Ali Dehshahri

Personal Information:
First name: Ali
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Date and place of birth: 19.05.1977, Shiraz, Iran
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Academic Position:

April 2015-present: Associate Professor, Department of Pharmaceutical Biotechnology and Center for Nanotechnology in Drug Delivery, Shiraz University of Medical Sciences, Shiraz, Iran.
September 2009-April 2015: Assistant Professor, Shiraz University of Medical Sciences, Shiraz, Iran.

Education:

March-September 2007: Visiting Researcher, Department of Pharmacy, Munich Center of Nanoscience (CeNS), Ludwig-Maximilians University of Munich, Germany.
2004-2009: Ph.D. in Pharmaceutical Biotechnology, Mashhad University of Medical Sciences, Mashhad, Iran.
1998-2004: Doctor of Pharmacy (Pharm.D.), Faculty of Pharmacy, Shiraz University of Medical Sciences, Shiraz, Iran.

Research interests:

1- Development of polymer-based nanoparticles (non viral vectors) for nucleic acid delivery
2-Integrin receptor mediated delivery of nucleic acid materials
3- Biotransformation of steroids by different microorganisms

Publications:

1- Sadeghpour H, Khalvati B, Entezar-Almahdi E, Savadi N, Hossaini Alhashemi S, Raoufi M, **Dehshahri A***. Double domain polyethylenimine-based nanoparticles for integrin receptor mediated delivery of plasmid DNA. *Scientific Reports*. 2018;8(1):6842-6854.

2- Alemzadeh E, **Dehshahri A**, Izadpanah K, Ahmadi F. Plant virus nanoparticles: Novel and robust nanocarriers for drug delivery and imaging. *Colloids and Surfaces B: Biointerfaces*. 2018;167:20-27.

3- Sadeghpour H, Roshan Nasrabad K, Alipour Haghighi M, **Dehshahri A***. Preparation and characterization of celecoxib-conjugated polyethylenimine as a potential nanocarrier for gene delivery. *Trends in Pharmaceutical Sciences*. 2018; 4(1): 17-28.

4- Zarei M, Nezafat N, Morowvat MH, **Dehshahri A**, Ghoshoon MB, Berenjian A, Ghasemi Y. Medium optimization for recombinant soluble arginine deiminase expression in *Escherichia coli* using response surface methodology. *Current Pharmaceutical Biotechnology*. 2017;18(11):935-941.

5- Negahdaripour M, Nezafat N, Eslami M, Ghoshoon MB, Shoolian E, Najafipour S, Morowvat MH, **Dehshahri A**, Erfani N, Ghasemi Y. Structural vaccinology considerations for in silico designing of a multi-epitope vaccine. *Infection, Genetics and Evolution*. 2018; 58:96-109.

6- Nouri F, Sadeghpour H, Heidari R, **Dehshahri A***. Preparation, characterization, and transfection efficiency of low molecular weight polyethylenimine-based nanoparticles for delivery of the plasmid encoding CD200 gene. *International Journal of Nanomedicine*. 2017; 12: 5557-5569.

7- Negahdaripour M, Eslami M, Nezafat N, Hajighahramani N, Ghoshoon MB, Shoolian E, **Dehshahri A**, Erfani N, Morowvat MH, Ghasemi Y. A novel HPV prophylactic peptide vaccine, designed by immunoinformatics and structural vaccinology approaches. *Infection, Genetics and Evolution*. 2017; 54:402-416.

8- Sheikhsaran F, Sadeghpour H, Khalvati B, Entezar-Almahdi E, **Dehshahri A***. Tetraiodothyroacetic acid-conjugated polyethylenimine for integrin receptor mediated delivery of the plasmid encoding IL-12 gene. *Colloids and Surfaces B: Biointerfaces.* 2017; 150, 426-436.

9- Kianpour S, Ebrahiminezhad A, Mohkam M, Tamaddon AM, **Dehshahri** A, Heidari R, Ghasemi Y. Physicochemical and biological characteristics of the nanostructured polysaccharide-iron hydrogel produced by microorganism Klebsiella oxytoca. *Journal of Basic Microbiology*. 2017; 57 (2), 132-140.

