

In the name of God

Hossein Mahboudi, Ph.D

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Education

- Ph.D degree, Medical Biotechnology
 - PhD thesis entitled: Chondrocyte differentiation of Induced pluripotent stem cell (IPSC) and bone marrow-derived mesenchymal stem cell by miR-140 and use of Nanofiber-based polyethersulfone (PES) scaffold.
- Master's degree, Microbiology
 - MSc thesis entitled: Cloning, periplasmic expression and purification of L-Asparaginase II in E. coli.
- Bachelor's degree, Cellular and Molecular Biology, Microbiology trend

Skills

- Bioinformatics software for DNA and Protein analysis
- Cloning and sub cloning of DNA fragment in plasmids, restriction analysis, transformation, etc.
- Expression of protein in E. coli and mammalian cell.
- Immunoassay methods (ELISA, Western blot, ICC and IHC).
- Protein purification
- SDS-PAGE
- genomic and plasmid DNA extraction

- RNA extraction and cDNA synthesis
 - Quantitative (RT)PCR
 - Analysis of sequence
 - Primer and probe designing
 - Stem Cell Culture (IPSc and MSCs)
 - Cell identification and characterization
 - Lenti viral packaging
 - Viral Transduction and colony selection
 - differentiation to Cartilage and Chondrocyte cell
 - tissue engineering
 - Project Management
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Interested

- Monoclonal antibody
 - Recombinant Protein
 - Cell therapy
 - Tissue engineering
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Languages

☐ English: Fluent

☐ Persian: Native

Research Experience

- Designing microRNA based vectors for recombinant lentivirus production.
- IPSc differentiation to cartilage and chondrocyte with over expressing of microRNA and TGF- β .
- MSC differentiation to cartilage and chondrocyte with over expressing of microRNA and TGF- β .
- Development of PES (poly ether sulfone) scaffold for stem cell differentiation to cartilage.

- Designing a recombinant vector for periplasmic Expression of L-Asparaginase II in E. coli.
 - Development of a method for Asparaginase purification and biological activity assay.
 - Evaluation of the IL-8 expression in Multiple Sclerosis patients by Real Time PCR.
 - Development of recombinant CHO cell line for erythropoietin production.
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Industrial Experience:

➤ **CEO at Livogen Pharmed Company for 5 years.**

➤ **Head of R&D in recombinant cell bank characterization services:**

A) Genetic stability in DNA and RNA levels with QPCR

B) Restriction mapping analysis

C) Cell line identification

D) Sequence analysis

E) Mycoplasma detection

F) Viral safety testing in recombinant cell banks

➤ **Head of R&D in production of Quality control kits for biopharmaceuticals products (HCD and HCP kits):**

A) CHO/Host Cell DNA quantitation kit

B) E. coli/Host Cell DNA quantitation kit

C) Yeast/Host Cell DNA quantitation kit

D) BHK/Host Cell DNA quantitation kit

E) CHO/Host Cell Protein ELISA kit

F) E. coli/Host Cell Protein ELISA kit

G) Yeast/Host Cell Protein ELISA kit

➤ **Head of R&D in production of pharmacogenomics kits:**

- A) BRAF mutation detection kit
- B) Jak2 mutation detection kit
- C) KRAS mutation detection kit
- D) HER2 amplification kit
- E) PML/RaRa Translocation kit
- F) BCR/ABL Translocation kit

➤ **Head of R&D in production of viral quantitative and qualitative kits:**

- A) HBV Real time PCR kit
- B) HCV Real time PCR kit
- C) HIV Real time PCR kit
- D) CMV Real time PCR kit
- E) HPV Real time PCR kit
- F) HPV genotyping kit

Publications

Books

1. **From genes to genomes**; Fatemeh Hosseini, Hadi Hassannia, Seyed Mahdi Jafari, **Hossein Mahboudi**, Mousa Kehtari, Seyed Ehsan Enderami, Javad Hashemi.
2. **Real time PCR and new application in biotechnology**; Negin Mohammadi zade, Ali Hushmand, Zahra Irani, **Hossein Mahboudi**, Kave Darabi, Soroush Karimi, Seyed Ehsan Enderami.

