



Curriculum Vitae

Kazem Mashayekhi
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1- Personal

Family Name, First Name: Mashayekhi, Kazem

Date of birth: April 22, 1990

Citizenship: Kerman, Iran

Family status: Male, Single

Work address: Department of Immunology, School of Medicine, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

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2- Qualifications

Since 2020 Assistant Professor of Medical Immunology, Rafsanjan University of Medical Sciences, Rafsanjan, Iran

2020 Ph.D. of Medical Immunology in Mashhad University of Medical Sciences, Iran

(Immunology Research Center, Avicenna Research Institute, Mashhad, Iran)

The Ph.D. Thesis Title: Production and isolation of anti-human TNF- α DNA Aptamer and its performance evaluation

Under the supervision: Assoc. Prof., Dr. Mojtaba Sankian (Ph.D. in Medical Immunology)

2014 M.Sc. of Medical Immunology in Shahid Beheshti University of Medical Sciences, Iran

(Research Institute for Gastroenterology & Liver Diseases (RIGLD) at Taleqani Hospital, Tehran, Iran)

The M.Sc. Thesis Title: Setup and evaluation of efficacy of SYBR[®] Green Real-time PCR technique to detect the HLA-DQ2 and HLA-DQ8 alleles in patients with celiac disease

Under the supervision: Prof. Dr. Davar Amani (Ph.D. in Medical Immunology)

Asst. Prof. Dr. Mohammad Rostami (Ph.D. in Medical Immunology)

Asst. Prof. Dr. Pedram Azimzadeh (Ph.D. in Molecular Genetics)

2012 B.S. of Medical Laboratory sciences in Rafsanjan University of Medical Science, Iran

3- Capabilities, working and technical experiences

Immunology research Lab techniques

Cell cultures and animals: Cell culture and MTT assay, PBMC Separation, Mic anatomy and handling, Allergic mice model, Mice spleen and lymph node lymphocyte isolation

Molecular: PCR and Gel Electrophoresis, Real-time PCR, HLA typing, Bioinformatics

Protein expression: Protein Cloning and expression in Bacteria, Protein Purification, western blot analysis

Immunology techniques: Lymphocytes proliferation tests, Immuno precipitation test, Complement Assay, ICL Assays, Serologic Tests, Phagocytosis Assays, Polyclonal Antibody Production in Mice, ELISA, Flow cytometry and Data analysis, Lymphocyte separation from spleen and blood, IFA, Apoptosis Assays, Chemokine Assays, Lymphocyte Migration.

Nanotechnology: SELEX process, Nano-Gold synthesis, PLGA nanoparticle synthesis, Protein and Aptamer Attachment on Nano-Gold and PLGA nanoparticle surface

Clinical Laboratory experiences

Clinical Laboratory Supervisor, Specialist and responsible for quality control
Expert in sampling: blood-sampling, drug Injection, collection of fungal and bacterial sample from patients.

Expert in clinical section and performed tests: Immunology and Serology, Hematology, Biochemistry, Microbiology, Parasitology, Blood bank, Genetics

Clinical Laboratory techniques

Hematology and Biochemistry Auto-analyzer

(Mini Nephelometry System, Coagulation analyzer Coatron M2, Cell counter Celltac E, Alfa Auto analyzer, ESR Analyzer)

Hemoglobin Analyzer

(capillary 2 flex piercing Sebia, Cera- Stat 2000 Analyzer, Interlab G26)

Automated Immunoassays analyzer

(VIDAS, Chorus, ELISA Reader BioTek, Cobas, RIA Gama counter)

Computer Skills

Office Package, Statistical Software (SPSS, Graph-Pad Prism), Internet and scientific search, End Note, Medical Laboratory software.

4- Teaching Experiences

Since 2020 Teaching the complete courses of Immunology for the Medical, Dental, Medical Laboratory science, Nursing, Midwifery, Operative Room and Anesthetic students of Rafsanjan University of Medical Science, Rafsanjan, Iran

2017-2020 Teaching the complete courses of Immunology for the Medical Laboratory science students, Nursing students, Midwifery Students, Operative Room and Anesthetic Students of Islamic Azad University, Mashhad Medical Branch

Teaching the complete courses of Immunology for Biology, Genetic, Chemistry and Microbiology students of Islamic Azad University, Faculty of Sciences, Mashhad Branch

Teaching the practical courses of Immunology for the Medical students of Islamic Azad University, Mashhad Medical Branch

2015-2016 Teaching the practical courses of Immunology for the Medical, Dental and Pharmacy students of Mashhad University of Medical Sciences

5- Collaboration in the research project

1- Production and characterization of anti-human IL-23 DNA Aptamer and its performance evaluation for treatment of psoriasis disease (**Not Started**)

2- Production and isolation of anti-human IL-17A DNA Aptamer for treatment of psoriasis disease (**Grant No: 951684. Status: Ongoing**)

