



# Ali Dehghani

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## Education

### M.Sc. in Human Genetics, Tarbiat Modares University (TMU)

Sep 2019 - July 2022

**Thesis Title:** Expression of Hsa-Mir-195 in HPV Positive Pap Smear Specimens Ranging from Cytologically Normal or Mild Dysplasia through to Moderate or Severe Dysplasia in South-East Iranian Women during 2019-2021.

**Supervised by:** Dr. Masoud Garshasbi and Dr. Shahriar Dabiri

**GPA:** 3.9/1 (18.90/20 on the Iranian scale)

### B.Sc. in Medical Laboratory Science (MLS), Kerman University of Medical Sciences (KMU)

Sep 2015 - July 2019

**GPA:** 3.74/4 (17.78/20 on the Iranian scale)

## Research Interests

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|----------------|----------------------|----------------------|
| ■ Gene Therapy | ■ Ocular Genetics    | ■ Novel Therapeutics |
| ■ RNA Editing  | ■ CRISPR-Cas systems | ■ Medical Genetics   |

## Publications

57% Q1 - Citations:48

1. Ashraf Ganjooei N, Sheibani V, Jafari M, Shamsara A, **Dehghani A**, Afarinesh R. Dual Effects of Aspirin on Spatial Learning and Memory of Male Rats Following Induction of Permanent Cerebral Ischemia. *Journal of Kerman University of Medical Sciences*. 2025 Feb 15;32(1):1-1. (**My role:** Contributed in behavioral assessment, data interpretation and manuscript editing)
2. Kahani, S.M., Saray, A.R., Kahaei, M.S., **Dehghani, A.**, et al. A novel deletion in the *BLOC1S6* Gene Associated with Hermansky-Pudlak syndrome type 9 (HPS-9). *BMC Genomics* **25**, 805 (2024). (**My role:** Contributed in NGS analysis, genetic counseling, and sequencing)
3. **Dehghani A**, Khajepour F, Dehghani M, Razmara E, Zangouey M, Abadi MF, Nezhad RB, Dabiri S, Garshasbi M. Hsa-miR-194-5p and hsa-miR-195-5p are down-regulated expressed in high dysplasia HPV-positive Pap smear samples compared to normal cytology HPV-positive Pap smear samples. *BMC Infectious Diseases*. 2024 Feb 12;24(1):182.
4. **Dehghani A**, Pourjafari F, Koohkan F, Haghpah T, Pourjafari F, Sheibani V, Afarinesh MR. L-carnitine attenuates acoustic startle reflex dysfunction in adult male rats exposed to mancozeb. *Toxicology and Industrial Health*. 2023 Feb;39(2):115-26.
5. Mehdizadeh A, Soleimani M, Amjadi F, Sene AA, Sheikhha MH, **Dehghani A**, Ashourzadeh S, Aali BS, Dabiri S, Zandieh Z. Implication of novel BMP15 and GDF9 variants in unexpected poor ovarian response. *Reproductive Sciences*. 2024 Mar;31(3):840-50. (**My role:** Genetic data analysis, Western blotting, and manuscript revision)
6. Mohammadi MF, **Dehghani A**, Zarabadi K, Kahani SM, Sayyad S, Ashrafi MR, Heidari M, Mohammadi P, Garshasbi M, Tavasoli AR. Persistent basal ganglia involvement in aminoacylase-1 deficiency: expanding imaging findings and review of literature. *Irish Journal of Medical Science* (1971-). 2024 Feb;193(1):449-56. (**My role:** Contributed in molecular techniques, variant interpretation, bioinformatics, and manuscript editing)
7. **Dehghani A**, Zokaei E, Kahani SM, Alavinejad E, Dehghani M, Meftahi GH, Afarinesh MR. The potential impact of Covid-19 on CNS and psychiatric sequels. *Asian Journal of Psychiatry*. 2022 Jun 1;72:103097.
8. Rad I, Salari M, **Dehghani A**, Golshan F, Afarinesh MR. Effect of chronic exposure to sertraline on social and cognitive behavior of adult male and female rats under social isolation stress. *Learning and Motivation*. 2022 May 1;78:101807. (**My role:** Animal modeling, behavioral assessment, data interpretation)

## Awards, Scholarships, and Honors

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- **TMU Human Genetics Scholarship (2019)**  
Awarded full tuition coverage to top 37 applicants out of over 19,000 nationwide.
- **Medical Laboratory Science Scholarship (2015)**, KMU Awarded full tuition coverage based on outstanding academic performance in national university entrance exam for undergraduate studies in Medical Laboratory Science.
- **Master's Thesis Funding Award, TMU & KMU (2022)**, received financial and institutional support for master's thesis on early detection biomarkers in cervical cancer, awarded based on research significance and academic merit.
- **Ranked 1st** among 7 M.Sc. Students in Human Genetics, TMU, Tehran, Iran, 2022 (highest GPA)
- **Academic Excellence Recognition**, TMU (2022)  
Honored by faculty for outstanding research on identifying a novel deletion in the BLOC1S6 gene
- **Invited Research Presenter**, Graduate Seminar Series, TMU (2021)  
Selected by department to present thesis progress to faculty and graduate students.

