Curriculum Vitae

Jaleh Barar, PharmD, PhD
Associate professor of Pharmaceutical Cell Biology and Biopharmaceutics
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Biography and career summary

I qualified as a pharmacist in 1994, obtaining PharmD degree (a Pharmacy Doctorate program, which takes 6-year by course and research) from School of Pharmacy, Tabriz University of Medical Sciences, Iran. After qualification in 1994, I worked as a pharmacist in a hospital.

In 1999, as a selected scientist, I was awarded a full scholarship from Iranian Ministry of Health, Care and Medical Education for 4-year to undertake a research leading toward a PhD degree in the field of Pharmaceutical Cell Biology and Biopharmacy (Cellular and Molecular Biopharmaceutics). The PhD program was conducted within the Welsh School of Pharmacy, Cardiff University, UK. From 2000 to 2004, I completed my PhD training under the supervision of Dr Mark Gumbleton on the topic of, **"*Glucocorticoid modulation of caveolae membrane system in alveolar epithelial cells*"**. During my studies, in addition to basic fundamental physical pharmacy, biopharmaceutics and radio-pharmaceutics techniques, I have employed a wide range of biology and molecular biotechnology techniques within my PhD research and postdoctoral research associate work, including: Tissue/cell culture (primary isolated cells and continuous cell lines); RNA and DNA handling techniques (extraction, RT-PCR, PCR, Q-PCR,); Cell-based cloning toward DNA-engineering by means of designing and modifying non-viral vector plasmids to insert candidate DNA fragment; Kinetics studies technique and data analysis; Flow cytometry; Western-blot; and LM, SEM and TEM. At the moment, as a senior lecturer of Pharmaceutical technology and biopharmaceutics, I am part of Department of Pharmaceutics within School of Pharmacy, Tabriz University of Medical Sciences, Iran.

Based upon my background and interest, I ultimately foresee that my research area will focus on gene and protein therapeutics, cancer drug delivery, cell based transport models with emphasis on the nature of cellular barriers to drug access to the pharmacological receptor and pharmacokinetics issues related to the biological barriers.

Current position

Research Vice Chancellor of Research Center for Pharmaceutical Nanotechnology (since 2007)
Associate Professor of Pharmaceutical Cell Biology and Biopharmaceutics, Department of Pharmaceutics, Faculty of Pharmacy (since 2003),
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Education

Jan. 2000– Jun. 2004 **PhD** (**Pharmaceutical Cell Biology and Biopharmaceutics: Drug targeting**), *"Glucocorticoid modulation of caveolae membrane system in alveolar epithelial cells"* Pharmaceutical Cell Biology Research Lab, The Welsh School of Pharmacy, Cardiff University, Cardiff, UK.

Sep. 1989– Sep. 1994 **PharmD (Pharmacy, Pharmaceutics)**, School of Pharmacy, Tabriz University of Medical Sciences, Tabriz, Iran.

June 1984– June 1988 **Experimental Sciences Diploma,** School of Experimental Sciences, Maragheh, Iran.

Skills

Highly proficient and/or Expert in:

1. Primary isolation of epithelial cells (Lung alveolar) and / or epithelial cells.
2. Molecular genetics techniques including: Application of the Internet-based tools, primer design, PCR, RT-PCR techniques and cell-based cloning techniques (plasmid-based methodologies).
3. Molecular and cell biology methodologies: Tissue and cell culture techniques, Flow cytometry; Western blot, imaging techniques (LM, SEM, TEM, Fluorescent Microscopy), basic lab biochemistry.
4. Pharmaceutical formulation techniques, e.g. (suspension, emulsion, sustained-release granule, etc).
5. Pharmaceutical technology, e.g. (UV spectrophotometry, viscometry and densitometry)
6. Radiopharmaceutical investigation techniques including: Uptake and transport studies.

Trainings

23rd Feb-3rd Mar 2000, **3rd International intensive course and workshop on cell culture and other alternative methods for drug delivery research,** Department of Biopharmaceutics and Pharmaceutical Technology, university of Saarland, Saarbrücken, Germany.

25th -26th June 2005, **Teaching method-1 workshop**, Education Development Center, Tabriz University of medical Sciences, Tabriz Iran

Feb. 2009, **Workshop of Graphical softwares in Biomedical Sciences: Adobe Photoshop and illustration, Corel Draw. Research center for Pharmaceutical Nanotechnology,** Tabriz University of medical Sciences, Tabriz, Iran.

