CURRICULUM VITAE

Personal Background:

Name: Shahab Mahmoudvand Date of Birth: 24 February, 1988

Sex: Male

Marital Status: Married

Address: Department of Medical Virology, Faculty of Medicine, Hamadan University of medical Science

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Current Position:

Assistant Professor of Medical Virology, Department of Medical Virology, School of Medicine, Hamadan University of Medical Sciences.

Education:

- **Technician Degree:** Veterinary Medicine, Bu-Ali Sina University, Iran, 2007-2009.
- **Bachelor:** Laboratory Science, Bu-Ali Sina University, Iran, 2009-2011.
- Master Degree: Medical Virology, Shiraz University of Medical Sciences, 2012-2015.
- **PhD Degree:** Medical Virology, Ahvaz Jundishapur University of Medical Sciences, 2015-2021.

• Thesis:

- **MSc Thesis Title:** Comparative investigation of papilloma virus prevalence in adenocarcinoma and adenomatous tissue samples from colorectal cancer patients with healthy individuals admitted to the Shahid Faghihi Hospital during 2012-2013.
- **PhD Thesis Title:** Immunogenicity assessment of DNA-based vaccine encoding L1 protein of HPV-16 virus linked to signal sequences with TLR-5 ligand in Balb/c mice.

Publication:

- 1. **Mahmoudvand S**, Shokri S, Taherkhani R, Farshadpour F. Hepatitis C virus core protein modulates several signaling pathways involved in hepatocellular carcinoma. World J Gastroenterol. 2019;25(1):42-58.
- 2. **Mahmoudvand S**, Safaei A, Erfani N, Sarvari J. Presence of Human Papillomavirus DNA in Colorectal Cancer Tissues in Shiraz, Southwest Iran. Asian Pac J Cancer Prev. 2015;16(17):7883-7.
- 3. Sarvari J, **Mahmoudvand S**, Pirbonyeh N, Safaei A, Hosseini SY. The Very Low Frequency of Epstein-Barr JC and BK Viruses DNA in Colorectal Cancer Tissues in Shiraz, Southwest Iran. Polish journal of microbiology. 2018;67(1):73-9.
- 4. Shokri S, **Mahmoudvand S**, Taherkhani R, Farshadpour F. Modulation of the immune response by Middle East respiratory syndrome coronavirus. Journal of cellular physiology. 2019;234(3):2143-51.
- 5. Shokri S, **Mahmoudvand S**, Taherkhani R, Farshadpour F, Jalalian FA. Complexity on modulation of NF-kappaB pathways by hepatitis B and C: A double-edged sword in hepatocarcinogenesis. Journal of cellular physiology. 2019. doi.org/10.1002/jcp.28249.
- 6. **Mahmoudvand S**, Zamani K, Safaei A, Khashei R, Motamedifar M, Azizi A, et al. No Detection of Streptococcus gallolyticus and Helicobacter pylori in Colorectal Cancer Tissue Samples in Shiraz, Iran. Iranian Journal of Cancer Prevention. 2017;10(1):e6337.
- 7. Samiei RN, **Mahmoudvand S**, Shokri S, Makvandi M, Shahbazian H, Pirmoradi R, et al. The frequency of Epstein-Barr virus among hemodialysis patients, Ahvaz, Iran. Iranian journal of microbiology. 2019;11(1):75-9.
- 8. Samiei R, Shokri S, **Mahmoudvand S**, Makvandi M, Shahbazian H, Shayanpur S, et al. Occult hepatitis B virus infection among hemodialysis patients. 2018;91(2).
- 9. Shokri S, **Mahmoudvand S** (**Corresponding author**), Makvandi M, Shahani T, Samadi A, Shahbazian H. Prevalence of human herpesvirus 8 infection in patients undergoing hemodialysis using nested-PCR. Journal of Acute Disease. 2019;8(6):250.
- 10. **Mahmoudvand S**, Shokri S, Nahid-Samiei R, Kaydani G-A, Makvandi M, Jalilian S, et al. Dominance of Variant Human Herpesvirus 6 A Among Hemodialysis Patients, Ahvaz, Iran. Iranian Journal of Kidney Diseases. 2019;13(6).
- 11. **Mahmoudvand** S, Kord M, Pirbonyeh N, Moattari A, Shokri S, Zomorodian K. Molecular Detection of Adenoviruses in the Sinus Tissues of Patient by Nested-PCR in Shiraz, Southwest Iran. International Journal of Medical Laboratory. 2019;6(3):192-8.

