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**In the name of God**



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**Marital Status:** Married with two Children (Saba(12y/o) and Ali(5y/o))

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**Current position:** Faculty Member at Shiraz University of Medical Sciences, since 2011

### **Education**

2005-2010: PhD in Medical Virology, Tarbiat Modarres University, **Tehran**, Iran

2003-2005: MSc in Medical Virology, Tarbiat Modarres University, **Tehran**, Iran

2001–2003: B.Sc in Medical Lab. Sciences, Shiraz University of Medical Sciences, **Shiraz**, Iran

### **Honor, and Awards**

- Awarded as the Best Researcher of Medical School, Shiraz Univ. Med. Sci., 2018
- 9 months pre-doctoral research Fellowship on abroad, Ministry of Health and Medical Education (In Gene therapy and Hepatology division at CIMA Research Center, Pamplona, Spain, 2010)
- Awarded for the best MSc thesis in faculty of Medical Sciences, Tarbiat Modares Univ, 2006
- Second level (encouraged book), 13<sup>th</sup> Annual Student National Book festival, 2006, Tehran, for writing "Introduction to Modern Gene Therapy"
- Second level, PhD entrance exam, 2005, Tarbiat Modares University, Tehran
- Ranked 1st Top in National MSc entrance exam, 2003, Ministry of sciences and technology, Iran
- Ranked 1st Top in National MSc entrance exam, 2003, Ministry of Health, Iran

**Title of MSc Thesis:** "Development of ACRS-PCR-RFLP assay for detection and identification of HBV variants in YMDD motif of HBV polymerase enzyme gene." (Selected as the best thesis of the faculty of medical sciences, TMU university, 2006)

**Title of PhD Thesis:** Evaluation of immunogenicity of various Adenoviral vectors expressing core gene of HCV in vitro, effect on Dendritic cells and in vivo, on a new mouse challenge model.

### **Visitor researcher/pre-doctoral course**

- A 9 month pre-doctoral course, Ministry of Health and Medical Education at "Gene therapy and Hepatology division" at CIMA Research Center, Pamplona, **Spain 2010**
- A 2 month Research Fellowship on abroad, Ministry of Health and Medical Education (Gene therapy and Hepatology division at CIMA Research Center, Pamplona, **Spain 2012**
- A 2 month Research Fellowship(visiting researcher) at "Division of Pharmaceutical Bioscience", Faculty of Pharmacy, University of Helsinki, **Finland 2017**

## Books

1. "Gene Therapy, application, principles and concepts"(In Persian, Supervision role and the First/Main Author), First edition 2018, "Noor Danesh" Publication group.
2. Three chapters of "Frontiers in HIV Research" Book: BenthamScience publishing group 2016.
3. "Introduction to Modern Gene Therapy "(In Persian), First edition 2006, publisher: Iranian Society of Biology Publishing group. Honored as the encouraged book at 13<sup>th</sup> National Book festival of students in Medical Sciences 2006, Tehran.

