

DR. MOHAMMAD HOSSEINI

PROFESSIONAL SUMMARY

I started to investigate by using antimicrobial biotechnology and gen cloning in the master stage. However, in the Ph.D. stage, my interest has been researching on genomic and cell-free DNA and RNA at human genetic diseases and cancer. The projects involve genomic and transcriptomic analyses of fetal and maternal nucleic acids in gynecological and pregnancy disorders.



EDUCATION

Ph.D., Molecular Biology and Genetics Department, Graduate School of Science and Engineering, Istanbul University, Turkey, June 2016

Master of Science, Biology, Microbiology Department, Graduate School of Science and Engineering, Zanjan Azad University, Iran, Jan 2007

Bachelor of Science, Cellular and Molecular Biology, Microbiology Department, Graduate School of Science and Engineering, Zanjan Azad University, Iran, Feb 2003

WORK EXPERIENCE

2018-2025: General Manager and founder of VIRA GROUP and ARTIGENE Biotech companies.

2018-2021: Working as a researcher in the Cancer molecular diagnosis research, Istanbul University Faculty of Science

2011-2018: Working as a student assistant in the Human Diseases Research and Molecular Diagnosis Laboratory, Istanbul University Faculty of Science.

2007-2009: completing military service as voluntary work with master's degree in Tabriz Army Hospital 522 as a Molecular Microbiologist in clinical laboratory for 18 months.

2006-2007: Cooperating with Miyandoab Azad University in faculty of science as a lecturer (Cellular and Molecular Biology, Biology, Cell and Molecular Biology Lab).

2005-2006: Working as a student assistant in the course: Genetics lab, Microbiology lab, Cellular and Molecular lab in Zanjan Azad University.

CONTACT

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RESEARCH INTEREST

- Human genetics
 - Non-invasive prenatal diagnostic
 - Molecular diagnosis in cancer
 - Molecular biomarker detection
 - Epigenetics and epigenomics
 - Gene therapy
 - Antimicrobial biotechnology
 - Genetic engineering
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LANGUAGES

- Azari: Fluent (native)
 - Persian: Fluent (native)
 - Turkish: Fluent
 - English: Advanced
 - Swedish: Beginning
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SKILLS

Technique familiarity: Genetic Engineering, Microbiology and Molecular Biology

- DNA and RNA extraction: from Bacterial, Blood, tissue samples
 - Molecular Biology Methods: Electrophoresis (Polyacrylic Amid, Agarose, Bioanalyzer), RFLP (Restriction Fragment Length Polymorphism), PCR, Real time PCR and RT-PCR, Digital PCR, Microarray, Array CGH and Next Generation Sequencing, and SNP genotyping.
 - Molecular Biology Bioinformatics analysis.
 - Common Microbiology methods: Culture and analyses bacteria.
 - Clinical diagnosis laboratory methods: (Clinical Chemistry, Hematology, and Immunology).
 - Cloning methods: digestion, ligation, and transformation.
 - Cell culture techniques
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RESEARCH PROJECTS

- Prevalence of PER and VEB Type Extended Spectrum Betalactamases among Multidrug Resistant *Acinetobacter baumannii* Isolates in North-West of Iran.
 - Isolation and characterization of a novel human scFv inhibiting EGFRvIII expressing cancers.
 - Research in the Effect of Polymorphisms of Genes on Sport Performance.
 - Comparison of placenta and maternal serum miRNAs profile in Early Pregnancy Loss. (PhD Thesis)
 - Expression Profiling of Placental and maternal plasma microRNAs in Preeclamptic woman.
 - Array CGH Analysis of Cell-Free Fetal DNA in maternal plasma of trisomy risk pregnancies.
 - Molecular Diagnosis and Surveillance by miRNA Analysis in Ovarian Cancer
 - mRNA expression analysis by microarray in Repeated Implantation Failure (RIF), Unexplained Infertility and Recurrent Miscarriage (RM) endometrium samples.
 - The Role of the Serum Exosomal and Endometrium microRNAs in Recurrent Implantation Failure (RIF)
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PUBLICATIONS

