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Education:

- **2007:** Ph.D. Degree in Biochemistry (1st rank, with a general average of 19.43 out of 20), in the Institute of Biochemistry and Biophysics, University of Tehran, Tehran.
- **2001:** M. Sc. Degree in Biochemistry (1st rank, with a general average of 18.81 out of 20), in the Institute of Biochemistry and Biophysics, University of Tehran, Tehran.
- **1998:** B. Sc. Degree in Microbiology (1st rank, with a general average of 18.45 out of 20) in the Faculty of Sciences, University of Tehran, Tehran.

Achievements during Education:

- 1st rank in PhD Biochemistry entrance exam among 60 volunteers.
- 1st rank in PhD Biochemistry general exam.

Research Awards and Achievements:

- Best Poster Winner in 9th Royan International Twin Congress, September 2008
- Selective Researcher in 12th Festival of Application of Selective Researchers and Technologists, Azar 1390

- Selective Researcher in Academic Center for Education and Culture research (ACECR), Mordad 1391
- Award Winner of Young Scientists of Developing Countries, in 12th International Congress of Human Genetics (ICHG 2011), Canada
- Award Winner in 16th Royan International Research Award, September 2015
- Award winner of the Selective Researcher in The International Society of Embryology and Reproductive Biology ISERB 2017

Current Field of Research:

Epigenetic Regulations in Development and Reproduction

Professional Experiences:

- **2009:** Post doc. in Epigenetics with the focus on ChIP-Sequencing method, in the Nijmegen Center for the Molecular Life Sciences (NCMLS), Radboud University, The Netherlands.

Method Experiences:

- **Cell culture**
Human embryonic stem cell and carcinoma cell lines
- **Immunofluorescence and Flow cytometry**
- **Molecular biology techniques**
Gene cloning
Different kinds of PCR, including RT and Real-time PCR
In vitro transcription assays (homologous and heterologous in vitro systems)
- **Chromatin Immunoprecipitation (ChIP)**
- **Biochemical analyses of protein**
Protein extraction, purification
Different kinds of electrophoretic systems (denatured, native, acid-urea, IEF, 2D)
Western blot technique
- **Spectroscopic analysis**
Uv-Vis, Circular Dichroism (CD) and Fluorescence spectroscopy

- **Laboratory procedures in microbiology**

Teaching:

"Advance Molecular Biology" and "Molecular Genetics" and "Molecular Biotechnology" courses in Department of Biotechnology, Collage of Sciences, University of Tehran (Since 2007).

"Gene Regulation" and "Biochemistry of Chromatin" courses in Departments of Genetics and Cell and Molecular Biology, University of Science and Culture (Since 2010).

Merit:

Reviewer in:

1. _Royan International Research Award, Since 2010
2. International Journal of Fertility & Sterility (IJFS)
3. Cell Journal
4. International Journal of Reproductive Medicine (IJRM)

Publications:

1. **Shahhoseini, M.**, Ziaee, A-A. and Ghaemi, N. (2003) Expression and secretion of an alpha-amylase gene from a native strain of *Bacillus licheniformis* in *Escherichia coli* by T7 promoter and putative signal peptide of the gene. *Journal of Applied Microbiology* **95**, 1250-1254.

2. **Shahhoseini, M.**, Ziaee, A-A., Pourbabai, A-A., Ghaemi, N. and Declerck, N. (2005) A natural variant of *Bacillus licheniformis* alpha-amylase isolated from flour mill wastewaters sheds light on the origin of high thermostability. *Journal of Applied Microbiology*, **98**, 24-32.

3. **Shahhoseini, M.** and Ziaee, A-A. (2001) Gene Submission in GenBank with Accession Number "AF438149".

4. **Shahhoseini, M.**, Rabbani, A. and Abdossamadi, S. (2007) Identification of non-histone protein LMG₁₆₀ as a ribonucleoprotein of the nuclear matrix with a role in transcription in vitro. *Biochimie* **89**, 1343-1350.

5. Totonchi, M., **Shahhoseini, M.**, Momeni Moghadam, M., Baharvand, H. (2007) [Epigenetic of stem cells]. *Cell J.* **9**, 51-66.

