

Maryam Hassanlou

Postal Code: 1844837671, Tehran, Iran.

Mobile: +98 9128188266, +98 21 55534497

Email: Hassanlou110@gmail.com, m.hassanlou@semnan.ac.ir

Language: English (IELTS band 6.5) and Persian

- Education:**
- Ph.D in Cellular & Molecular Biology-Genetics, 2016 (GPA: 17.67/20).**
Department of Genetics, Faculty of Biology, Trabiati Modares University, Tehran, Iran.
 - M.Sc. in Cellular & Molecular Biology-Genetics, 2006-2009 (GPA: 17.21/20)**
Department of Genetics, Faculty of Biology, Trabiati Modares University, Tehran, Iran.
 - B.Sc. in Cellular & Molecular biology-Microbiology, 2001-2005 (GPA: 16.42/20)**
Department of biology, Faculty of Basic Sciences, Alzahra University, Tehran, Iran.
- Ph.D. Thesis:** Expression and function of hsa-miR-6165 in various human cell lines and cancerous tissues.
Supervisors: Dr. S. J. Mowla & Dr. B. M. Soltani
- M. Sc. Thesis:** Cloning and expression of *human* Islet Amyloid Polypeptide in CHO cell and study the effects of static magnetic field on its aggregation, 2009.
Supervisor: Dr. H. R. Kalhor. Thesis defense Grade: 19.43/20
- Honors & Awards:**
- The best sabbatical related to industry at Semnan University in 2024.
 - DAAD scholarship award under the program research fellowships for doctoral candidates and junior scientist for up to 6 months, Germany, 2014.
 - Superior student proposal in the third seminar of student idea awarded by “the development and application of stem cell research committee of ministry of Science and Technology”, 2013.
 - 6th rank in nationwide Ph.D. entrance examination on Genetics, 2011.
 - 3th rank in nationwide Ph.D. entrance examination on Biochemistry, 2011.
 - 3th rank in nationwide M.S. entrance examination on Genetics.
 - 3th rank in nationwide M.S. entrance examination on Cell & Molecular Biology, 2006.
 - 9th rank in nationwide M.S. entrance examination on Biophysics, 2006.
- Publications:**
1. Hassanlou M., et al, **Wolfram syndrome, twelve families with 2069G>A mutation in WFS1 gene in Iran**, in press.
 2. Hassanlou M., et al, **Identification of monogenic variants in more than twenty percent of children without type 1 diabetes-related autoantibodies at diagnosis in the Iranian Pediatric Diabetes Register**, in press.
 3. Hassanlou M., et al, **Discovery of novel miRNAs located in OCT4 genes**, in prep.
 4. Hassanlou M., et al, **Discovery of novel miRNAs located in NANOG genes**, in prep.
 5. Hassanlou M., et al, **Discovery of novel miRNAs located in SOX2 genes**, in prep.
 6. Hassanlou M., et al, **Whole exome sequencing revealed new variants and haplotypes of ALMS1 gene associated with monogenic diabetes**, in prep.
 7. Hassanlou M., et al, **Novel variants and clinical symptoms in a new ALG3-CDG patients and review of the literature**, in prep.
 8. Hassanlou M., et al, **Bioinformatic prediction of novel microRNAs encoded in Krüppel-like factor 4 gene**, *J Genet Resour* 2024; 10(1): 40-45.
 9. Hassanlou M., et al, **The preventive effect of Emam Kazem drug on Covid-19 infection, A retrospective observational study**, in prep.
 10. Hassanlou M., et al **Prediction of Novel MicroRNA Located in Forkhead Box R2 Gene**, *Global Journal of Reproductive Medicine*. 2023.
 11. Hassanlou M., Abiri M, et al. **Prenatal diagnosis of citrullinemia type 1; Seven families with c.1168G>A mutation of Argininosuccinate synthetase 1 gene in Southwest of Iran: A case series**, *International Journal of Reproductive BioMedicine*. 2022.