## Journal publications

1. Firoozi S, Shiri A, Moattari A, Sarvari J, Tamaddon AM, **Hosseini SY**. The Superior Role of Coagulation Factor FX over FVII on Adenoviral-mediated Innate Immune Induction of the Hepatocyte, an In vitro Experiment. 2020, **Clinical and Experimental Hepatology**, 2020; 6, 3: 199–206.
2. Shiri A, Sarvari J, Firoozi S, Gholijani N, Tamaddon AM, Rastegari M, Moattari A, **Hosseini SY**. The inflammatory and fibrotic patterns of Hepatic stellate cells following coagulation factors (VII or X)-shielded Adenovirus infection, **Current Microbiology**, Accepted.
3. Rastegari M, Shiri A, Behzad-Behbahani A, Rasoolian M, Zare F, Rafiei G, Mortazavi M, Sharifzadeh S, Hosseini SY. The Evaluation of tLyP-1-Bound Mda-7/IL-24 Killing Activity on a Liver Tumor Cell Line. **Cancer Biother Radiopharm** 2020 Jun 3. doi: 10.1089/cbr.2019.3080. Online ahead of print.
4. Pro-inflammatory Effects of Influenza Type A Virus PB1-F2 Protein-derived Peptide in Lipopolysaccharide-treated Macrophages. K Kalantar, Z Farzaneh, N Gholijani, **SY Hosseini**, EB Hasan. **Iranian Journal of Allergy, Asthma and Immunology**, 2020; 19(Supple.1):74-82
5. Joharinia N, Faghihinejad S, Seyedi K, Farhadi A, **Hosseini SY**, Safaei A, Bahrapour H, Sarvari J. Co-existing of HSV1/2 or EBV Infection with the Presence of High-Risk HPV DNA in Cervical Lesions in the Southwest of Iran. *Asian Pac J Cancer Prev*. 2020 May 1;21(5):1459-1464. doi: 10.31557/APJCP.2020.21.5.1459
6. K Shahin, **SY Hosseini**, H Jamalic, MH Karimi, N Azarpira, M Zeraatiana. The enhancing impact of amino termini of Hepatitis C virus core protein on activation of Hepatic Stellate Cells. **Gastroenterology and Hepatology from Bed to Bench** 2020, 13 (1), 57-63.
7. Hashemi SMA, Sarvari J, Fattahi MR, Dowran R, Ramezani A, **Hosseini SY**. Comparison of ISG15, IL28B and USP18 mRNA levels in peripheral blood mononuclear cells of chronic hepatitis B virus infected patients and healthy individuals. **Gastroenterol Hepatol Bed Bench**. 2019 Winter;12(1):38-45.
8. Rasoolian M, Kheirollahi M, **Hosseini SY**. MDA-7/interleukin 24 (IL-24) in tumor gene therapy: application of tumor penetrating/homing peptides for improvement of the effects(Review). **Expert Opinion Biological Therapy**. 2019; 19(3):211-223.
9. **Hosseini SY**, Sanaei N, Fattahi MR, Malek-Hosseini SA, Sarvari J. Association of HBsAg mutation patterns with hepatitis B infection outcome: Asymptomatic carriers versus HCC/cirrhotic patients. *Annals of Hepatology* 2019 May 11. pii: S1665-2681(19)30070-5.
10. Atapour A, Mokarram P, MostafaviPour Z, **Hosseini SY**, Ghasemi Y, Mohammadi S, Nezafat N, Designing a Fusion Protein Vaccine Against HCV: An In Silico Approach, *International Journal of Peptide Research and Therapeutics* 2019, 25(3), 861–872
11. Nejabat N, **Hosseini SY**, Sarvari J, Gorzin AA, Fattahi MR, Rasoolian M. The Investigation of Drug Resistance Substitutions in NS3 Protease Sequence of Hepatitis C Virus from Non-Responder Patients. **Asian Pacific Journal of Cancer Prevention** 2019; 1;20(8):2311-2317.
12. Taghiabadi, **Hosseini SY**, Gorzin AA, Taghavi SA, Monavari SHR, Sarvari J, Comparison of pre-S1/S2 variations of hepatitis B virus between asymptomatic carriers and cirrhotic/hepatocellular carcinoma-affected individuals. **Clin Exp Hepatology** 2019; 5, 2: 161–168.
13. Joharinia, N., Farhadi, A., **Hosseini, S.Y.**, Safaei, A., Sarvari, J. Association of HPV16 and 18 genomic copies with histological grades of cervical lesions. *VirusDisease* 2019.