6. **Shahhoseini, M.** and Rabbani, A. (2008) Transcriptional inhibition by a non-histone protein from low mobility group in homologous and heterologous in vitro systems. *Mol. Biol. Rep.* **35**, 189-193.
7. **Shahhoseini, M.**, Rabbani, A. and Abdossamadi, S. (2009) Evidence for the structural stability of ribonucleoprotein LMG₁₆₀ under ribonuclease-A treatment. *Mol. Cel. Biochem.* **321**, 65-72.
8. **Shahhoseini, M.**, Rabbani, A. (2009) [An overview to the structure and function of nuclear matrix]. *Cell J.* **10**, 232-241.
9. **Shahhoseini, M.**, Taeae, A., Zare, N., Hosseini Salekdeh, Gh. and Baharvand H. (2010) Epigenetic analysis of human embryonic carcinoma cell line NT2 during neural differentiation induced by retinoic acid. *Biochem.Cell Biol.* **88**, 527-538.
10. **Shahhoseini, M.**, Favaedi, R., Baharvand, H., Sharma, V. and Stunnenberg, H.G. (2010) Evidence for a dynamic role of the linker histone variant H1x during retinoic acidinduced differentiation of NT2 cells. *FEBS Lett.* **548**, 4661-4664.
11. Jadaliha, M., **Shahhoseini, M.** (2010) [Epigenetic and cellular memory]. *Cell J.* **12**, 311-318.
12. Baghban Eslami, M. R., Karimi, N., **Shahhoseini, M.** (2011) Enhancement of glycosaminoglycan-rich matrix production in human marrow-derived mesenchymal stem cell chondrogenic culture by lithium chloride and SB16763 treatment. *Cell J.* **13**, 117-126.
13. Favaedi, R., **Shahhoseini, M.**, Akhoond, M.R. (2012) Comparative epigenetic analysis of Oct4 regulatory region in RA-induced differentiated NT2 cells under adherent and non-adherent culture conditions. *Mol. Cell. Biochem.* **363**(1-2), 129-34.
14. **Shahhoseini M**, Taghizadeh Z, Hatami M, Baharvand H. Retinoic acid dependent histone 3 demethylation of the clustered Hox genes during neural differentiation of human embryonic stem cells. *Biochem. Cell Biol.* Nov 2013; **91**(2): 116-122.
15. Ashrafi Kakhki S, **Shahhoseini M**, Salekdeh GH. Comparative SRY incorporation on the regulatory region of pluripotency/differentiation genes in human embryonic carcinoma cells after retinoic acid induction. *Mol Cell Biochem.* Jan 2013; **376**(1-2):145-50.
16. Baghaban Eslaminejad M, Karimi N, **Shahhoseini M**. Chondrogenic differentiation of human bone marrow-derived mesenchymal stem cells treated by GSK-3 inhibitors. *Histochem Cell Biol.* 2013; **140**(6):623-33.
17. Fatehi R, Ebrahimi B, **Shahhosseini M**, Farrokhi A, Fathi R. Effect of ovarian tissue vitrification method on mice preantral follicular development and gene expression. *Theriogenology.* Sep 2013; **81**(2):302-8.
18. Rajabpour-Niknam M, Totonchi M, **Shahhosseini M**, Farrokhi A, Alipour H, Eftekhari-Yazdi P. Quantitative expression of developmental genes, Pou5f1 (Oct4) and Mest (Peg1), in vitrified mouse embryos. *Iran J Reprod Med.* 2013; **11**(9):733-40.