12. Salmani M, **Hassanlou M.**, **Bioinformatics prediction of new microRNAs encoded by N-Ras gene**, *Modares Journal of Biotechnology*, 2022.
13. **Hassanlou M.**, **Investigation of PTEN Promoter Methylation and Its Effect on Non-Small Cell Lung Carcinoma**, *Personalized Medicine Journal*, 2021.
14. **Hassanlou M.**, **TERT Promoter Polymorphisms and Risk of Cervical Cancer**, *Personalized Medicine Journal*, 2021.
15. Abiri M, **Hassanlou M.**, et al. **Azoospermic Male With 45, XT (Yp; 15) Karyotype**, *Journal of Family & Reproductive Health*, 2021.
16. **Hassanlou M.**, **The Effect of Static Magnetic Field on the Rate of proIAPP Amyloid Structures Formation and the Toxicity of Amyloid Structures of Lysozyme**, *Pathobiology Research*. 2020;23(3):149-156.
17. **Hassanlou M.**, Soltani M. B., Mowla S. J., **MicroRNA-6165 Down-regulates IGF1R and Enhances Apoptosis in SW480 Cell line**, *Biological Chemistry*, 2019.
18. Khatami F., Amoli M., **Hassanlou M.**, Sarhangi N., Tavangar S. M., **The impact of selective DNA methyltransferase inhibitors on breast cancer: A systematic review**, *Clin. Breast Cancer*, in press.
19. **Hassanlou M.**, Soltani M. B., Mowla S. J., **Expression and Function of hsa-miR-6165 in Human Cell Lines and During the NT2 Cell Neural Differentiation Process**, *J Mol Neurosci*, 2017.
20. Foroutan T, Najmi M, Kazemi N, **Hasanlou M**, Pedram A. **Lower Oncogenic Potential of Human Mesenchymal Stem Cells Derived from Cord Blood Compared to Induced Pluripotent Stem Cells**, *Int J Organ Transplant Med*. 2015;6(3):99-104.
21. **Hassanlou M.**, Kalhor H.R., Sadeghizadeh M., **Overexpression of human Islet Amyloid Polypeptide in CHO cells and characterization of its properties: a cell culture model of protein aggregation in mammalian cell**, *Modares journal of medical sciences*, 12, 1, 2009.
22. Mahmoudi M., Saeedi-Eslami S. N., Shokrgozar M. A., **Hassanlou M.**, et al., **Cell "Vision": Complementary Factor of Protein Corona in NanoToxicology**, *Nanoscale*, 2012.
23. Akhavan A., Kalhor H. R., Kassaei M. Z., Sheikh N., **Hassanlou M.**, **Radiation synthesis and characterization of protein stabilized gold nanoparticles**, *Chem. Engin. J.* 159, 230–235, 2010.

Professional Skills:

1. **Bioinformatics analysis:**
 - NGS Data Analysis using Linux and UseGalaxy online tools.
 - Microarray Data Analysis using R statistic language in R Studio software.
 - Systematic search and meta-analysis.
 - Prediction of MicroRNA stem loop like structures using SSCprofiler, miPred, UCSC etc.
 - MicroRNA target prediction using DIANA, TargetScan etc.
 - Bioinformatics software: Laser gene (MegAlign, EditSeq, Protean, SeqBuilder etc.), Pymol, Mega 5, BioEdit, Perl primer, Gene runner.
 - Bioinformatics database: USPTO, EPO, NCBI, SCOPOUS, Entrez, SRS, PDB, Ensemble, UCSC, EMBL-EBI, HMDB, KEGG, Reactome, Bios & Patent lens, 3D structure prediction (Homology Modeling (SWISS-MODEL, CPHmodels 3.0 Server, ESyPred3D Web Server 1.0, Geno3D), Threading (Phyre, Fugue, HHpred, PSIPred))
2. **Molecular skills:** Gene cloning (digestion, ligation and transformation), Real-time PCR, Plasmid extraction (Mini & Maxi Prep), Primer design, PCR, RT-PCR, DNA and RNA extraction, Real-time PCR, luciferase reporter assay.
3. **Bacterial, yeast and mammalian cell culture:**
 - Bacterial MIC & MBC evaluation.
 - Mammalian cell culture (CHO, Panc1, Hek293, Hek293T, PATU, HepG2, HCM, BE-2C, A172, A431, K562 and Hela cells).

- Transfection (Calcium-phosphate, Electroporation and Lipofection)
 - Flow cytometric analysis and cell viability assay (MTT, Trypan Blue, PI, Hoesht and EtBr/AO staining of mammalian cells)
 - Florescent and polarized light microscopy and nuclear staining of mammalian cells.
 - Flowcytometric analysis
4. **Protein manipulation and amyloid detection:** SDS-PAGE, native gel electrophoresis and TCA-Lawry assay. Congo red and Thioflavine T & S staining, Congo red binding assay, Thioflavine T binding assay.
 5. **Design, implementation and writing of clinical trials.**
 6. **Computer skills:** Microsoft Office (Exell, Word, Power point), Adobe Photoshop, Database Search and Internet.

Research projects

1. Use of adipose-derived stem cells (nanofat) in curation of diabetic ulcer, TUMS, Tehran. Iran. 2023-now.
2. Preventive effect of Emam Kazem drug on Covid-19 infections, Narges Khaton Traditional medicine clinic, 2019-2020. Completed.
3. Comparison of uterine aspiration and lavage sampling methods for extraction of DNA and RNA types, Valiasr Reproductive Health Research Center, Tehran University of Medical Science, 2021-current.
4. Experimental verification of novel miRNAs encoded in OCT4, Sox2 and NANOG genes, Valiasr Reproductive Health Research Center, Tehran University of Medical Science, 2021-current.

