

## **CURRICULUM VITAE**

### **Personal Information**

**Name:** Maryam Hashemi

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### **Educational Background**

#### **Pharm.D Thesis: (1999)**

Formulation and Standardization of Topical Preparations (gel, cream, ointment) from Aloes (Dried latex of Aloe).

Supervisor: Dr Noaman Khalili

Mashad University of Medical Sciences, School of Pharmacy

#### **PhD Thesis: (2005-2010)**

Preparation and evaluation of transfect ion efficiency of nanoparticles of polyethyleneimine (PEI) coated with peptide containing Histidine-Lysine rich sequence as non viral vectors used in gene therapy.

Supervisor: Dr Mohammad ramezani

Mashad University of Medical Sciences, Bu-Ali Research Institute, Biotechnology Center

#### **The project in six month research study: (2009)**

The effect of targeting of PAMAM dendrimer with GE-11 and B6 peptides on gene delivery

Supervisor: Dr Manfred Ogris

Pharmaceutical Biology-Biotechnology, Department of Pharmacy, Munich, Ludwig-Maximilians-University of Munich, Germany

## Scientific and teaching activities

- 1- Member of Student Research Committee of Mashad Faculty of pharmacy. 1994
- 2- Manager of Immunobiochemistry Laboratory (Bu-Ali Research Institute), 1998-2004
  - Assistant of student projects
  - Teaching assistant of training course of Laboratory Sciences Student
  - Teaching Assistant of M.Sc and PhD practical course.
  - Teaching of MS students in payamenoor university (Biotechnology and Molecular biology courses), 2007-2008
  - Supervisor of pharm thesis'student including, 2010-2014

## Research interests

Development of polymer based nanoparticles (non viral vectors) for plasmid DNA and siRNA transfer

Formulation of recombinant protein and active natural products based nanoparticles

## Publications

1. **Hashemi M**, Ayatollahi S, Parhiz H, Mokhtarzadeh A, Javidi S, Ramezani M. PEGylation of Polypropylenimine Dendrimer with Alkylcarboxylate Chain Linkage to Improve DNA Delivery and Cytotoxicity. *Appl Biochem Biotechnol.* **2015** Sep;177(1):1-17. (IF: 1.73)
2. Mohammadi M, Salmasi Z, **Hashemi M**, Mosaffa F, Abnous K, Ramezani M. Single-walled carbon nanotubes functionalized with aptamer and piperazine-polyethylenimine derivative for targeted siRNA delivery into breast cancer cells. *Int J Pharm.* **2015** May 15; 485(1-2):50-60. (IF: 3.785)
3. Salmasi Z, Shier WT, **Hashemi M**, Mahdipour E, Parhiz H, Abnous K, Ramezani M Heterocyclic amine-modified polyethylenimine as gene carriers for transfection of mammalian cells. *Eur J Pharm Biopharm.* **2015** Jul 21. pii: S0939-6411(15)00297-0. doi: 10.1016/j.ejpb.2015.07.008. [Epub ahead of print]. (IF: 3.38)
4. Ayatollahi S, **Hashemi M**, Kazemi Oskuee R, Salmasi Z, Mokhtarzadeh A, Alibolandi M, Abnous K, Ramezani M. Synthesis of efficient gene delivery systems by grafting pegylated alkylcarboxylate chains to PAMAM dendrimers: Evaluation of transfection

efficiency and cytotoxicity in cancerous and mesenchymal stem cells. *J Biomater Appl.* **2015** Aug 11. pii: 0885328215599667. [Epub ahead of print]. (IF: 2.197)