19. Abdossamadi S, Rabbani-Chadegani A, **Shahhoseini M**. Insights into the structural stability of nuclear matrix ribonucleoprotein, LMG160: thermodynamic and spectroscopic analysis. *J Biomol Struct Dyn*. 2014; **32**(6):890-8.
20. Shafipour M, Sabbaghian M, **Shahhoseini M**, Sadighi Gilani MA. Comparative expression analysis of Septin 14 in testes of infertile men with normal spermatogenesis and spermatogenic failure. *Iran J Reprod Med*. 2014; **12**:205-8.
21. Jahangiri M, **Shahhoseini M**, Movaghar B. H19 and MEST gene expression and histone modification in blastocysts cultured from vitrified and fresh two-cell mouse embryos. *Reprod Biomed Online*. 2014 Nov;29(5):559-66.
22. Hosseinifar H, Shafipour M, Modarresi T, Azad M, Sadighi Gilani MA, **Shahhoseini M**, Sabbaghian M. Relationship between absence of annulus and asthenozoospermia in Iranian men. *J Assist Reprod Genet*. 2014 Dec;31(12):1681-5.
23. Mahdian S, Aflatoonian R, Yazdi RS, Yaghmaei P, Ramazanali F, Afsharian P, **Shahhoseini M**. Macrophage migration inhibitory factor as a potential biomarker of endometriosis. *Fertil Steril*. 2015 Jan;103(1):153-9.
24. Falahzadeh K, Banaei-Esfahani A, **Shahhoseini M**. The potential roles of actin in the nucleus. *Cell J*. 2015 Spring;17(1):7-14.
25. Ziadlou R, **Shahhoseini M**, Safari F, Sayahpour FA, Nemati S, Eslaminejad MB. Comparative analysis of neural differentiation potential in human mesenchymal stem cells derived from chorion and adult bone marrow. *Cell Tissue Res*. 2015 May 30.
26. Haji Ebrahim Zargar H, Mohseni Meybodi A, Sabbaghian M, **Shahhoseini M**, Asadpor U, Sadighi Gilani MA, Chehrazi M, Farhangniya M, Shahzadeh Fazeli SA. Association of Two Polymorphisms in H2B.W Gene with Azoospermia and Severe Oligozoospermia in An Iranian Population. *Int J Fertil Steril*. 2015 Jul-Sep;9(2):205-14.
27. Moeinvaziri F and **Shahhoseini M**. Epigenetic role of CCAAT Box-binding Transcription Factor NF-Y on ID Gene Family in Human Embryonic Carcinoma Cells. *IUBMB Life* 2016, **67** (11): 880-7.
28. Sadr SZ, Ebrahimi B, **Shahhoseini M**, Fatehi R, Favaedi R. Mouse preantral follicle development in two-dimensional and three-dimensional culture systems after ovarian tissue vitrification. *Eur J Obstet Gynecol Reprod Biol*. 2015 Nov;194:206-11.
29. Falahzadeh K, **Shahhoseini M**, Afsharian P. Differential Incorporation of β -actin as A Component of RNA Polymerase II into Regulatory Regions of Stemness/Differentiation Genes in Retinoic Acid-Induced Differentiated Human Embryonic Carcinoma Cells. *Cell J*. 2016 Jul-Sep;18(2):214-20.
30. Heydarian N, Favaedi R, Sadighi Gilani MA, **Shahhoseini M**. Expression level of chromodomain Y (CDY): potential marker for prediction of sperm recovery in non-obstructive azoospermia. *Int J Reprod Biomed (Yazd)*. 2016 Jun;14(6):383-8.
31. Favaedi R, **Shahhoseini M**, Pakzad M, Mollamohammadi S, Baharvand H. Comparative epigenetic evaluation of human embryonic stem and induced pluripotent cells. *Int J Dev Biol*. 2016;60(4-6):103-10.

32. Banijamali M, Rabbani-Chadegani A, **Shahhoseini M**. Lithium attenuates lead induced toxicity on mouse non-adherent bone marrow cells. *J Trace Elem Med Biol*. 2016 Jul; 36:7-15.
33. Hosseini E, Mehraein F, **Shahhoseini M**, Karimian L, Nikmard F, Ashrafi M, Afsharian P, Aflatoonian R. Epigenetic alterations of CYP19A1 gene in Cumulus cells and its relevance to infertility in endometriosis. *J Assist Reprod Genet*. 2016 Aug;33(8):1105-13.
34. Fani N, Ziadlou R, **Shahhoseini M**, Baghaban Eslaminejad M. Comparative epigenetic influence of autologous versus fetal bovine serum on mesenchymal stem cells through in vitro osteogenic and adipogenic differentiation. *Exp Cell Res*. 2016 Jun 10;344(2):176-82.
35. Eelaminejad Z, Favaedi R, Sodeifi N, Sadighi Gilani MA, **Shahhoseini M**. Deficient expression of JMJD1A histone demethylase in patients with round spermatid maturation arrest. *Reprod Biomed Online*. 2017 Jan;34(1):82-89.
36. Keyvani-Ghamsari S, Rabbani-Chadegani A, Sargolzaei J, **Shahhoseini M**. Effect of irinotecan on HMGB1, MMP9 expression, cell cycle, and cell growth in breast cancer (MCF-7) cells. *Tumour Biol*. 2017 Apr;39(4):1010428317698354. doi: 10.1177/1010428317698354.
37. Jahangiri M, Shahhoseini M, Movaghar B. The Effect of Vitrification on Expression and Histone Marks of Igf2 and Oct4 in Blastocysts Cultured from Two-Cell Mouse Embryos. *Cell J*. 2018 Jan;19(4):607-613. doi: 10.22074/cellj.2018.3959. Epub 2017 Nov 4.
38. Mokhtari V, Afsharian P, Shahhoseini M, Kalantar SM, Moini A. A Review on Various Uses of N-Acetyl Cysteine. *Cell J*. 2017 Apr-Jun;19(1):11-17. Epub 2016 Dec 21. Review.