razi Journal of Medical Sciences, 2008, 15, (59), 91-98.
34. Noormohammadi I, Modarress M, Khanaki K, Shabani M. *Assessment of serum α -tocopherol, Retinol and Ascorbic acid on the Risk for Age- related cataract*. Annals of Nutrition and Metabolism, 2008, 52, 296-298.
35. Salimi S, Firoozrai M, Noormohammadi I, Shabani M, Shafiei M, Mohebbi A, and Tavilani H. *Lack of evidence for Contribution of intron 4 a/b Polymorphism of endothelial nitric oxide synthase (NOS 3) gen. to Plasma nitric oxide levels*. Acta Cardiol. 2008, 63(2), 229-234.
36. M.Najafi A. A. Moshtaghi, M. Ani and M. Shabani. *Study of Aspartate Aminotransferase activity in intoxicated rat by Cadmium*. J of Pharm and toxic, 2008, 3 (2), 163-167.
37. Shabani M, Afarideh B, Firoozrai M, and Pazooki H. *The effects of lipopolysaccharide on serum concentrations of NO and glucose in SD rats*. RJMS, 2006, 13(52), 145-150.
38. Salimi S, Firoozrai M, Noormohammadi I, Shabani M, and Zavarei M. *Association of variable number of tandem repeats in endothelial nitric oxide synthase gene with coronary artery disease in Tehran Shahid Rajaee Hospital*. Iranian. Journal of public Health, 2006, 35(4), 15-21.

39. Saeedeh Salimi, Mohsen Firouzrai, Issa Nourmohammadi, Mohammad Shabani and Ahmad Mohebbi. *Endothelial nitric oxide synthase gene intron 4 VNTR Polymorphism in Patients with coronary artery disease in Iran*. Indian J, Med Res., 2006, 124, 683-688.
40. Mehraban Falahati, Mohammad Shabani, Maryam .M.A. Roodaki, Fereshteh Jahanbani, Kamran Porshang Bayheri, Soltan Ahmad Ebrahimi. *Interaction between Ketoconazole, Amphotericin B and Terbinafin and three diazenumudiolates in concomitant uses against some fungal species*. Daru, 2006, 14 (2), 87-92.
41. Alireza Salek Moghaddam, Mohammad Shabani, Farahdokht Fateminasab and Mohammad Reza Khakzad. *Level of nitric oxide in Bronchoalveolar Lavage (BAL) fluid of asthmatic mice model*. I.J.I., 2005, 2(2), 104-111.
42. Shaffiee S.M, Keyhani M, Shabani M, Koochaki Shalmani I and Kaviani M. *Extraction and development of multi-step purification of Angiotensin-1 Converting Enzyme (ACE) from rabbit lung*. 2005, J.I.U.M.S., 11(44), 979-986.
43. Falahati M, Shabani M, Mirmohammad Ali Roodaki M, Jahanbani F, and Hooshang Bagheri K. *Antifungal and interactive effects of NO-donor complexes and Terbinafin on dermatophytes*. J. I.M.S., 2005, 12(49), 129-136.
44. Dashti N, Ansari M, Shabani M and Vardasbi S. *Nitric oxide donor (DETA NONOate) enhance experimental wound healing in streptozotocin induced diabetic rats*. Pak.J. Med.Sci., 2004, 20(3), 211-214.
45. Seghatoleslam M, Shariati T, Shabani M, Jameie S.B. *The effect of nitric oxide on circular smooth muscle of pylori in rat embryo*. J. I. U. M.S., 2004, 10(37), 693-701.
46. Dashti N, Ansari M, Shabani M, Vardasbi s, Mirsalehian A, Noori Mughehi M.H and Hatmi Z.N. *The effect of nitric oxide donor in diabetic wound healing*. I.J. of Public Health, 2003, 32 (4), 59-63.
47. Saravani R, and Shabani M. *Study the route of administration of caffeine on C57 BL/6J mice during pregnancy induced by Phenobarbital*. J. of S.U. M.S., 2003, 4(1-2). 39-46.
48. Goshaghani H, Koochaki I, Amini R, Darakhshandeh P, Ehsani A.Z and Shabani M. *Study the P^{53} gene mutation in gasterocarcinoma Patients in Iran*. J. of G. U. M.S., 2003, 5(12), 36-45.
49. Afrozul Haq, Khalid Al-Hussein, Hussein, Kamal Jaroudi, Hollanders J, Shabani M, and Noori Al-waili. *Isolation and partial characterization of early pregnancy factor (EPf)*. Eur. J. Med- Res, 2001, 6(5), 209-14.
50. Noor Mohammadi I, Koochaki I.S, Shabani M, Gohari L, Nazari H. *Zinc, Copper, Chromium, Manganese, and Magnesium Levels in Serum and Hair of insulin – dependent diabetics*. Arch. Irn. Med, 2000, 3(3), 126-132.

51. Patete P, Shabani M, Bulgrin J.P., Smith D.J. *A non-invasive, 3-dimensional, diagnosis laser imaging system for accurate wound analysis*. Physiological Measurements, 1996, 17, 1-9.
52. Shabani M, Pulfer S.K., Bulgrin J.P, Smith D.J. *Enhancement of wound repair with a topically applied nitric oxide- releasing polymer*. Wound Repair and Regeneration, 1996, 4(3), 353-361.
53. Bulgrin J.P., Shabani M, Chakravarthy D, Smith D.J. *Nitric Oxide synthesis is suppressed in steroid-impaired and diabetic wounds*. Wounds, 1995, 7(2), 48-57.
54. Bulgrin J.P, Shabani M, Smith D.J. *Arginine- Free diet suppresses nitric oxide production in wounds*. J. of Nutritional. Biochem, 1993, 4, 588-593.