1. Gunel T, Gumusoglu E, **Hosseini MK**, Dogan B, Tekarslan EE, Gurdamar B, Cevik N, Sezerman U, Topuz S and Aydinli. Metabolic pathways of potential miRNA biomarkers derived from liquid biopsy in epithelial ovarian cancer. *Oncology Letters*, January 2023, DOI: 10.3892/ol.2023.13728.
2. Demiral I, Gunel T, Yüksel Özgör B, Ülgen E, Gümüšoğlu E, **Hosseini mk**, Sezerman U, Buyru F, Yeh J, Baştu E. Gene pathway analysis of the endometrium at the start of the window of implantation in women with unexplained infertility and unexplained recurrent pregnancy loss: is unexplained recurrent pregnancy loss a subset of unexplained infertility? *Human Fertility*, November 2022, DOI: 10.1080/14647273.2022.2143299.
3. Azhari F, Pence S, **Hosseini MK**, Karamustafaoglu Balci B, Cevik N, Bastu E & Gunel T. The role of the serum exosomal and endometrial microRNAs in recurrent implantation failure. *The Journal of Maternal-Fetal & Neonatal Medicine*, 2020, DOI: 10.1080/14767058.2020.1849095
4. Gunel T, Gumusoglu E, Dogan B, **Hosseini MK**, Topuz S, Aydinli K. Regulation of HMGA2 and KRAS genes in epithelial ovarian cancer by

- miRNA hsa-let-7d-3p. *Journal of Cancer Research and Therapeutics*, 2019, DOI: 10.4103/jcrt.JCRT_866_18.
5. Gunel T, Gumusoglu E, Dogan B, Ertem FB, **Hosseini MK**, Cevik N, Senol T, Topuz S, Aydinli K. Potential biomarker of circulating hsa-miR-1273g-3p level for detection of recurrent epithelial ovarian cancer. *Archives of Gynecology and Obstetrics*, 2018, doi:10.1007/s00404-018-4913-3.
 6. Bastu E, Demiral I, Gunel T, Ulgen E, Gumusoglu E, **Hosseini MK**, Sezerman U, Buyru F, Yeh J. Potential Marker Pathways in the Endometrium That May Cause Recurrent Implantation Failure. *Reproductive Sciences*, 2018, 1-12.
 7. Gunel T, Kamali N, **Hosseini MK**, Gumusoglu E, Benian A, Aydinli K. Regulatory effect of miR-195 in the placental dysfunction of preeclampsia. *The Journal of Maternal-Fetal & Neonatal Medicine*. 2018, 1-11, doi.org/10.1080/14767058.2018.1508439.
 8. **Hosseini MK**, Gunel T, Gumusoglu E, Benian A, Aydinli K. MicroRNA expression profiling in placenta and maternal plasma in early pregnancy loss. *Molecular Medicine Reports*, 10.3892/mmr.2018.8530. 2017
 9. Ahdi Khosroshahi S, Farajnia S, Azhari F, **Hosseini MK**, Khanipour F, Farajnia H and Naghili B. Antimicrobial Susceptibility Pattern and Prevalence of Extended-Spectrum β -Lactamase Genotypes among Clinical Isolates of *Acinetobacter baumannii*. Tabriz, North-West of Iran, Jundishapur Journal of Microbiology, 2017. DOI: <http://dx.doi.org/10.5812/jjm.13368>.
 10. Gunel T, **Hosseini MK**, Gumusoglu E, Kisakesen HI, Benian A, Aydinli K. Expression profiling of maternal plasma and placenta microRNAs in preeclamptic pregnancies by microarray technology. *Placenta* 52 (2017) 77-85. 10.1016/j.placenta.2017.02.019.
 11. Gunel T, Antal A, Senturk T, Ozbasak HO, Gumusoglu E, Askin OE, **Hosseini MK**, Dolekcap I, Aydinli K. The Relation Between the P1a1/A2 Polymorphism of ITGB3 Gene and Myocardial Infarction in Elite Athletes. *Turkiye Klinikleri J Med Sci* 2017;37(2):68-73 doi: 10.5336/medsci.2017-54901.
 12. Rahbarnia L, Farajnia S, Babaei H, Majidi J, Dariushnejad H, **Hosseini MK**. Isolation and characterization of a novel human scFv inhibiting EGFRvIII expressing cancers. *Immunology Letters*, 2016 180 31-38, DOI: 10.1016/j.imlet.2016.10.008.
 13. Gunel T, **Hosseini MK**, Gumusoglu E, Zeybek G, Dolekcap I, Kalelioglu I, Benian A, Ermiş H, Aydinli K. Current Approaches on Non-Invasive Prenatal Diagnosis: Prenatal Genomics, Transcriptomics, Personalized Fetal Diagnosis. *J Turk Soc Obstet Gynecol*. 2014; 4:233-41 DOI: 10.4274/tjod.26817.
 14. Gunel T, Gumusoglu E, **Hosseini MK**, Yilmaz yildirim E, Dolekcap I, Aydinli K. Effect of angiotensin I-converting enzyme and α -actinin-3 gene polymorphisms on sport performance. *Molecular Medicine Reports*, 2014, 9(4):1422-6.
 15. Gunel T, **Hosseini MK**, Gumusoglu E, Dolekcap i, Aydinli K. Future perspective of preeclampsia by miRNA. *Global Journal of Human Genetics & Gene Therapy*, 2014, 2, 53-67.
 16. Farajnia S, Azhari F, Alikhani MY, **Hosseini MK**, Peymani A, Sohrabi N. Prevalence of PER and VEB Type Extended Spectrum Betalactamases among Multidrug Resistant *Acinetobacter baumannii* Isolates in North-West of Iran. *Iran J Basic Med Sci*. 2013 Jun;16(6):751-5.
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PRESENTATIONS