3- Production and isolation of anti-human TNF- α DNA Aptamer and its performance evaluation (**Grant No: 941456. Status: Finished**)

4- Immune response investigation of epicutaneous immunotherapy with Nanogold particle conjugated with recombinant profiling allergen and dendritic cell specific-Aptamer in mouse experimental model (**Grant No: 931684. Status: Finished**)

5- Immune response investigation of sublingual immunotherapy with entrapped ovalbumin in PLGA nanoparticle conjugated with dendritic cell specific-Aptamer in mouse experimental model (**Grant No: 941467. Status: Finished**)

6- A one-step real-time PCR assay for detection of HLA-DQ2 and HLA-DQ8 to aid diagnosis of celiac disease, using SYBR[®] Green (**Grant No: 745. Status: Finished**)

7- Design and application of a quantitative Real-time PCR method for mitochondrial heteroplasmy level and determine its association with patient susceptibility to IBD (**Grant No: 741. Status: Finished**)

6- Published Articles ([Google Scholar Link](#))

1- **Mashayekhi K**, Sankian M, Koushki Kh, Shahbaz SK, Moghadam M, Heiat M, Taheri RA, Hassanpour K, Farnoosh Gh. Cross-Linked anti-TNF- α aptamer: a simple and novel approach for improving its affinity and efficiency, (**2020: Recently submitted**)

- 2- Koushki K, Varasteh AR, Shahbaz SK, Sadeghi M, **Mashayekhi K**, Ayati SH, Moghadam M, Sankian M. Dc-specific aptamer decorated gold nanoparticles: A new attractive insight into the nanocarriers for allergy epicutaneous immunotherapy. *International Journal of Pharmaceutics*. **2020** May 5:119403. **(IF: 4.8)**
- 3- Sadeghi M, Koushki K, **Mashayekhi K**, Ayati SH, Shahbaz SK, Moghadam M, Sankian M. DC-targeted gold nanoparticles as an efficient and biocompatible carrier for modulating allergic responses in sublingual immunotherapy. *International Immunopharmacology*. **2020** Sep 1;86:106690. **(IF: 3.3)**
- 4- Koushki K, Shahbaz SK, **Mashayekhi K**, Sadeghi M, Zayeri ZD, Taba MY, Banach M, Al-Rasadi K, Johnston TP, Sahebkar A. Anti-inflammatory Action of Statins in Cardiovascular Disease: the Role of Inflammasome and Toll-Like Receptor Pathways. *Clinical reviews in allergy & immunology*. **2020** May 6. **(IF: 6.9)**
- 5- Shahgordi S, Sankian M, Yazdani Y, **Mashayekhi K**, Ayati SH, Sadeghi M, Saeidi M, Hashemi M. Immune responses modulation by curcumin and allergen encapsulated into PLGA nanoparticles in mice model of rhinitis allergic through sublingual immunotherapy. *International Immunopharmacology*. **2020** Jul 1;84:106525. **(IF: 3.3)**
- 6- **Mashayekhi K**, Ganji A, Sankian M. Designing a new dimerized anti human TNF- α aptamer with blocking activity. *Biotechnology Progress*. **2020** Jan 28:e2969. **(IF: 2.3)**
- 7- Shahbaz SK, Varasteh AR, Koushki K, Ayati SH, **Mashayekhi K**, Sadeghi M, Moghadam M, Sankian M. Sublingual dendritic cells targeting by aptamer: Possible approach for improvement of sublingual immunotherapy efficacy. *International Immunopharmacology*. **2020** Aug 1;85:106603. **(IF: 3.3)**
- 8- Maleki F, **Mashayekhi K**, Badiie Kheirabadi SE, Mousavi MJ, Sankian M. A convenient method for solubilization and refolding recombinant proteins: an experience from recombinant mouse TGF- β 1. *Research in Molecular Medicine*. **2020** Feb 10;8(1):0-. **(Proquest and EBSCO indexing)**
- 9- Soleimani A, Farshchi HK, Mirzavi F, Zamani P, Ghaderi A, Amini Y, Khorrami S, **Mashayekhi K**, Jaafari MR. The therapeutic potential of targeting CD73 and CD73-derived adenosine in melanoma. *Biochimie*. **2020** Sep 1;176:21-30. **(IF: 3.1)**
- 10- Asadzadeh-Aghdaei H, **Mashayekhi K**, Koushki K, Azimzadeh P, Rostami-Nejad M, Amani D, Chaleshi V, Haftcheshmeh SM, Sahebkar A, Zali MR. V617F-independent upregulation of JAK2 gene expression in patients with inflammatory bowel disease. *Journal of cellular biochemistry*. **2019** Sep;120(9):15746-55. **(IF: 3.4)**
- 11- Soleimani A, Taghizadeh E, Shahsavari S, Amini Y, Rashidpour H, Azadian E, Jafari A, Parizadeh MR, **Mashayekhi K**, Soukhtanloo M, Jaafari MR. CD73; a key ectonucleotidase in the development of breast cancer: Recent advances and perspectives. *Journal of Cellular Physiology*. **2019** Sep;234(9):14622-32. **(IF: 4.5)**
- 12- Abdi A, Hosseinpour M, **Mashayekhi K**, Mousavi MJ, Badiie Kheirabadi SE, Sankian M. Optimization of cloning conditions for high-level production of recombinant mouse interleukin-2 in *Escherichia coli*. *Research in Molecular Medicine*. **2019** Feb 10;7(1):16-25. **(Proquest and EBSCO indexing)**
- 13- Hosseinpour M, **Mashayekhi K**, Falak R, Jamalzehi S, Haftcheshmeh SM, Mousavi MJ, Soleimani A, Koushki K, Sankian M, Soukhtanloo M. Production and Characterization of Monoclonal Antibody against Vit v1: A Grape Allergen Belonging to Lipid Transfer Protein Family. *Iranian Journal of Allergy, Asthma and Immunology*. **2019**:1-0. **(IF: 1.1)**
- 14- **Mashayekhi K**, Rostami-Nejad M, Amani D, Rezaei-Tavirani M, Mohaghegh-Shalmani H, Zali MR. A rapid and sensitive assay to identify HLA-DQ2/8 risk alleles for celiac disease using real-time PCR method. *Gastroenterology and hepatology from bed to bench*. **2018**;11(3):250. **(PubMed indexing)**
- 15- **Mashayekhi K**, Zare Marzouni H. Curcumin (extracted from tumeric) and its therapeutic effects. *Jorjani Biomedicine Journal*. **2017** Jan 10;4(2):1-20. **(Copernicus and DOAJ Indexing)**
- 16- Kashfi SM, Farahbakhsh FB, Mojarad EN, **Mashayekhi K**, Azimzadeh P, Romani S, Derakhshani S, Malekpour H, Aghdaei HA, Zali MR. Interleukin-16 polymorphisms as new promising biomarkers for risk of gastric cancer. *Tumor Biology*. **2016** Feb 1;37(2):2119-26. **(IF: 3.6)**
- 17- **Mashayekhi K**, Amani D, Koushki K, Azimzadeh P, Rostami-Nejad M. Frequency of HLA-DQ2 and HLA-DQ8 Alleles in celiac patients with new simple method of Real-timePCR in Iranian population. *Mashhad University of Medical Sciences Journal*. **2016**; 59 (2):53. **(Copernicus and DOAJ Indexing)**
- 18- **Mashayekhi K**, Rostami-Nejad M, Azimzadeh P, Amani D, Kazemian S, Derakhshani S, et al. Setup of SYBR green real-time PCR method to detect the HLA-DQ alleles in patients with celiac disease. *Koomeh*. **2015**; 16 (4):527-35. **(Scopus and EMBASE Indexing)**