- 12. Amirhosseini N, Shokri S, **Mahmoudvand S**, Moradli G. Real-time PCR and pp65-antigen test for monitoring human cytomegalovirus infection in kidney transplant patients. Archives of Medical Laboratory Sciences. 2018;3(3).
- 13. **Mahmoudvand S,** Shokri S, Azaran A, Seyedian SS, Makvandi M, Mirzaei H, Behzadi Sheikhrobat S. Seronegative Occult Hepatitis C Infection among Hemodialysis Patients: A Prevalence Study. Ther Apher Dial. 2021;25(2):218-224. doi.org/10.1111/1744-9987.13535.
- 14. **Mahmoudvand S**, Shokri S, Mirzaei H, Makvandi M, Teimoori A, Neisi N, Pirmoradi R. Study on the prevalence of occult hepatitis B virus infection in patients undergoing hemodialysis. Acta Medica Iranica. 2020;58(4):177-182.
- 15. Mohammadi J, Amini R, Akbari A, Amraei M, **Mahmoudvand S**, Azizi Jalilian F. Prevalence and Seasonal Frequency of acute viral gastroenteritis in children less than 5 years in Ilam, Iran. Entomology and Applied Science Letters. 2020:7 (3).
- 16. **Mahmoudvand S**, Shokri S, Makvandi M, Taherkhani R, Rashno M, Azizi Jalilian F, Ahmadi Angali K. In silico prediction of T-cell and B-cell epitopes of human papillomavirus type 16 L1 protein. Biotechnol Appl Biochem. 2021;69(2):514-525. doi: 10.1002/bab.2128.
- 17. **Mahmoudvand S**, Shokri S. Interactions between SARS coronavirus 2 papain-like protease and immune system: a potential drug target for the treatment of COVID-19. Scandinavian Journal of Immunology. 2021.e13044. doi: 10.1111/sji.13044.
- 18. Shokri S, **Mahmoudvand S**, Makvandi M, Taherkhani R, Rashno M, Azizi Jalilian F, Ahmadi Angali K, Foroughi M. Designing of DNA Vaccine Based on a Secretory form of major capsid protein of Human Papillomavirus type 18. Iranian Journal of Allergy, Asthma and Immunology. Iran J Allergy Asthma Immunol.2021;28(20):525-536. doi: 10.18502/ijaai.v20i5.7403.
- 19. Mobini Kesheh M, **Mahmudvand S,** Shokri S. Long noncoding RNAs in respiratory viruses: A review. Rev Med Virol. 2022;32(2):e2275. doi: 10.1002/rmv.2275.
- 20. Rezaei-Tazangi F, Samadi A, Azandeh S, Khoshnood S, **Mahmoudvand S**. Secretome of adipose derived stem cells induced apoptosis in anaplastic thyroid carcinoma C-643 cells.2022;8(1):e20. doi:10.34172/ipp.2022.20.
- 21. **Mahmudvand S,** Shokri S, Mirzaei H, Ramezani A, Makvandi M, Neisi N, Hashemi S. Frequency of Hepatitis B Virus infection among Patients before Chemotherapy Treatment. Asian Pac J Cancer Prev. 2021;22(9):2939-2944. doi: 10.31557/APJCP.2021.22.9.2939.
- 22. Khalilian A, Karami P, Bakhtyari S, Ezati R, Khosravi S, Amini R, Talebi S, Torkaman Asadi F, Fazeli M, Soleimani S, **Mahmoudvand S**, Ghasemi H, Bani Ardalan S, Azizi Jalilian F. Prevalence of Helicobacter felis and Helicobacter heilmannii and co-infection with Helicobacter pylori in gastric biopsy specimens in endoscopic ward of Shahid Beheshti Hospital, Hamadan, Iran. International Journal of Medical Toxicology and Forensic Medicine. 2022;12(2):33088.