14. Jamhiri I, Zahri S, Mehrabani D, Khodabandeh Z, and **Hosseini SY**. Enhancing the apoptotic effect of IL-24/mda-7 on the human hepatic stellate cell through RGD peptide modification. **Immunological Investigation** 2018 Mar 2:1-16.
15. 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 Mar 9;67(1):73-79.
16. Jamhiri I, Shahin K, Khodabandeh Z, Kalantar K, Sarvari J, Atapour A, Mina F, Ahmadnejad A, **Hosseini SY**. Recombinant NS3 Protein Induced Expression of Immune Modulatory Elements in Hepatic Stellate Cells During Its Fibrotic Activity. **Viral Immunology** 2018 Oct;31(8):575-582.
17. Hosseini R, Moosavi F, Silva T, **Hosseini SY**, Borges F, Firuzi O. Modulation of ERK1/2 and Akt Pathways Involved in the Neurotrophic Action of Caffeic Acid Alkyl Esters. **Molecules**. 2018 17;23(12).
18. Khanizadeh S, Ravanshad M, **Hosseini SY**, Davoodian P, Zadeh AN, Sabahi F, Sarvari J, Hasani-Azad M. The possible role of NS3 protease activity of hepatitis C virus on fibrogenesis and miR-122 expression in hepatic stellate cells. **Acta Virologica** 2016;60(3):242-8.
19. Hosseini E, **Hosseini SY**, Hashempour T, Fattahi MR and Sadeghizadeh M. Effect of RGD coupled MDA-7/IL-24 on apoptosis induction in a hepatocellular carcinoma cell line. **Molecular Medicine Reports** 2017 ;15(1):495-501.
20. Khanizadeh S, Ravanshad M, **Hosseini SY**, Davoodian P, Almasian M, Khanlari Z. The effect of the hepatitis C virus (HCV) NS3 protein on the expression of miR-150, miR-199a, miR-335, miR-194 and miR-27a. **Microb Pathog**. 2017 Sep;110:688-693.
21. Moasser E, Behzadian F, Moattari A, Fotouhi F, Rahimi A, Zaraket H, **Hosseini SY**. Molecular characterization and phylogenetic analysis of human influenza A viruses isolated in Iran during the 2014-2015 season. **Archive of Virology**. 2017 Jul;162(7):1975-1984.
22. Ghorban Hosseini N, Tebianian M, Farhadi A, Hossein Khani A, **Hosseini SY**, Taghizadeh M, Rezaei M, Mahdavi M. In Silico Analysis of L1/L2 Sequences of Human Papillomaviruses: Implication for Universal Vaccine Design. **Viral Immunology** 2017 Apr;30(3):210-223
23. **Hosseini SY**, Baesi K, Azarpira N, Pakneiat A, Hosseini SA, The evaluation of fibrotic effects of the hepatitis B virus pre-core in hepatic stellate cells. **Biomedical Reports** 2017, 6:671-674. doi: 10.3892/br.2017.894.
24. Davoodian P, Ravanshad M, **Hosseini SY**, Khanizadeh S, Almasian M, Nejati Zadeh A, Esmaili Lashgarian H. Effect of TGF- $\beta$ /smad signaling pathway blocking on expression profiles of miR-335, miR-150, miR-194, miR-27a, and miR-199a of hepatic stellate cells (HSCs). **Gastroenterol Hepatol Bed Bench**. 2017 Spring;10(2):112-117.
25. Bina S, **Hosseini SY**, Shenavar F, Hosseini E, Mortazavi M. The Effect of RGD/NGR Peptide Modification of Melanoma Differentiation-Associated Gene-7/Interleukin-24 on Its Receptor Attachment, an In Silico Analysis. **Cancer Biotherapy Radiopharmacology**. 2017 Aug;32(6):205-214. doi: 10.1089/cbr.2017.2195.
26. Jamhiri I, **Hosseini SY**, Mehrabani D, Khodabandeh Z, Yaghoobi R, Dowran R, Zahri S. The pattern of IL-24/mda-7 and its cognate receptors expression following activation of human hepatic stellate cells. **Biomedical Reports** 2017 Aug;7(2):173-178.
27. Dehghani-Dehej F, Sarvari J, Esghaei M, **Hosseini SY**, Garshasbi S, Kalantari S, Monavari SH, Fakhim A, Keyvani H, Bokharaei-Salim F. Presence of Different Hepatitis C Virus Genotypes in Plasma and Peripheral Blood Mononuclear Cell Samples of Iranian Patients with HIV Infection. **Journal of Medical Virology** 2018; 28. doi:10.1002/jmv.24925.
28. Alizadeh Zarei M, Takhshid MA, Behzad Behbahani A, **Hosseini SY**, Okhovat MA, Rafiee Dehbidi GR, Mosleh Shirazi MA. Synergistic Effects of NDRG2 Overexpression and Radiotherapy on Cell Death of Human Prostate LNCaP Cells. **J Biomed Phys Eng**.2017 Sep 1;7(3):257-264.
29. Mohammadi V, Behzad Behbahani A, Rafiee GhR, **Hosseini SY**, Alizadeh Zarei M, Okhovat MA, Takhshid MA. The effects of specific expression of Apoptin under the control of PSES and PSA promoter on cell death and apoptosis of LNCaP cells. **Iran J Basic Med Sci** 2017; 20:1354-1359.