Research article

- **Mahboudi H**, Abachi M, Araghi SH, Hamedifar H, Vaziri B, Mahboudi F. Cloning and Cytoplasmic Expression of L-Asparaginase II in E. coli. Journal of Microbial World, Volume 3, No. 2, 2010; 87-93.
- Shiri M, Navaei-Nigjeh M, Baeri M, Rahimifard M, **Mahboudi H**, Shahverdi AR, Kebriaeezadeh A, Abdollahi M. Blockage of both the extrinsic and intrinsic pathways of diazinon-induced apoptosis in PaTu cells by magnesium oxide and selenium nanoparticles, International Journal of Nanomedicine 2016; 6239-6250.
- **Hossein Mahboudi**, Bahram Kazemi, Masoud Soleimani, Hana Hanaee-Ahvaz, Abdolreza Ardeshtyrlajimi, Mohamad Eftekhary, Seyed Ehsan Enderami. Comparison between High Cell-Density Culture Systems for Chondrogenic Differentiation and Articular Cartilage Reconstruction of Human Mesenchymal Stem Cells: Triple R Journal 2017, pages 7-15.
- Mostafa Shahrezaie, Reyhaneh Nassiri Mansour, Abdolreza Ardeshtyrlajimi, Hadi Hassannia, Fatemeh Hosseini, Mohamad Eftekhary, **Hossein Mahboudi**, Mousa Kehtari, Arash veshkini, Abbas Ahmadi Vasmehjani, ehsan enderami. Improved stem cell and gene base therapy of spinal cord injury using GDNF-overexpressed bone marrow stem cells in a rat model: Biological Journal 50, 2017; 73-80.
- **Hossein Mahboudi**, Masoud Soleimani, Hana Hanaee- Ahvaz, Hossein Ghanbarian, Mojgan bandehpour, Seyed Ehsan Enderami, Mousa Kehtari, Bahram Kazemi; The Effect of Nanofiber-based polyethersulfone (PES) scaffold on the Chondrogenesis of human induced pluripotent stem cells. Artificial Cells, Nanomedicine and Biotechnology, 2018; ; 46 (8), 1948-1956,
- **Mahboudi, Hossein**; Soleimani, Masoud; Hanaee- Ahvaz, Hana; Ghanbarian, Hossein; bandehpour, Mojgan; Enderami, Seyed Ehsan; Kazemi, Bahram; New approach for differentiation of bone marrow mesenchymal Stem Cells toward chondrocyte cells with overexpression of MicroRNA-140: ASAIO Journal, 2018; pages 662-672.
- **Hossein Mahboudi**, Masoud Soleimani, Hana Hanaee- Ahvaz, Hossein Ghanbarian, Mojgan bandehpour, Seyed Ehsan Enderami, Mousa Kehtari, Bahram Kazemi; Enhanced chondrogenesis of human bone marrow mesenchymal Stem Cell (BMSC) on Nanofiber-based polyethersulfone (PES) scaffold; gene Journal 643, 2018; pages 98-106.