- 23. Shokri S, **Mahmoudvand S Corresponding author**). The possibility of hepatitis C reactivation in COVID-19 patients treated with corticosteroids. Ann Hepatol. 2022;27(4):100704. doi: 10.1016/j.aohep.2022.100704 PMID: 35398269.
- 24. Makvandi M, Noormandi Pour S, Teimoori A, Shokri S, **Mahmoudvand S**, Biparva Haghighi S, Rajaee E. Frequency of Hepatitis B Markers in Systemic Lupus Erythematosus Patients in Iran. Asian Pac J Cancer Prev. 2022;1(23):1921-1926. doi: 10.31557/APJCP.2022.23.6.1921.
- 25. Zandi M, Shokri S, **Mahmoudvand S**, Hosseinzadeh Adli A, Mohammadi R, Haddadi A. Interplay between Cellular Metabolism and DNA viruses. J Medical Virology.2022. doi.org/10.1002/jmv.28018.
- 26. **Mahmoudvand S**, Amini R, Azizi Jalilian F, Hedayat Yaghoobi M, Javaheri M, Sedighi I, Mamani M, Ezati R, Amiri J, Saidijam M. Determination of Oseltamivir Resistance Level by an H275Y Genotyping Assay among Influenza A (H1N1) Viruses in Hamadan Province, Iran. Journal of Ilam University of Medical Sciences. 2022;30(3):55-61. http://sjimu.medilam.ac.ir/article-1-6057-en.html.
- 27. **Mahmoudvand S**, Shokri S. Effect of Lactate on Epigenetic Regulation in the Development of Hepatitis B Virus-related Hepatocellular Carcinoma. Journal of Clinical and Translational Hepatology. 2022. doi: 10.14218/JCTH.2022.00274.
- 28. **Mahmoudvand S**, Shokri S, Nakhaie M, Azizi Jalilian F, Mehri-Ghahfarrokhi A, Yarani R, Shojaeian A. Small extracellular vesicles as key players in cancer development caused by human oncogenic viruses. Infectious Agents and Cancer.2022;17(1):1-16.

Book:

Saeed Khoshnood, Habibollah Mirzaei, Mohsen Heidari, **Shahab Mahmoudvand**, Gita Eslami. The Golden Book of Medical Virology (2017) Language: Persian; Publisher: Farhang Gostar Nokhbegan; ISBN-13: 9786009747757; ISBN-10: 6009747759.

• Presentation:

A. Oral

- 2015: **Oral presentation** entitled "Detection of high risk HPV genotypes in colorectal cancer tissue using polymerase chain reaction in Shiraz, Iran". Second International GI Cancer Congress Olympic Hotel Convention Center, Tehran, Iran.
- 2015: **Oral presentation** entitled "No evidence of helicobacter pylori infection in colorectal cancer tissue in Shiraz, Iran". Second International GI Cancer Congress Olympic Hotel Convention Center, Tehran, Iran.
- 2015: **Oral presentation** entitled "The frequency of Epstein Barr Virus in colorectal cancer tissue in Shiraz, Iran". Second International GI Cancer Congress Olympic Hotel Convention Center, Tehran, Iran.
- 2022: **Oral presentation** entitled "Frequency of Hepatitis B Virus infection among Patients before Chemotherapy Treatment". 8th Iranian Congress of Virology, Tehran, Iran.

B. Poster

- 2015: **Poster presentation** entitled "The frequency of JC virus in the tumor tissue of patients with colorectal cancer, Shiraz, Iran". Second International GI Cancer Congress Olympic Hotel Convention Center, Tehran, Iran.
- 2015: **Poster presentation** entitled "Prevalence of Human Papilloma virus in colorectal cancer samples in Shiraz, southwest Iran". The 8th International Congress of Laboratory and Clinic and Conference of Clinical Virology, Tehran, Iran.
- 2015: **Poster presentation** entitled "Disaster in HIV patients: Seven cases with quadruple deadly co-infection, Shiraz, Iran". The 6th International Tehran Hepatitis Conference, Tehran, Iran.
- 2015: **Poster presentation** entitled "The prevalence of Adenoviruses in patients with sinusitis by nested PCR in Shiraz, south of Iran". The 9th International Congress of Clinical Microbiology, Shiraz, Iran.
- 2015: **Poster presentation** entitled "No detection of DNA sequences of human BK virus in colorectal tumor tissues in Shiraz, Iran". The 9th International Congress of Clinical Microbiology, Shiraz, Iran.
- 2015: **Poster presentation** entitled "No detection of *Streptococcus gallolyticus* in colorectal cancer tissue in southwest of Iran". The 9th International Congress of Clinical Microbiology, Shiraz, Iran.
- 2015: Participation in the 7th International Congress of Laboratory and Clinic and 1th Conference of Clinical Virology, Tehran, Iran.
- 2017: **Poster presentation** entitled "Real-time PCR and pp65-antigen test for monitoring Human cytomegalovirus infection in kidney transplant patients, Tehran, Iran". The 11th