## Presentations

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- **Ali Dehghani**, *MicroRNA Biomarkers for Early Detection of Cervical Cancer*. Poster presented at: The 6<sup>th</sup> International and 18<sup>th</sup> Iranian Genetic Congress, Tehran, Iran, July 2024.
- **Ali Dehghani**, L-Carnitine Mitigates Neurobehavioral Deficits Caused by Mancozeb Exposure in Rats. Oral presentation at 12<sup>th</sup> Basic and Clinical Neuroscience, Tehran, Iran, December 2023.
- **Ali Dehghani**, *COVID-19 and Its Potential Neurological and Psychiatric Consequences*. Oral presentation at: Kerman University Research Day, Kerman, Iran, December 2022.

## Skills

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**Wet Lab:** RNA/DNA/protein Extraction, Electrophoresis, Conventional PCR, qPCR, Gap PCR, ARMS PCR, Nested PCR, MLPA, HRM, RFLP, Sanger Sequencing, Flow Cytometry, Gene Cloning, CRISPR/Cas9, Western Blotting, Cell culture (blood, bone marrow, MCF-7, and MCF-10), FISH, Karyotyping, IHC, H&E Staining

**Animal Model:** Oral Gavage, IP, IV, SC Injections, Rodent Surgery, Anesthesia, Rodent Cognitive, Social, and Physical Behavior Assessments

**Bioinformatics:** Linux (Ubuntu), Primer and Probe design for Multiplex PCR, Gene Cloning, STR Markers, Sanger Sequencing, Variant Curation, WES & RNA-Seq Analysis, UCSC, NCBI, ClinVar, UniProt, AlphaFold2, ChimeraX

**Clinical Laboratory:** Phlebotomy, Blood Typing, Microscopy, Urinalysis

**Medical Genetics:** Interpretation of Genetic Tests Results and Genetics Counseling, Pedigree

## Research Experience

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### Research Assistant – Part-Time

Aug 2022 - Feb 2024

Pathology and Stem Cell Research Center, Afzalipour Medical School, KMU, Kerman, Iran

**Supervised by: Dr. Shahriar Dabiri**

**Main Project:**

- Successfully cloned and expressed Poly A Polymerase in E. coli (BL21) using pET21 vector (a first in Iran)

### Research Assistant

Dec 2019 - July 2022

Department of Medical Genetics, TMU, Tehran, Iran

**Supervised by: Dr. Masoud Garshasbi**

**Main projects:**

- Found and confirmed a novel BLOC1S6 gene deletion in Hermansky-Pudlak syndrome type 9 (HPS-9)
- Identified and described an amino acylase 1 deficiency patient using NGS who manifested

some novel clinical features

## Research Assistant

Mar 2020 - May 2021

Rodent Cognitive Lab, Cognitive Neuroscience Research Center, Kerman Neuroscience Research Center, Kerman, Iran

**Supervised by: Dr. Mohammad Reza Afarinesh**

### Main Projects:

- Investigated the effects of mancozeb and its potential mitigation by acetyl L-carnitine in male rats
- Studied the effects of sertraline on social interaction deficits in a rat model of autism

## Professional Experience

### Senior Research Associate, Varagene Inc, Part-Time

Nov 2023 - present

- Oversee developing innovative virological and genetic diagnostic kits
- Developed and implemented a Realtime PCR high-risk HPV (15 probably high-risk HPV genotypes) detection kit
- Developed a novel MSI marker kit for colorectal cancer diagnosis, facilitating an increase in detection accuracy by evaluating NR-21, BAT-26, BAT-25, and NR-24 biomarkers

### Research Associate – Full-Time

Apr 2023- May 2024

Dr. Dabiri Medical Genetics Laboratory, Kerman, Iran

**Supervised by: Dr. Ahmad Anjomshoa and Dr. Shahriar Dabiri**

### Key Responsibilities and Achievements

- Implemented and optimized FISH and Sanger sequencing protocols for the first time in the laboratory, establishing standardized procedures that enhanced accuracy in genetic analysis for over 150 breast cancer patients.
- Analyzed FISH and sequencing data, reduced HER2 FISH analysis reporting time for breast cancer patients from 30 days to 7 days in Kerman, Iran
- Performed cell culture and karyotyping for 150+ patients

## Teaching Experience

### Teaching Assistant, TMU, Tehran, Iran

Oct 2019 - May 2020

**Supervised by: Dr. Masoud Garshasbi**

**Course:** Cytogenetics (code: DS-1399701)

- Led a 6-week workshop series on cytogenetic techniques for 35+ undergraduate students
- Facilitated weekly lesson plan meetings for the medical genetics department

**Skills learned:** Effective communication, Lesson planning

## Certifications

TOEFL iBT: 101 (R:29, L:27, S:22, W:23) – Test Date: Oct 2024

## Leadership Experience

### Vice President of Central Council of Medical Genetics, Scientific Student Society

TMU, Tehran, Iran

Nov 2019 - Nov 2021

- Organized workshops for master and PhD students (Western Blot)

### President of Central Council of Medical Laboratory, Scientific Student Society

KMU, Kerman, Iran

Jun 2017 - Jan 2019

- Executed a successful visit for 50+ undergraduates to Dr. Emami Meybodi's Anatomical Science Museum
- Led the planning committee for the graduation ceremony of 60+ Medical Laboratory students at Shazdeh garden.

## References

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**Masoud Garshasbi**  
**Suprvisor**

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Modares University, Tehran, Iran  
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**Principal Investigator**

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