30. Afrasiabi M, Hosseini SY, Yaghobi R, Fattahi MR, Ardebili M, Khodadad M. Analysis of Naturally Occurring Resistant Mutations to Hepatitis C Virus NS3 Protease Inhibitors: A Preliminary Study in South of Iran. **Jundishapur J Microbiol.** 2015 Oct 29;8(10):e24965.
31. Delavari S, Sohrabi M, Tebianian M, Taghizadeh M, Shajiei A, **Hosseini SY**, Moghaddampour M, Mahdavi M. Pseudomonas aeruginosa flagellin as an adjuvant: superiority of a conjugated form of flagellin versus a mixture with a human immunodeficiency virus type 1 vaccine candidate in the induction of immune responses. **Journal of Medical Microbiology** 2015 Nov;64(11):1361-8.
32. Bina S, Shenavar F, Khodadad M, Haghshenas MR, Mortazavi M, Fattahi MR, Erfani N, **Hosseini SY**. Impact of RGD Peptide Tethering to IL24/mda-7 (Melanoma Differentiation Associated Gene-7) on Apoptosis Induction in Hepatocellular Carcinoma Cells. **Asian Pac J Cancer Prev.** 2015;16(14):6073-80
33. Khanizadeh S, Ravanshad M, **Hosseini SY**, Davoodian P, Nejati Zadeh A, Sarvari J. Blocking of SMAD4 expression by shRNA effectively inhibits fibrogenesis of human hepatic stellate cells. **J. Gastroenterol Hepatol Bed Bench** 2015 Fall;8(4):262-9.
34. Mofazzal Jahromi MA, **Hosseini SY**,..., Moazzeni SM. Adenovirus-mediated overexpression of gamma interferon in murine bone marrow-derived dendritic cells affects their viability and activity. **Asian Pac J Trop Dis** 2014; 4: S353-S359.
35. Saeedi A, Ghaemi A, Tabarraei A, **Hosseini SY**, Vakili MA. Enhanced cell immune responses to hepatitis c virus core by novel heterologous DNA prime/lambda nanoparticles boost in mice. **Virus Genes.** 2014. DOI 10.1007/s11262-014-1070-z.
36. Khanlari Z, Sabahi F, **Hosseini SY**, Ghaderi M, HCV NS3 blocking effect on IFN induced ISGs like viperin and IL28 with and without NS4A. **Hepatitis Monthly** 2014 Jun 8;14(6):e17822. doi: 10.5812/hepatmon.
37. Rezaei F, **Hosseini SY**, Karimi M-H, Geramizadeh B, Fattahi MR, Yaghoubi R, Kouhpeima F. Adenovector mediated inflammation in mice liver boosted by Hydrodynamic injection. **Iranian Journal of Virology** 2014.
38. Ghanbari R , Ravanshad M, **Hosseini SY**, Yaghobi R, Shahzamani K., Genotyping and Infection Rate of GBV-C among Iranian HCV-Infected Patients. **Hepatitis Monthly** 2010; 10(2): 80-87
39. Baesi K, Ravanshad M, **Hosseini SY**, Haji Abdolbaghi M. Drug resistance profile and subtyping of HIV-1 RT gene in Iranian patients under treatment. **Iranian Journal of Biotechnology** 10(1), 2012: 1-7.
40. **Hosseini SY**, Sabahi F, Moazzeni SM, Modarressi MH, Saberi Firoozi M, Ravanshad M. Construction and preparation of three recombinant Adenoviruses expressing truncated NS3 and Core genes of Hepatitis C Virus for vaccine purposes. **Hepatitis Monthly.**2012;12(8):1-9.
41. **Hosseini SY**, Sabahi F,, Amini-Bavil-Olyae S , Alavian SM , Merat S; A novel accurate ACRS-PCR method with a digestion internal control for identification of wild type and YMDD mutants of hepatitis B virus strains. **Journal of Virological Methods** 137 (2006) 298–303.
42. Amini-Bavil-Olyae S; **Hosseini SY**, Sabahi F, Alavian SM;, Hepatitis B virus genotype and YMDD motif mutation profile among 147 lamivudine-untreated Iranian HBV infected subjects, **International Journal of Infectious Diseases** 2008; 12:83—87