- International Congress of Clinical Microbiology, Shiraz, Iran.
- 2017: **Poster presentation** entitled "Prevalence of occult hepatitis B virus in patients with hepatitis C infection". Iranian Virology Congress, Tehran, Iran.
- 2017: **Poster presentation** entitled "Epstein-Barr virus (EBV) in cancer tissue samples of Iranian patients". Iranian Virology Congress, Tehran, Iran.
- 2018: **Poster presentation** entitled "Prevalence of Hepatitis C virus (HCV), Hepatitis B virus (HBV) and Hepatitis E virus (HEV) as causes of acute viral hepatitis among general population in Iran". The 4th Student Research Congress of the South West Region, Abadan, Iran.
- 2019: **Poster presentation** entitled "Frequency of Epstein-Barr virus among Hemodialysis Patients, Ahvaz, Iran". The 13th Professor Alborzi International Congress of Clinical Microbiology, Shiraz, Iran.
- 2019: **Poster presentation** entitled "Occult Hepatitis B virus Infection among Hemodialysis Patients". The 13th Professor Alborzi International Congress of Clinical Microbiology, Shiraz, Iran.
- 2019: **Poster presentation** entitled "Dominance of human herpesvirus 6 variant A among hemodialysis patients, Ahvaz, Iran". The 12th International Congress of Medical Lab and Clinic, Tehran, Iran.
- 2019: **Poster presentation** entitled "Complexity on modulation of NF..B pathways by hepatitis B and C: A double.edged sword in hepatocarcinogenesis". The 12th International Congress of Medical Lab and Clinic, Tehran, Iran.
- 2019: **Poster presentation** entitled "Hepatitis C virus core protein modulates several signaling pathways involved in hepatocellular carcinoma". The 12th International Congress of Medical Lab and Clinic, Tehran, Iran.
- 2022: **Poster presentation** entitled "In silico prediction of T-cell and B- epitopes of papillomavirus type 16 L1 protein". 8th Iranian Congress of Virology, Tehran, Iran.
- 2022: **Poster presentation** entitled "Seronegative occult hepatitis C infection among hemodialysis patients: A prevalence study". 8th Iranian Congress of Virology, Tehran, Iran.

Awards and Honors:

- The highest GPA in PhD course Medical Virology in 2019.
- The seventh rank among those admitted in Ph.D. of Virology in 2015.

Technical Skills

• Techniques and Protocols in DNA vaccine studies

- Recombinant Protein Expression and Purification
- Gene Cloning & Sub-cloning
- PCR & RT-PCR
- Cell Culture Technique
- ELISA Kit Setting up
- MTT Cell Proliferation Assay
- SDS-PAGE Electrophoresis
- Immunoblotting
- Diagnosis serological test (NT, CFT, HI, IFT, ELISA)
- Animal laboratory handling (Mouse, rabbit, rat)
- Clinical Laboratory Medicine (Virology, Biochemistry, Immunology, Bacteriology, Mycology, Parasitology)
- Bioinformatics Software programming (Vector NTI, Mega7, Gene designer, Bioedit, Oligo7, Snapgene, Molegro Virtual Docker...)
- Computer Software programming (Microsoft office, End note, SPSS)

• Research Interest

- Clinical Epidemiology
- Bioinformatics
- Immunology
- Infectious Disease
- Cancer Biology
- Microbiology

• Research Project

- Evaluation of the Relative Frequency of Epstein-Barr virus (EBV) in cancerous and noncancerous oral tissue samples, Ahvaz. Ahvaz Jundishapur University of Medical Sciences (OG-9823).
- Investigation of the prevalence of HHV-8 infection among hemodialysis patients referred to Golestan Hospital, Ahvaz. Ahvaz Jundishapur University of Medical Sciences (97s41).
- Study effects of secretomes secreted by adipose mesenchymal stem cells on anaplstic thyroid carcinoma (C-643). Ahvaz Jundishapur University of Medical Sciences (98s38).