1. **Hosseini MK**, Gunel T, Gumusoglu E, Benian A, Aydinli K. MicroRNA Profiling in Placenta and Maternal Plasma in Early Pregnancy Loss (EPL), the 2th World Congress on Genetic and Genetic Disorders. Stockholm, Sweden, 13-14 May 2019. Oral Presentation.
2. F. Azhari, S. Pence, **M.K. Hosseini**, B. Karamustafaoglu Balci, N. Cevik, E.

- Bastu3, T. Gunel. The role of endometrial and circulating miRNAs in the recurrent implantation failure (RIF). European Society of Human Reproduction and Embryology (ESHRE), Vienna, Austria, 23-26 June 2019. Poster Presentation.
3. Gunel T, Gumusoglu E, Dogan B, Ertem FB, **Hosseini MK**, Cevik N, Senol T, Topuz S, Aydinli K. Potential biomarker of circulating hsa-miR-1273g-3p level for detection of recurrent epithelial ovarian cancer, 45th ISOBM (International Society of Oncology & BioMarkers) Tumor diagnosis and therapy - role of Biomarkers, Hamburg, Germany, Nov 24-27, 2018, Poster Presentation.
 4. Gunel T, Gumusoglu E, Dogan B, Ertem FB, **Hosseini MK**, Cevik N, Senol T, Topuz S, Aydinli K. Potential biomarker of circulating hsa-miR-1273g-3p level for detection of recurrent epithelial ovarian cancer. MOKAD-7th Multidisciplinary Cancer Research & 1st Basic Oncology Congress, Izmir, Turkey, 11-14 October 2018. Poster Presentation.
 5. Gumusoglu E, Gunel T, **Hosseini MK**, Senol T, Topuz S, Aydinli K. Molecular diagnosis and surveillance in ovarian cancer by miRNA analysis. 1st International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018), İstanbul, Turkey, October 4-6, 2018. Oral Presentation.
 6. Dogan B, Gunel T, Gumusoglu E, **Hosseini MK**, Cevik N, Senol T, Topuz S, Aydinli K. Selection of biomarker from candidate miRNAs for early detection of ovarian cancer. 1st International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018), İstanbul, Turkey, October 4-6, 2018. Poster Presentation.
 7. Tekarşlan EE, Gunel T, Gumusoglu E, **Hosseini MK**, Cevik N, Topuz S, Aydinli K. Validation of Altered MiRNAs in Ovarian Cancer Tumors. 1st International Symposium on Graduate Research in Science Focus on Entrepreneurship and Innovation (ISGRS 2018), İstanbul, Turkey, October 4-6, 2018. Poster Presentation.
 8. Demiral I, Bastu E, Gunel T, Sezerman U, Gumusoglu E, Ulgen E, **Hosseini MK**, Buyru F, Yeh J. Endometrial gene expression in patients with recurrent implantation failure. *Fertility and Sterility* 108(3): e365, 2017. Poster Presentation.
 9. Bastu E, Gunel T, Sezerman U, Demiral I, Gumusoglu E, Ulgen E, **Hosseini MK**, Buyru F, Yeh J. RAC1 signaling pathway is crucial for etiology of repeated implantation failure (RIF). *Fertility and Sterility*, Volume 108, Issue 3, e362. 2017. Poster Presentation.
 10. Gumusoglu E, Gunel T, **Hosseini MK**, Senol, T, Topuz S, Aydinli K. Molecular Diagnosis of Ovarian Cancer by Circulating miRNAs. Poster Presentation, Student Fellowship Award in Molecular Med Tri-Con February 19 24, 2017, San Francisco, CA. Poster Presentation.
 11. Gumusoglu E, Gunel T, **Hosseini MK**, Senol, Topuz S, Aydinli K. Molecular Diagnosis and Surveillance in Ovarian Cancer By miRNA Analysis. ESGO Prevention in Gynaecological Malignancies. Turkey, 2016. Poster Presentation.
 12. Gumusoglu E, Gunel T, **Hosseini MK**, Senol, Topuz S, Aydinli K. Molecular Diagnosis and Surveillance in Ovarian Cancer By miRNA Analysis. ESGO Prevention in Gynaecological Malignancies. Turkey, 2016. Poster Presentation.
 13. Bastu E, Gunel T, Baykal AT, Demiral I, **Hosseini MK**, Gumusoglu E. Combined mRNA microarray and proteomic analysis of endometrium of women with repeated implantation failure (RIF) and fertile controls. 32nd Annual Meeting in Helsinki, ESHRE, 2016. Poster Presentation.
 14. Gunel T, **Hosseini MK**, Gumusoglu E, Dolekcap I, Kisakesen I, Ermis H, Benian A, Aydinli K. Maternal plasma and placenta miRNAs expression profiling of preeclamptic pregnancies by microarray. The 2014 Pregnancy Summit. 6th -8th October 2014. London, UK. Poster Presentation.
 15. Gunel T, **Hosseini MK**, Gumusoglu E, Dolekcap I, Kisakesen I, Ermis H, Benian A, Aydinli K. MiRNAs Expression Profiling of Preecl-ampitic