10- Khalvati B, Sheikhsaran F, Sharifzadeh S, Kalantari T, Behzad Behbahani A, Jamshidzadeh A, **Dehshahri** A*****. Delivery of plasmid encoding interleukin-12 gene into hepatocytes by conjugated polyethylenimine-based nanoparticles. *Artificial Cells, Nanomedicine and Biotechnology*. 2017; 45 (5), 1036-1044.

11- **Dehshahri A***, Sadeghpour H, Keykhaee M, Khalvati B, Sheikhsaran F. Enhanced

delivery of plasmid encoding interleukin-12 gene by diethylene triamine penta-acetic acid (DTPA)-conjugated PEI nanoparticles. *Applied Biochemistry and Biotechnology*, 2016; 179(2):251-269.

12- **Dehshahri A***, Sadeghpour H. Surface decorations of poly(amidoamine) dendrimer by various pendant moieties for improved delivery of nucleic acid materials. *Colloids and Surfaces B: Biointerfaces*, 2015; 132:85-102.

13- Sabahi Z, Samani SM, **Dehshahri A***. Conjugation of poly(amidoamine) dendrimers with various acrylates for improved delivery of plasmid encoding interleukin-12 gene. *Journal of Biomaterials Applications*, 2015; 29 (7): 941-953.

14- Noorafshan A, Pourahmad S, Sagheb MM, Dehghani Nazhvani A, **Dehshahri A**, Abdollahi M, et al. The students' intentions and satisfaction with the field of study and university. *Journal of Advances in Medical Education and Professionalism*, 2014; 2(4):176-82.

15- **Dehshahri A***, Sadeghpour H, Kazemi Oskuee R, Fadaei M. Sabahi Z. Hossaini Alhashemi S, Mohazabieh E. Interleukin-12 plasmid DNA delivery using L-thyroxine conjugated polyethylenimine nanocarriers. *Journal of Nanoparticle Research*, 2014; 16 (5):1-14.

16- **Dehshahri A***, Hossaini Alhashemi S, Jamshidzadeh A, Sabahi Z. Mohammadi Samani S, Sadeghpour H, Mohazabieh E, Fadaei M. Comparison of the effectiveness of polyethylenimine, polyaidoamine and chitosan in transferring plasmid encoding IL-12 gene into hepatocytes. *Macromolecular Research*, 2013; 21(12): 1322-1330.

17- Rezvani Amin Z, Rahimizadeh M, Eshghi H, **Dehshahri A**, Ramezani M. The effect of cationic charge density change on transfection efficiency of polyethylenimine. *Iranian Journal of Basic Medical Sciences.* 2013; 16:150-156.

18- **Dehshahri A**, Oskuee RK, Ramezani M. Plasmid DNA delivery into hepatocytes using a multifunctional nanocarrier based on sugar-conjugated polyethylenimine. *Gene Therapy & Molecular Biology*. 2012; 14: 62-71.

19- **Dehshahri A**, Oskuee RK, Shier WT, Ramezani M. β-Galactosylated alkyl-oligoamine derivatives of polyethylenimine enhanced pDNA delivery into hepatic cells with reduced toxicity. *Current Nanoscience*. 2012; 8(4): 548-555.

20- Oskuee RK, Philipp A, **Dehshahri A**, Wagner E, Ramezani M. The impact of carboxyalkylation of branched polyethylenimine on effectiveness in small interfering RNA delivery. *The Journal of Gene Medicine*. 2010; 12(9):729-38.

21- **Dehshahri A**, Oskuee RK, Shier WT, Hatefi A, Ramezani M. Gene transfer efficiency of high primary amine content, hydrophobic, alkyl-oligoamine derivatives of polyethylenimine. *Biomaterials*. 2009; 30(25):4187-94.