- Reyhaneh Nassiri Mansour, Ghasem Barati, Masoud Soleimani, Pegah Ghoraeian, Maryam Nouri Aleagha, Fatemeh Hosseini, Hadi Hassannia, Mousa Kehtari, **Hossein Mahboudi**, Mohammad Foad Abazari, Seyed Ehsan Enderami. Generation of high-yield insulin producing cells from human induced pluripotent stem cells on polyethersulfon nanofibrous scaffold. *Artificial Cells, Nanomedicine and Biotechnology* 46, 2018; pages 733-739.
- **Hossein Mahboudi**, Masoud Soleimani, Hana Hanaee- Ahvaz, Hossein Ghanbarian, Mojgan bandehpour, Seyed Ehsan Enderami, Mousa Kehtari, Bahram Kazemi; Enhanced chondrogenesis Differentiation from Human Induced Pluripotent Stem Cells by MicroRNA-140 and Transforming Growth Factor Beta 3 (TGFβ3). *Biologicals journal* 52, 2018; 30-36.
- Mohammad Foad Abazari, Fatemeh Soleimanifar, Maryam Nouri Aleagha, Sepehr Torabinejad, Navid Nasiri, Gholamreza Khamisipour, Javad Amini Mahabadi, **Hossein Mahboudi**, Seyed Ehsan Enderami, Ehsan Saburi, Javad Hashemi, Mousa Kehtari. PCL/PVA nanofibrous scaffold improve insulin-producing cells generation from human induced pluripotent stem cells; *gene Journal* 671, 2018; 50-57.
- **Hossein Mahboudi**, Negin Mohammadi, Zahra Irani Rashidabadi, Ali Houshmand Anbarestani, Soroush Karimi, Kaveh Darabi Darestani. Prospect and Competence of Quantitative Methods via Real-time PCR in a Comparative Manner: An Experimental Review of Current Methods. *The Open Bioinformatics Journal*, 2018.
- Mousa Kehtari, Bahareh Beiki, Bahman Zeynali, Fatemeh Sadat Hosseini, Fatemeh Soleimanifar, Mohammad Kaabi, Masoud Soleimani, Seyed Ehsan Enderami, Mahboubeh Kabiri, **Hossein Mahboudi**, Decellularized Wharton's jelly extracellular matrix as a promising scaffold for promoting hepatic differentiation of human induced pluripotent stem cells: *cellular biochemistry*, 2019, pages 6683-6697
- Mehrdad Piran, Mahdi Shiri, Mahsa Soufi Zomorrod, Elaheh Esmaeili, Mina Soufi Zomorrod, Nader Vazifeh Shiran, **Hossein Mahboudi**, Hamed Daneshpazhouh, Naeimeh Dehghani, Simzar Hosseinzadeh, Electrospun triple-layered PLLA/gelatin. PRGF/PLLA scaffold induces fibroblast migration: *cellular biochemistry*, 2019.
- **Hossein Mahboudi**, Fatemeh Sadat Hosseini, Mousa Kehtari, Hadi Hassannia, Seyed Ehsan Enderami, Shahrzad Nojehdehi, The effect of PLLA/PVA nanofibrous scaffold on the chondrogenesis of human induced pluripotent stem cells: *International Journal of Polymeric Materials and Polymeric Biomaterials* 120, 2020; 11441-11453.