5. Mokhtarzadeh A, Parhiz H, **Hashemi M**, Ayatollahi S, Abnous K, Ramezani M. Targeted Gene Delivery to MCF-7 Cells Using Peptide-Conjugated Polyethylenimine. *AAPS PharmSciTech.* 2015 Feb 5. [Epub ahead of print]. (IF:1.776)
6. **Hashemi M**, Parhiz H, Mokhtarzadeh A, Tabatabai SM, Farzad SA, Shirvan HR, Ramezani M. Preparation of Effective and Safe Gene Carriers by Grafting Alkyl Chains to Generation 5 Polypropyleneimine. *AAPS PharmSciTech.* **2015** Jan 22. [Epub ahead of print]. (IF: 1.776)
7. Salari F, Varasteh AR, Vahedi F, **Hashemi M**, Sankain M. Down-regulation of Th2 immune responses by sublingual administration of poly (lactic-co-glycolic) acid (PLGA)-encapsulated allergen in BALB/c mice. *Int Immunopharmacol.* 2015. (accepted, IF: 2.47)
8. Parhiz H, Hashemi M, Ramezani M. Non-biological gene carriers designed for overcoming the major extra- and intracellular hurdles in gene delivery, an updated review, *Nanomed J*, 2015; 2(1): 1-20.
9. Maryam Hashemi, Hamideh Sahraie Fard, Sara Amel Farzad, Hamideh Parhiz, Mohammad Ramezani, Gene Transfer Enhancement by alkylcarboxylation of Poly(propylenimine), *Nanomed. J.*, 2013, 1(1): 55-62.
10. Mazdak Ganjalikhani hakemi, **Maryam Hashemi\***, SiRNA Delivery Improvement by Co-formulation of Different Modified Polymers in Erythroleukemic Cell Line K562, *Iran J Basic Med Sci*, **2013**, 16: 973-978. (IF: 0.604)
11. Parhiz H, **Hashemi M**, Hatefi A, Shier WT, Farzad SA, Ramezani M. Molecular weight-dependent genetic information transfer with disulfide-linked polyethylenimine-based nonviral vectors, *J Biomater Appl.* **2013** Jul; 28(1):112-24.(IF:2.64)
12. Parhiz H, **Hashemi M**, Hatefi A, Shier WT, Amel Farzad S, Ramezani M. Arginine-rich hydrophobic polyethylenimine: Potent agent with simple components for nucleic acid delivery. *Int J Biol Macromol.* **2013** May 13; 60C:18-27. (IF:2.679)
13. Parhiz H, Memari F, Amel Farzad S, **Hashemi M**, Rezvani Amin Z, Behnam B and Ramezani M. Alkylcarboxylate Polyethylenimine-grafted Chitosans as Efficient Gene Vectors with Improved Gene delivery Activity. *Current Nanoscience*, 2013; 9(6): 717-722. (IF:1.64)
14. **Hashemi M.**, Parhiz BH., Hatefi A., Ramezani M., Modified polyethylenimine with histidine-lysine short peptides as gene carrier, *Cancer Gene Ther.* 2011 Jan; 18(1):12-9. (Impact factor: 2.945)

14. Varasteh A.R., **Hashemi M**, Baranzadeh N., Jaafari M.R., Optimization of Anti-Rh D Immunoglobulin Stability in the Lyophilization Processes, Iranian Journal of Basic Medical Sciences, 2008, 11 (1): 55-61. (Impact Factor: 0.243)
15. **Hashemi M**, Jaafari M.R , Baranzadeh N., Varasteh A.R., The assay of effective parameters on Anti-RhD concentration by ultrafiltration system. Iran J Basic Med Sci, **2007**, 10(1), 66-74.
16. Sankian M., **Hashemi M.**, Varasteh A.R., Anti-D quantification by an enzyme-linked antiglobulin test: A comparison study of two methods, Iran J Basic Med Sci, **2004**, 7(2): 18-22.
17. Varasteh A.R., **Hashemi M.**, Jaffari M., Moghadassi Risseh M., Formulation of Anti-Rh (D) immunoglobulin preparation, Iran J Basic Med Sic, **2004**, 7(3):11-16.
18. Varasteh A.R., Hashemi M., Saberpoor F., Study of the effect of plasma lipoprotein on Anti-Rh D purification by ion exchange chromatography, Journal of Birjand University of Medical Sciences, 2003, 10(3):5-9.
19. Hashemi M., Varasteh A.R., Fazly Bazaz B.S., The role of ion exchange chromatography in purification and amount of aggregation of intravenous immunoglobulin preparation, Journal of Birjand University of Medical Sciences, 2002,9(1):1-4.
20. Varasteh A.R., Hashemi M., Ghazavi A., Fazly Bazaz B.S., Large scale production of Anti-Rh Immunoglobulin by ion exchange chromatography, Iran J Basic Med Sci, 2001, 4(3):16-21.
21. Maryam Hashemi; Seyed Meghdad Tabatabai, Pharm.D.; Hamideh Parhiz; Soroush Milanizadeh; Sara Amel Farzad; Khalil Abnous; Mohammad Ramezani. Gene Delivery Efficiency and Cytotoxicity of Heterocyclic Amine-modified PAMAM and PPI Dendrimers. Mater Sci Eng C Mater Biol Appl. 2015. (under revision, IF: 3.088)
22. **Hashemi M.** and Kalalinia F. Application of encapsulation technology in stem cell delivery (Submitted).
23. Fatemeh Alebooye Langroodi, Zohreh Hafezi Ghahestani, Mona Alibolandi, Mahboubeh Ebrahimian, **Maryam Hashemi\***. Synergistic effect of crocetin and doxorubicin encapsulated in PLGA nanoparticles for MCF-7 proliferation inhibition. (Submitted)
24. Zohreh Hafezi Ghahestani, Fatemeh Alebooye Langroodi, Ahad Mokhtarzadeh ,**Maryam Hashemi\***. Crocetin encapsulation into PLGA nanoparticles: a new strategy to enhance crocetin anticancer effects. (Submitted)