22- Oskuee RK , **Dehshahri A**, Shier WT, Ramezani M. Alkylcarboxylate grafting to polyethylenimine: a simple approach to producing a DNA nano-carrier with low toxicity. *The Journal of Gene Medicine*. 2009; 11(10):921-32

23- Ramezani M, Khoshhamdam M, **Dehshahri A**, Malaekeh-Nikouei B., The influence of size, lipid composition and bilayer fluidity of cationic liposomes on the transfection efficiency of nanolipoplexes. *Colloids and Surfacse B: Biointerfaces*. 2009; 1;72(1):1-5.

24- Zintchenko A, Philipp A, **Dehshahri A**, Wagner E., Simple modifications of branched PEI lead to highly efficient siRNA carriers with low toxicity. *Bioconjugate Chemistry*. 2008*;* 19(7):1448-55.

25- Oskuee RK, **Dehshahri A**, Shier WT, Ramezani M. Modified polyethylenimine: self assemble nanoparticle forming polymer for pDNA delivery. *Iranian Journal of Basic Medical Sciences*. 2008; 11(1):33-40

26- Ghasemi Y, Tabatabaei Yazdi M, **Dehshahri A,** Shokravi Sh, Niknahad H, Ghasemian A and Faramarzi MA. Algal transformation of hydrocortisone by the cyanobacterium *Nostoc ellipsosporum*, *Chemistry of Natural Compounds*. 2006**;**42(6):702-705.

27- Tabatabaei Yazdi M, Ghasemi Y, Ghasemian A, Shokravi Sh, Niknahad H, **Dehshahri A** and Faramarzi MA., Cyanobacterial conversion of hydrocortisone by *Fischerella ambigua* PTCC 1635, *World Journal of Micrbiology and Biotechnology*. 2005; 21(6):811-814.

** Corresponding Author*

Ph.D. Thesis:

Ali Dehshahri (2009), Preparation and evaluation of transfection efficiency of modified polyethyleneimine (PEI)-based nanoparticles as non viral vectors used in gene therapy: effect of spermidine and diethylenetriamine shielded by galactose, Supported by the Research Council of Mashhad University of Medical Sciences, Mashhad, Iran.

Pharm.D. Thesis:

Ali Dehshahri (2004), Biotransformation of hydrocortisone by *Nostoc sp*. Supported by the Research Council of Shiraz University of Medical Sciences, Shiraz, Iran.

Abstracts and Congress Presentations:

1- Ali Dehshahri, Hossein Sadeghpour, Narjes Savadi, Elaheh Entezar Almahdi. Plasmid delivery to integrin over expressing cells using double domain PEI nanoparticles, MicroNano Conference, December 2017, Amsterdam, Netherlands.

2-**Ali Dehshahri**, Hossein Sadeghpour, Fatemeh Sheikhsaran. Receptor-mediated delivery of interleukin-12 plasmid by modified polyethyleneimine-based nanoparticles, Basel Life Science Week, September 2016, Basel, Switzerland.

3-**Ali Dehshahri**, Hossein Sadeghpour, Fatemeh Sheikhsaran. Small molecules mimicking RGD peptides for integrin receptor targeting, Synthesis and biomedical applications of tumor-targeting peptidomimetics, February 2016, Bologna, Italy.

4-**Ali Dehshahri**, Hosein sadeghpour, Maryam Keykhaee, Diethylene triamine pentaacetic acid (DTPA)-grafted polyethylenimine as a novel nanocarrier for gene delivery, MipTec 2014 (The Leading European Event for Drug Discovery), September 2014, Basel, Switzerland.

5-**Ali Dehshahri**, Akram Jamshidzadeh, Zahra Sabahi, Fahimeh Shanbedi, Samira Hossaini Alhashemi, Modified nanodendrimers based on polyamidoamine for tumor cell gene delivery, MipTec 2012 (The Leading European Event for Drug Discovery), September 2012, Basel, Switzerland.

6-**Ali Dehshahri**, Samira Hossaini Alhashemi, Modification of PAMAM dendrimers to enhance DNA transfer ability, 3rd European Science Foundation Summer School in Nanomedicine 2011, June 2011, Lutherstadt Wittenberg, Germany.

7-**Ali Dehshahri**, Reza K. Oskuee, Mohammad Ramezani, Less toxic, more efficient nanostructured complexes based on high molecular weight PEI for cancer gene therapy, NanotechItaly 2010, October 2010, Venice, Italy.