- Study on Occult Hepatitis C Virus Infection among hemodialysis patients refered to Golestan Hospital, Ahvaz. Ahvaz Jundishapur University of Medical Sciences (OG- 9744).
- Study on Occult Hepatitis C Virus Infection among hemodialysis patients refered to Golestan Hospital, Ahvaz. Ahvaz Jundishapur University of Medical Sciences (OG- 9744).
- Design and optimization of DNA-based vaccine encoding L1 capsid protein of HPV-18 virus linked to Flic adjuvant and evaluation of Immunogenicity in Balb/c mice. Ahvaz. Ahvaz Jundishapur University of Medical Sciences (OG-9720).
- Study on occult hepatitis Virus among the haemodialysis patients using Real-time PCR. Ahvaz Jundishapur University of Medical Sciences (OG-94129).
- Study on occult hepatitis Virus among the cancerous patients with chemothrapy patients using Real-time PCR. Ahvaz Jundishapur University of Medical Sciences (OG-94128).
- Comparative investigation of Epstein-Barr virus (EBV) prevalence in adenocarcinoma and adenomatous tissue samples from colorectal cancer patients with healthy individuals admitted to the Shahid Faghihi Hospital during 2012-2013. Shiraz University of Medical Sciences (92-6627).
- Comparative investigation of JC virus prevalence in adenocarcinoma and adenomatous tissue samples from colorectal cancer patients with healthy individuals admitted to the Shahid Faghihi Hospital during 2012-2013. Shiraz University of Medical Sciences (94- 9670).
- Comparative investigation of BK virus prevalence in adenocarcinoma and adenomatous tissue samples from colorectal cancer patients with healthy individuals admitted to the Shahid Faghihi Hospital during 2012-2013. Shiraz University of Medical Sciences (93-8426).
- Comparative investigation of Streptococcus gallolyticus and Helicobacter pylori prevalence in adenocarcinoma and adenomatous tissue samples from colorectal cancer patients with healthy individuals admitted to the Shahid Faghihi Hospital during 2012- 2013. Shiraz University of Medical Sciences (91-8371).
- Determination of oseltamivir resistance level by an H275Y genotyping assay among Influenza A (H1N1) Viruses in Hamadan Province. Hamadan University of Medical Sciences.
- The Frequency of Helicobacter felis and Helicobacter heilmannii infection and co- infection with Helicobacter pylori in gastric biopsy specimens of patients referred to endoscopic unit. Hamadan University of Medical Sciences.
- The Prevalence of parvovirus B19 and parvovirus 4 among blood specimens in Hamadan Blood Transfusion Organization. Hamadan University of Medical Sciences.
- Clinical and molecular epidemiology of COVID-19 along with the production of 3 diagnostic

- elements about the circulating virus in Iran, a multicenter, national wide study (47534-427-1-99).
- Investigation of the presence of adenovirus in the inlet and outlet waters of Hamadan water treatment plant using two methods of cell culture and Real-Time PCR in 2022. Hamadan University of Medical Sciences.
- Investigation of the presence of adenovirus in the inlet and outlet waters of Hamadan city water treatment plant in 2022. Hamadan University of Medical Sciences.
- Determination of expression level of tumor suppressor gene Phosphatase and tensin homolog (PTEN) in patients with chronic hepatitis B compared with control group. Hamadan University of Medical Sciences.
- Determination of expression level of tumor suppressor gene Phosphatase and tensin homolog (PTEN) in patients with chronic hepatitis C compared with control group. Hamadan University of Medical Sciences.
- Design of a multi-epitope vaccine candidate of gastric cancer against Helicobacter pylori.
 Hamadan University of Medical Sciences.
- Using the immunoinformatics method to design a multi-epitope vaccine against Crimean-Congo haemorrhagic fever virus.
- Evaluation of serum amyloid A (SAA) due to early diagnosis of Covid-19: A systematic review and meta-analysis.

Participation in Workshops

- 2016: Real Time PCR, Ahvaz University of Medical Sciences, Iran.
- 2017: PCR Primer design, Ahvaz University of Medical Sciences, Iran.
- 2017: Information searching on the Internet, Ahvaz University of Medical Sciences, Iran.
- 2017: Basic and advanced SPSS, Ahvaz University of Medical Sciences, Iran.
- 2017: Mendely software, Ahvaz University of Medical Sciences, Iran.
- 2017: EndNote software, Ahvaz University of Medical Sciences, Iran.
- 2017: Office Professional, Ahvaz University of Medical Sciences, Iran.
- 2017: Up to date, Ahvaz University of Medical Sciences, Iran.
- 2017: English Article Writing, Ahvaz University of Medical Sciences, Iran.
- 2018: Narrative literature review articles, Ahvaz University of Medical Sciences, Iran.
- 2019: Ethical Guidelines for the Use of Animals in Research, Ahvaz University of Medical Sciences, Iran.
- 2019: Nucleotide Sequences Analysis (Single Locus Phylogeny Method), Shahid Chamran University of Ahvaz, Iran.