25. Mona Alibolandi, Marziyeh Mohammadi, Mohammad Ramezani, **Maryam Hashemi**, Khalil Abnous, Farzin Hadizadeh. AS1411 aptamer-decorated biodegradable PEG-PLGA nanoparticles for the targeted delivery of gemcitabine to non-small cell lung cancer. (Submitted).
26. Ahad Mokhtarzadeh, Hamideh Parhiz, **Maryam Hashemi**, Khalil Abnous, Mohammad Ramezani, P53-Derived peptides conjugation to PEI: an approach to producing versatile and highly efficient targeted gene delivery carriers into cancer cells. (Submitted).

## Conference Presentation

1. Farhad Salari, Abdol-Reza Varasteh, Fatemeh Vahedi, **Maryam Hashemi**, and Mojtaba Sankain. 3rd International Congress on Nanoscience & Nanotechnology (ICNT2015)'' 2-3 July 2015, Istanbul, Turkey.
2. M. Ramezani, **M. Hashemi**, B.H. Parhiz, A. Hatefi. Modified Polyethylenimine with Histidine-lysine Short Peptides as Gene Carrier. July 4-9, **2010**. Zurich, Switzerland
3. **Hashemi M.**, Varasteh A.R., Bahrami A., Fazly Bazaz B.S., Stability of AntiD Immunoglobulin prepared by ion exchange chromatography, 11 international a. congress of immunology and allergy, Sweden, 2001.
4. **Hashemi M\***, Afkhami F, Ramezani M. Encapsulated stem cells for therapeutic application. International congress on stem cells and regenerative medicine. Mashhad. Iran. May 20-22. 2015.
5. **Maryam Hashemi\***. Soheila Javidi, Hamideh Parhiz, Mohammad Ramezani. Effect of PEGylation using an alkyl chain as linker on gene delivery efficiency of polypropyleneimine dendrimer. 4<sup>th</sup> International symposium on Molecular technology. October 14-16. 2014. Tehran. Iran.
6. **M. Hashemi\***, M. Ramezani, Preparation and evaluation of transfection efficiency of nanoparticles of polyethyleneimine(PEI) coated with peptide containing histidine-lysine rich sequence as non viral vectors used in gene therapy, **8th Nanotechnology Iranian students conference**, Mashhad, 1-2Dec, **2010**.
7. Varasteh A.R., **Hashemi M.**, Fazly Bazaz B.S., Methods of Quantification control on therapeutic immunoglobulins, 1st Seminar of Methodology in Pharmaceutical Sciences, Mashad, Iran, 2002.

8. **Hashemi M\***, Varasteh A.R., Saberpoor F., Study of the effect of plasma lipoprotein on Anti-Rh D purification by ion exchange chromatography, 6 Congress of Biochemistry, Tehran, Iran, 2001.
9. **Hashemi M\***, Khalili N., Formulation and standardization of topical preparations (gel, cream, ointment) from Aloes ((dried latex of Aloe), 7th Iranian Seminar of Pharmaceutical Sciences, Mashad, Iran, 2000.