### Experience

- ✚ Experimental Design
- ✚ Very good in Gene Cloning
- ✚ Very Good in cell culture techniques and gene transfection
- ✚ Working with viral vectors such as Adenovector and AAV vector
- ✚ Working on Newcastle disease virus for adaptation on human tumor cell lines
- ✚ Molecular study and phylogenetic analysis of HBV, HCV and Adenovirus in patients samples
- ✚ Good in Virus culture and titrating by TCID50, plaque assay, HA and Transduction assay

- ✦ Preparation of Viral vectors, from designing the construct to production, ultracentrifugation, purification, desalting, concentration and low-scale production as well as their quality control
- ✦ Gene expression analysis by qPCR, Western Blot and fluorescent assay(IF)
- ✦ Bioinformatics: Primer designing, sequence alignment, phylogenetic analysis, in-silico cloning
- ✦ Immune assays including; Flow-cytometry analysis, MTT, proliferation assay, CTL assay, ELISPOT
- ✦ Differentiation of Dendritic cells and evaluation by ELISA and Flow-cytometry and MLR
- ✦ Stable cell line development
- ✦ Designing and In vitro RNA transcription experience
- ✦ Promoter assessment by luciferase assay

#### **The field of Interest:**

- ❖ Viral Vectors and Viral based Gene Delivery
- ❖ Oncolytic viruses and Cancer Immunotherapy
- ❖ Immunopathogenesis of viral diseases

#### **Current Projects:**

- 1- Evaluation of Adenovectors expressing Peptides-tethered Mda-7 for tumor killing purpose
- 2- Adaptation of oncolytic Newcastle disease virus for more specific tumor killing activity
- 3- Adenovector shielding
- 4- Coronavirus accessory proteins pathogenesis

#### **Teaching courses**

- ❖ General advanced Virology("3 credit course", PhD students of virology)
- ❖ Systematic advanced virology("6 credit course", PhD students of Virology)
- ❖ Gene Therapy concepts, 3 sessions, for MSc and PhD students
- ❖ General Virology ("2 credit course" for MSc students of Virology); Reference: Flint Virology
- ❖ Systematic Virology ("5 credit course" for MSc students of Virology); Fields Virology
- ❖ Systematic Virology("3 credit course" for MSc students of Microbiology);
- ❖ Gene cloning, 3 session, MSc and Ph.D students
- ❖ Molecular biology of Infectious diseases for PhD students of Medical Biotechnology
- ❖ Clinical Virology, B.Sc in Medical Laboratory Sciences, Shiraz University of Medical Sciences
- ❖ Practical Virology, ("2 credit course" for MSc students of Virology)
- ❖ Molecular Diagnostic, (1 credit course for MSc students of Microbiology)
- ❖ Diagnostic Virology, (3 credit course for Fellows of Laboratory Sciences)
- ❖ Clinical Virology course for General Health & Sanitation student

#### **References:**

##### **1- Dr. Jamal Sarvari**

The close colleague in the group of Virology  
Bacteriology and virology Department, School of Medicine, Shiraz University of Medical Sciences, Zand  
Blvd, Shiraz, Iran. [Sarvarij@sums.ac.ir](mailto:Sarvarij@sums.ac.ir)

**2- Dr. Gloria Gonzalez Aseguiolaza, PhD**

Supervisor of pre-doctorial course (near 11 months) in Spain at CIMA research center  
Centro de Investigación Medica Aplicada (CIMA), Pamplona. Navarra. **Spain**.  
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**3- Dr. Erkkö Ylösmäki, PhD**

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**4- Dr. Farzaneh Sabahi**

(Supervisor of MSc and PhD Thesis)

Previous: Department of Virology, Tarbiat Modares University, **Tehran**, IR

Current: Adjunct faculty, Johns Hopkins University Advanced Academic Programs

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