- 2019: How to Referee a Scientific Paper and Open access journals, Ahvaz University of Medical Sciences, Iran.
- 2019: STATA and Meta-analysis, Ahvaz University of Medical Sciences, Iran.
- 2019: Real Time Primer Design, Ahvaz University of Medical Sciences, Iran.
- 2020: Designing of Enzyme-linked Immunosorbent Assay (ELISA) kit, Ahvaz University of Medical Sciences, Iran.
- 2020: Western Blotting, Ahvaz University of Medical Sciences, Iran.
- 2020: Principles of Cloning, Ahvaz University of Medical Sciences, Iran.
- 2021, Conflict of interest, Ahvaz University of Medical Sciences, Iran.
- 2021, Writing a review article, Ahvaz University of Medical Sciences, Iran.
- 2021, Writing a original article, Ahvaz University of Medical Sciences, Iran.
- 2022, Biomedical Application of Gold Nanoparticles, Hamadan University of Medical Sciences, Iran.
- 2022, German-Iranian Research Funding Opportunities, Hamadan University of Medical Sciences, Iran.
- 2022, Research Ethics, Hamadan University of Medical Sciences, Iran.
- 2022, Statistical Analysis, Hamadan University of Medical Sciences, Iran.
- 2022, Potentials and perspectives of stem cells, Hamadan University of Medical Sciences, Iran.
- 2022, Blended learning Moocs, Hamadan University of Medical Sciences, Iran.
- 2022, Gamification Animation Motion graphic, Hamadan University of Medical Sciences, Iran.
- 2022, Overview of artificial intelligence in medical sciences, Hamadan University of Medical Sciences, Iran.

• Gene Records in GenBank (NCBI)

- GenBank: MK086134.1 Human betaherpesvirus 6 isolate Ahvaz1 immediate early protein IE1 gene, partial cds.
- GenBank: MK086135.1 Human betaherpesvirus 6 isolate Ahvaz2 immediate early protein IE1 gene, partial cds.
- GenBank: MK086136.1 Human betaherpesvirus 6 isolate Ahvaz3 immediate early protein IE1 gene, partial cds.
- GenBank: MK086137.1 Human betaherpesvirus 6 isolate Ahvaz4 immediate early protein IE1 gene, partial cds.

- GenBank: MK886714.1. Hepatitis B virus isolate ada12 S protein (S) gene, partial cds.
- GenBank: MK886715.1. Hepatitis B virus isolate ada25 S protein (S) gene, partial cds.
- GenBank: MK886716.1. Hepatitis B virus isolate adf28 S protein (S) gene, partial cds.
- GenBank: MK886717.1. Hepatitis B virus isolate adf35 S protein (S) gene, partial cds.
- GenBank: MN966561. Major capsid protein L1 [Human papillomavirus type 16], isolate Ahvaz 1.
- GenBank: MN966562. Major capsid protein L1 [Human papillomavirus type 16], isolate Ahvaz 2.
- GenBank: MN966563. Major capsid protein L1 [Human papillomavirus type 16], isolate Ahvaz 9.
- GenBank: MN966564. Major capsid protein L1 [Human papillomavirus type 16], isolate Ahvaz 11.
- GenBank: MN966560. Major capsid protein L1 [Human papillomavirus type 16], isolate Ahvaz 15.
- GenBank: MN958678. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV6, 5' UTR, partial cdc.
- GenBank: MN958679. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV9, 5' UTR, partial cdc.
- GenBank: MN958680. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV52, 5' UTR, partial cdc.
- GenBank: MN958681. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV53, 5' UTR, partial cdc.
- GenBank: MN958682. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV73, 5' UTR, partial cdc.
- GenBank: MN958683. Hepatitis C virus, subtype 3a, isolate Ahvaz HCV84, 5' UTR, partial cdc.
- GenBank: MN531572. Hepatitis B virus S gene, partial cds.
- GenBank: MN531573. Hepatitis B virus S gene, partial cds.
- GenBank: MN531574. Hepatitis B virus S gene, partial cds.
- GenBank: MN531575. Hepatitis B virus S gene, partial cds.

Membership

• Editorial Team of Current Biomedical Reports (https://jcbior.com/index.php/JCBioR/about)

- Reviewer of Therapeutic Apheresis and Dialysis (https://onlinelibrary.wiley.com/journal/17449987)
- Reviewer of Journal of Current Biomedical Reports (https://jcbior.com/index.php/JCBioR/about)
- Reviewer of Avicenna Journal of Clinical Microbiology and Infection (http://ajcmi.umsha.ac.ir/)