Research Experiences & Working activities:

1. **Supervisor** of the following projects:
 - Discovery of novel microRNAs located in SOD1 gene 2023-now.
 - Discovery of novel microRNAs located in Myc, TNF-a and Fos genes 2022-now.
 - Study of IL-6 gene variants in polycystic ovary syndrome (PCOS) 2023-now.
2. **Teaching** Molecular and Basic Genetics and laboratories, Cell Biology 1 and 2 and Cell biology laboratory, Epigenetics, Cancer Genetics, Human Genetics, Cytogenetics, Developmental Biology, Statistics Workshop and Biological literations to BSc students in Farzanegan Campus of Semnan University.
3. Teaching in **2-day workshop** of "Microarray data analysis" in Shahid Beheshti University.
4. Advisor of the following M.A. projects at **Tarbiat Moalem University** (2011-Present):
 - Expression analysis of pluripotency genes, Sox2, Oct4, Nanog and Klf4 in iPS cells, hair follicle, adipose and mesenchymal stem cells.
 - Effects of various factors on osteogenic differentiation.
 - Expression analysis of Oct4 pseudogenes in iPS cells, hair follicle, adipose and mesenchymal stem cells.
5. Research experience on "Effects of superparamagnetic iron oxide nanoparticles on amyloid formation in mammalian cell lines" in **Pasteur Institute of Iran** (2010-2011).
6. Teaching of Biology for Olimpiad volunteer students of Biology as a general biology teacher, 2009.

Book writing and translation

- Translation of the book "**Concept of Genetics**, Klug, 2018" from English to Persian.
- Writing of the book "**Lab to labtop**, 2015".
- Translation of the book "**Principles of Genetics**, Simons Snostad, 2010" from English to Persian.

Conference participation & Membership:

- **Hassanlou M.**, et al, **MicroRNA regulatory network encoded in POU5F1 gene**, 17th National Congress of Biochemistry and 8th International Congress of Biochemistry and Molecular Biology, 2022.
- **Hassanlou M.**, et al, **MicroRNA encoded in SOX2 gene and its regulatory network: a bioinformatics study**, 17th National Congress of Biochemistry and 8th International Congress of Biochemistry and Molecular Biology, 2022.
- **Hassanlou M.**, et al, **The regulatory network of microRNA encoded in NANOG gene**, 17th National Congress of Biochemistry and 8th International Congress of Biochemistry and Molecular Biology, 2022.
- **Hassanlou M.**, **A retrospective observational study investigating the preventive effect of herbal compound of Saccharum officinarum, Chebulic myrobalan and Pistacia lentiscus on Covid-19 infection**, The 7th International Conference on Agricultural and Biological Sciences, Chin, 2021.
- **Hassanlou M.**, **Predicted novel microRNAs located in human IGF1R gene using bioinformatic analysis**, The fourth International and 16th National Genetics Congress, 2020.
- **Hassanlou M.**, Mohammad Soltani B. Mowla S. j., **Expression of hsa-miR-6165 during neural differentiation of NT2 human embryonic carcinoma cell line and non-neural cell lines**, First International and 13th Iranian Genetics Congress, Iran, 2014.
- **Hassanlou M.**, Mohammad Soltani B. Mowla S. j., **Bioinformatics analysis of hsa-miR-6165 target genes in critical points of cellular signaling pathways**, First International and 13th Iranian Genetics Congress, Iran, 2014.
- Dokanehiifard S., Mohammad Soltani B., Musavizadeh S. A., Hosseini1, Sepideh Parsi F. S., **Hassanlou M.**, "Evaluation of microRNA Like Stem-Loop Structure Prediction softwares Accuracy in Human Genome" Fourth Iranian Conference on Bioinformatics Nov, 2012.
- **Hassanlou M.**, Kalhor H.R., Sadeghizadeh M., "Effect of various stresses on human Islet Amyloid polypeptide (hIAPP) Aggregation." Second International Conference and Workshops on Basic and Applied Sciences, 2009, Johor Bahru, Malaysia.
- Lecturer of the academic presentation on "Evolution of MicroRNA diversity", "Molecular Chaperons & their involvement in protein disaggregation", "Preimplantation Genetic Diagnosis (PGD)" and "Gene Therapy".

Professional interests:

Crisper-cas genome editing, Exosomal biology and genetics, Human diseases biomarkers, Stem Cells Biology and therapy, Cancer Biology, Medical genetics and Bio and Nanobiotechnology.

Reference:

- **Dr. Fatemeh Rabizadeh** PhD (Semnan University)
Department of cellular and molecular Biology, Farzanegan Campus
Semnan University Phone no.: +98 912 531 8229
f.rabizade@semnan.ac.ir
- **Dr. Fatemeh Khakdan** PhD (Semnan University)
Department of cellular and molecular Biology, Farzanegan Campus
Semnan University Phone no.: +98 917 192 1147
f.khakdan@semnan.ac.ir
- **Dr. S. J. Mowla** Ph.D (TMU).
Department of cellular and molecular Biology-Genetics
Tarbiat Modares University Phone no.: +98 912 218 1980
sjmowla@modares.ac.ir