- Seyed Ehsan Enderami, Seyedeh Fatemeh Ahmadi, Reyhaneh Nassiri Mansour, Saeid Abediankenari, Hossein Ranjbaran, Majid Mossahebi-Mohammadi, Reza Salarinia, **Hossein Mahboudi**, Electrospun silk nanofibers improve differentiation potential of human induced pluripotent stem cells to insulin producing cells: Materials Science and Engineering: C 108, 2020; 110398.
- Mohammad Foad Abazari, Shohreh Zare Karizi, Hadi Samadian, Navid Nasiri, Hassan Askari, Matin Asghari, Fateme Frootan, Hadi Bakhtiari, **Hossein Mahboudi**, Vahid Mansouri, Poly (glycerol sebacate) and polyhydroxybutyrate electrospun nanocomposite facilitates osteogenic differentiation of mesenchymal stem cells: Journal of Drug Delivery Science and Technology, 2021, page 102796.
- Zahra Gohari, Ahmadali Baghaei, **Hossein Mahboudi**, Javad Hashemi, Mohammad Rahmati, Maryam Islami, Vahid Mansouri, Ursolic acid incorporated nanofibers improves chondrogenic differentiation of mesenchymal stem cells: Polymers for Advanced Technologies, 2022, pages 3988-3996.
- Mohammad Bagher Zandi, Siavash Salek Ardestani, Seyed Milad Vahedi, **Hossein Mahboudi**, Fereidoun Mahboudi, Ardeshtir Meskoob, Detection of Common Copy Number of Variants Underlying Selection Pressure in Middle Eastern Horse Breeds Using Whole-Genome Sequence Data: Journal of Heredity, 2022, 421-430.
- Negin Noori Sepehr, Fatemeh Soleimanifar, Nafiseh Khosravi Dehaghi, **Hossein Mahboudi**, Afsaneh Tavasoli, Fatemeh Sameni, Hamed Haddad Kashani; Evaluation of the effect of Drimia Maritima and curcumin extracts in changes in the expression of Bax, Bcl-2, and P53 genes in lung cancer non-small cell: research square, 2023.
- Behrouz Mahmoudi, Fatemeh Soleimanifar, Sadeq Shabani, Seyed Sina Dorreyatim, Arezou Sarvi Mastalibiglo, Mohammad Ahmadi, Mohammad Parand, **Hossein Mahboudi**; High yield expression and purification of Aspergillus flavus uricase cloned in Pichia pinkTM expression system: 3 Biotech, 2023, pages 306.
- Fereshteh Zare, Soudeh Ghafouri-Fard, Atefeh Shamosi, Shahrzad Pahlavan, **Hossein Mahboudi**, Afsaneh Tavasoli, Solat Eslami: Oleoylethanolamide protects mesenchymal stem/stromal cells (MSCs) from oxidative stress and reduces adipogenic related genes expression in adipose-derived MSCs undergoing: Molecular Biology Reports, 2024, pages 33.

- Fatemeh Soleimanifar, Nazli Aghapur , Zeinab Rezaei-Kiasari , **Hossein Mahboudi** , Mohammad Kaabi , Reyhaneh Nassiri Mansour, Mousa Kehtari, Mohammadfoad Abazari, Seyed Ehsan Enderami , Hadi Hassannia; The generation of islet-like insulin-producing cells from Wharton's jelly-derived mesenchymal stem cells on the PES/fish gelatin scaffold; Regenerative Therapy, 2024, pages 251-259.
- Sayeneh Khodadadi, Hadi Rabiei, Soroush Sardari, **Hossein Mahboudi**, Mohammad Ali Bayatzadeh, Nader Vazifeh Shiran, Maryam Sardabi, Mohammad Reza Akbari Eidgahi, Hamid Madanchi, Nasser Mohammadpour; Purification, and characterization of a new pro-coagulant protein from Iranian Echis carinatus venom: Biochemistry and Biophysics Reports, 2024.
- Sareh sadat Mousavi Natanzi, Sedigheh Asad, **Hossein Mahboudi**, Solat Eslami; Cloning, Expression, Characterization and in silico studies of l-asparaginase from Vibrio sp.(GBPx3); Biochimie, Volume 233, June 2025, Pages 122-13.
- Reihane Seifi Moroudi, **Hossein Mahboudi**, Fereidoun Mahboudi; The Effect of Selection on the Two Important Myostatin Gene Mutations in the Dareshouri Horse in the Middle East; Veterinary Medicine and Science, 2025.
- Amir Mohsen Alizadeh Gatabi, Maryam Ostadsharif, **Hossein Mahboudi**; Effects of Persian Shallot Extract on Inhibition of Adipogenesis in 3T3-L1 Cells; Journal of Medicinal plants and By-Products, 2025, Volume 14, Pages 80-86.

Congress participation

- **Hossein Mahboudi**, Azade Reshadmanesh, Alireza Azizi, Negin Mohammadi, Zahra Irani, majid mehravar. Evaluation of the breast cancer stem cell marker expression as a promising target in the war on cancer. First international conference and 9th Iranian biotechnology congress.
- Negin Mohammadi, **Hossein Mahboudi**, Alireza Azizi, Zahra Irani, Majid Mehravar, Azade Reshadmanesh. Investigation of effective genes during apoptosis pathway in leukemia patients. First international conference and 9th Iranian biotechnology congress.