Pregnancies. CoGEN 1st Meeting on Controversies in Preconception, Preimplantation and Prenatal Genetic Diagnosis. Paris, France. 2015. Poster Presentation.

16. Gunel T, **Hosseini MK**, Gumusoglu E, Kalelioglu IH, Ermis BH, Benian A, Aydinli K. Maternal Plasma and Placenta microRNAs expression profiling of preeclamptic pregnancies by microarray technology. 20.th International Conference on Prenatal Diagnosis and Therapy. Berlin, 2016. Poster Presentation.
 17. **Hosseini MK**, Gunel T, Gumusoglu E, Benian A, Aydinli K. MicroRNA Profiling in Early Pregnancy Loss (EPL), Molecular Diagnostics Europe, Cambridge Healthtech Institute, Lisbon, Portugal, 2017. Poster Presentation.
 18. **Hosseini MK**, Gunel T, Gumusoglu E, Ermis H, Benian A, Dolekcap I, Aydinli K. MicroRNA profiling in miscarriage patients. International Journal of Molecular Medicine; Volume 34, supplement 1. The 19th World Congress on Advances in Oncology and 17th International Symposium on Molecular Medicine. 9-11 October 2014. Athens, Greece. Poster Presentation.
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CERTIFICATIONS

2015: Completing a course of method application in Illumina Next Generation Sequencing Training program, Ankara, Turkey.

2013: Completing a course of method application in Agilent miRNA and mRNA microarray and Bioanalyzer training program Istanbul, Turkey.

2009: Participating in a 6-month training program in Molecular Biology and Genetic Research Center (MOBGAM) in the Istanbul Technical University, Istanbul Turkey.

2008: Participating in a 6-month training program in Molecular Biology technique at National Biotechnology Research on Drug Tabriz Iran.

2007: Attending to workshop and been granted a certificate in the 5th National congress on quality improvement in clinical laboratories, Tehran, Iran.

MEMBERSHIPS IN ORGANIZATIONS

2019-today, International Society for Prenatal Diagnosis (ISPD)

2018-today, European Society of Human Reproduction and Embryology (ESHRE)

REFERENCES

1. **Prof. Dr. Tuba GÜNEL**, Istanbul University, Istanbul/Turkey – Molecular Biology and Genetics Department- Human Diseases Research and Molecular Diagnosis Laboratory- Istanbul/Turkey -Tel: +90 212 4400000 / 15473, gunel@istanbul.edu.tr (Ph.d Advisor).
2. **Prof. Dr. Safar Farajnia**, Director of Molecular Biology Department of Drug Applied & Biotechnology Research Center, Tabriz University of Medical sciences/ Tabriz/ Iran – Tel: +98 413 3363234, farajnia@gmail.com.
3. **Prof. Dr. Ercan Bastu**, Acibadem University, Istanbul/Turkey-Tell: +905548105424, ercanbastu@gmail.com.