8-**Ali Dehshahri**, Reza K. Oskuee, Mohammad Ramezani, Oligomerized PEI: novel nanoparticle forming and biodegradable gene carriers, The 12th Iranian Pharmaceutical Sciences Congress, August 2010, Zanjan, Iran.

9-**Ali Dehshahri**, Reza K. Oskuee, W.Thomas shier, Mohammad Ramezani, Trageted plasmid DNA delivery by galactosylated alkyl oligoamine derivatives of PEI, Biomaterials Africa Conference, September 2009, Pretoria, South Africa.

10-**Ali Dehshahri**, Reza K. Oskuee, W.Thomas shier, Mohammad Ramezani, Nanocarriers based on hydrophobic PEI-oligoamines for plasmid DNA transfer, 9th International Conference on Nanostructured Materials, June 2008, Rio de Janeiro, Brazil.

11-Arkadi Zintchenko, Alex Philipp, **Ali Dehshahri**, Ernst Wagner, Simple modifications of branched PEI result in powerful agents for siRNA delivery. 11th Annual Meeting of the American Society of Gene Therapy. May 2008, Boston, USA.

12-**Ali Dehshahri,** Mojtaba Tabatabaei Yazdi, Hossein Niknahad, Younes Ghasemi, Abdollah Ghasemian; Screening of Hydrocortisone Biotransformation by Cyanobacteria Isolated from Soil Samples; Student Section of 14th International Congress of Geographic Medicine, November 2001, Shiraz, Iran.

Awards:

1- Best Oral Presentation Award, The 2nd Iranian Nanomedicine Congress, September 2016, Zanjan, Iran.

2- Distinguished Assistant Professor, Shiraz University of Medical Sciences, May 2013, Shiraz, Iran.

3- European Science Foundation (ESF) Travel Grant, 3rd European Science Foundation Summer School in Nanomedicine, June 2011, Lutherstadt Wittenberg, Germany.

4- Best Paper Award, 12th Iranian Pharmaceutical Sciences Congress, August 2010, Zanjan, Iran.

5- Best Researcher Award, Mashhad University of Medical Sciences, December 2009, Mashhad, Iran.

6- Research Scholarship from the Ministry of Health and Medical Education, Islamic Republic of Iran, March-September 2007.

Workshops:

1-"Novel Developments in Nanobiotechnology and Gene Therapy", Munich Center of Nanoscience (CeNS), Ludwig-Maximilians-University of Munich, Apr-Sep 2007, Germany.

2-"The First Workshop on Nanostructures", The Institute for Nanoscience and Nanotechnology, Sharif University of Technology and Kish University, Kish island, March 2006, Iran.

3-Training Course on "Application of Nanotechnology in Drug Delivery", Iran Polymer & Petrochemical Institute (IPPI), Tehran, September 2005, Iran.

4- 1st workshop of "2-Dimentional electrophoresis and proteomics" Institute of Biophysics and Biochemistry (IBB), University of Tehran, March 2004, Iran.

Teaching Experiences

1-Principles of Protein and Peptide Formulation, Pharmaceutical Biotechnology Ph.D. Program, Shiraz School of Pharmacy, Shiraz, Iran.
2-Quality Control of Biological Products, Pharmaceutical Biotechnology Ph.D. Program, Shiraz School of Pharmacy, Shiraz, Iran.
3-Nanobiotechnology, Medical Biotechnology Ph.D. Program, Shiraz School of Advanced Medical Sciences and Technologies, Shiraz, Iran.
4-Chemistry of Proteins, Pharmaceutical Biotechnology Ph.D. Program, Shiraz School of Pharmacy, Shiraz, Iran.
5-Animal Cell Culture, Pharmaceutical Biotechnology Ph.D. Program, Shiraz School of Pharmacy, Shiraz, Iran.
6-Molecular Biology and Genetics, Pharm. D. Program, Shiraz School of Pharmacy, Shiraz, Iran.
7-Pharmaceutical Biotechnology, Pharm. D. Program, Shiraz School of Pharmacy, Shiraz, Iran.