7- Poster Presentation

1- Allele Frequency of HLA-DQ2 and HLA-DQ8 in celiac disease with new simple method of Real-time PCR in Iranian population, 13th International Congress of Immunology & Allergy of Iran (2016), Tabriz, Iran, **Poster**.

2- The association between HLA-DQ2.5 and severity of clinical symptoms in patients with celiac disease, 13th International Congress of Immunology & Allergy of Iran (2016), Tabriz, Iran, **Oral**.

3- Determine Association of HLA-DQ2 and HLA-D8 with Intestinal and Extra-Intestinal Manifestation in Patients with Celiac Disease, 3th International Congress of Immunology, Asthma and Allergy The First Symposium of Food and Drug Allergy (2016), Mashhad, Iran, **Poster**.

4- Development and validation of simple method for the detection of HLA-DQ haplotypes associated with celiac disease, 7th International Congress of Laboratory and Clinic (Infectious Diseases) and 1st Conference of Clinical Virology (2015), Tehran, Iran, **Oral**.

8- Patent in Iran

Designing a HLA-typing kit based on Real-time PCR to Celiac Disease Diagnosis (A61B;G01B).

9- Book

Mousavi Mj, Khosrojerdi A, Alimohammadi M, **Mashayehki K**, Summary of Cellular and Molecular Immunology, Jahad-e Daneshgahi Tehran Publications. 2019.

10- Honors

- 1- 6th Rank, Nationwide PhD entrance exam in Medical Immunology
- 2- Member of Iranian Society of Immunology and Allergy (**ID No: 97/A/1095**)
- 3- Member of Iran's National Elites Foundation
- 4- Secretary of the Red Crescent Student Association in Rafsanjan University of Medical Science

11- Research Interests

- 1- Aptamers and Nanoparticle Design (Diagnostic or Therapeutic)
- 2- Design modified Aptamer and SELEX process
- 3- Understanding of immune system mechanisms
- 4- Hypersensitivity and Allergy
- 5- Immunomodulation