- Negin Mohammadi, **Hossein Mahboudi**, Alireza Azizi, Zahra Irani, Majid Mehravar, Azade Reshadmanesh. Evaluation of Her2 amplification in breast cancer patients by Real-time PCR technique. First international conference and 9th Iranian biotechnology congress.
- Azade Reshadmanesh, **Hossein Mahboudi**, Alireza Azizi, Negin Mohammadi, Zahra Irani, Majid Mehravar. Investigating a gene expression pattern that may result in new or combinatory approaches for trastuzumab resistant breast tumor treatment. first international conference and 9th Iranian biotechnology congress.
- Zahra Irani, **Hossein Mahboudi**, Alireza Azizi, Negin Mohammadi, Majid Mehravar, Azade Reshadmanesh. Evaluation of Gene expression involved in breast cancers metastasis. First international conference and 9th Iranian biotechnology congress.
- Majid Mehravar, **Hossein Mahboudi**, Alireza Azizi, Negin Mohammadi, Zahra Irani, Azade Reshadmanesh. Taqman-probe based Real-time PCR for detection of all-known PML/RARA-fusion variants. First international conference and 9th Iranian biotechnology congress.
- **Mahboudi H.**, Abachi M., Araghi Sh., Salati M., Habibi Y ., Vaziri B., Hamedifar H., Mahboudi F. Recombinant host for production of L-asparaginase II. The 11th Iranian National Congress of genetic.
- Araghi Sh, Hamedifar H, Abachi M, **Mahboudi H**, Salami Sh, Mahboudi F. Evaluation of the IL8 expression in Multiple Sclerosis patients. The 11th Iranian National Congress of genetic.
- Hamedifar H, Araghi Sh, Abachi M, Salati M, **Mahboudi H**, Habibi Y, Mahboudi F. Development of Interferon- β bioavailability test by Real-time PCR. The 11th Iranian National Congress of genetic.
- Abachi M, Araghi Sh, Salati M, Yari H, Hamedifar H, **Mahboudi H**, Mahboudi F. Pathway Analysis of Breast Cancer Samples by Microarray. The 11th Iranian National Congress of genetic.
- Salati. M, Abachi. M, Araghi. Sh, **Mahboudi H**, Hamedifar. H, Mahboudi. F. Gene expression analysis of Tamoxifen resistance in long-term therapy. The 11th Iranian National Congress of genetic.

- Abachi M, Salati M, **Mahboudi H**, Araghi Sh, Habibi Y, Hamedifar H, Mahboudi F. Apoptosis profiling of different Genetic alterations in leukemia cell lines. The 11th Iranian National Congress of genetic.
 - **Mahboudi H.**, Abachi M., Salati M., Mahboudi F. Evaluation of Apoptosis pathway between Embryo and Cancerous cell lines by Real Time PCR. The 16th and 4th Iranian international conference of biology.
 - **Mahboudi. H**, Araghi Sh, Abachi. M, Hamedifar. H, Mahboudi. F. the effect of HHV-6 infection on Multiple sclerosis relapsing. The 4th Iranian National Congress of clinical microbiology.
 - **Mahboudi H.**, Abachi M., Araghi Sh.,Hamedifar H., Vaziri B., Mahboudi F. Expression, purification, refolding and bioassay of recombinant L-Asparaginase II in E. coli. Second Iranian national conference of applied microbiology.
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Honors and Awards

Reviewing articles in the first international conference and 9th Iranian biotechnology congress.

Reviewing articles in the 16th international congress of Iranian Microbiology.

Reviewing articles in the 17th international congress of Iranian Microbiology.

Reviewing articles in the 2nd international conference and 10th Iranian biotechnology congress.

Reference Professors

Dr. Bahram Kazemi (PhD Thesis Supervisor). Department of Medical Biotechnology, School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran. Email: bahram_14@yahoo.com

Dr. Masoud Soleimani (PhD Thesis Supervisor). Hematology department, Faculty of Medical Sciences, Tarbiat Modares University , Tehran, Iran. Email: soleim_m@modares.ac.ir.

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