Mar. 2009, **Research method workshop,** Research Council, Tabriz University of medical Sciences, Tabriz Iran

Apr 2009, **Scholarship of teaching**, Education Development Center, Tabriz University of medical Sciences, Tabriz Iran

Book Chapters

- Yadollah Omidi, **Jaleh Barar**, George Coukos, Cancer gene therapy: targeted genomedicines, in:Novel gene therapy approaches, In Tech, February, 2013.
- Yadollah Omidi, Vala Kafil, Jaleh Barar, Toxicogenomics of Nonviral Cationic Gene Delivery Nanosystems, in: Gene therapy-developments and future perspectives, In Tech 2011.
- Yadollah omidi, Amir Ata Saei, Jaleh Barar, Impacts of DNA microarray technology in gene therapy, in: Novel therapeutic concepts in targeting glioma, In Tech, 2011.
- Yadollah Omidi, Jaleh Barar, Blood-brain barrier and effectiveness of therapy against brain tumors, in: Novel therapeutic concepts in targeting glioma, Intech April, 2012.
- Sajjad Khani, Jaleh Barar, Ali Movafeghi, and Yadollah Omidi, Production of anticancer secondary metabolites: impacts of bioprocess engineering, in:Biotechnological Production of Plant Secondary Metabolites, Bentham Science Publishers, 2012.
- Omidi Y., Barar J.*, Hamzeiy H, Nanomedicines Impacts in Ocular Delivery and Targeting, in: Nanotechnology in human health care. Pan Stanford Publishing, Singapore, 2012.
- **Jaleh Barar**, Yadollah Omidi, Nanoparticles for Ocular Drug Delivery, in: Nanomedicine in Drug Delivery, CRC PRESS, 2013.
- Ebrahimi M., **Barar J**. and Omidi Y, Aptasensors for specific sensing and detection, in: Nanotechnology-Nanosensing, Studium Press LLC USA, 2013.
- Omidi Y. **Barar J**., Matthaiou E. and Coukos G, Multifunctional nanomedicines for cancer therapy, in: Diagnostics and Therapeutics, Studium Press LLC USA, 2013.
- **Barar** J., Matthaiou E., Coukos G. and Omidi Y, Targeting tumor microenvironment: ultimate therapy of cancer, in: Genomics and Proteomics, Studium Press LLC. (in press, 2015)
- **Barar** J., Omidi Y and Gumbleton M, Molecular Targeted Therapy of Lung Cancer: Challenges and Promises, in: Advances and challenges in Pulmonary drug delivery, Wiley, in press (Scheduled June, 2015).
- **Barar J**., Saei A.A. and Omidi Y., Impacts of DNA Microarray Technology in Gene Therapy, in: Gene Therapy - developments and future perspectives, (ISBN:978-953-307-240-1), InTech Open Access Publisher (2011).
- Omidi Y. and **Barar J.**, Blood-Brain Barrier and effectiveness of therapy against brain tumors, Glioma / Book 3, (ISBN: 978-953-307-1351-9), InTech Open Access Publisher (2011)..
- Omidi Y. and **Barar J.**, Toxicogenomics of Nonviral Cationic Gene Delivery Nanosystems, Non-viral Gene Therapy, (ISBN: 978-953-307-538-9), InTech Open Access Publisher (2011).
- Khani S., **Barar J.**, Movafeghi A. and Omidi Y., Production of anticancer secondary metabolites: impacts of bioprocess engineering, in: Biotechnological production of plant secondary metabolites, Orhan I. (Ed.), Bentham Science Publisher (2011).
- Omidi Y., **Barar J.**, Hamzeiy H., *Nanomedicines Impacts in Ocular Delivery and Targeting*, in: Nanotechnology in human health care. (ISBN: 981426721X),Sahoo, S. (ed), Pan Stanford Publishing, Singapore, (2010).

Published articles

69. M Eskandani, **J Barar**, J Ezzati Nazhad Dolatabadi, H Hamishehkar, Nazemiyeh H., Formulation, characterization, and geno/cytotoxicity studies of galbanic acid-loaded solid lipid nanoparticles, Pharmaceutical biology, **2015**, 1-14

68. Rahbar Saadat Y, Saeidi N, Zununi Vahed S, Barzegari A, **Barar J**. An update to DNA ladder assay for apoptosis detection. Bioimpacts. **2015**;5(1):25-8

67. **Barar J**, Kafil V, Majd MH, Barzegari A, Khani S, Johari-Ahar M, Asgari D, Cokous G, Omidi Y., Multifunctional mitoxantrone-conjugated magnetic nanosystem for targeted therapy of folate receptor-overexpressing malignant cells. J Nanobiotechnology. **2015** Mar 26;13(1):26. doi: 10.1186/s12951-015-0083-7.

66. Eskandani M, **Barar J**, Ezzati Nazhad Dolatabadi J, Hamishehkar H, Nazemiyeh H., Formulation, characterization, and geno/cytotoxicity studies of galbanic acid-loaded solid lipid nanoparticles., Pharm Biol. **2015** Apr 8:1-14

65. Barghi L, Asgari D, **Barar** J, Valizadeh H., Synthesis of PCEC Copolymers with Controlled Molecular Weight Using Full Factorial Methodology.Adv Pharm Bull. **2015** Mar;5(1):51-6.

64. Saberian-Borujeni M, Johari-Ahar M, Hamzeiy H, **Barar** J, Omidi Y., Nanoscaled aptasensors for multi-analyte sensing. Bioimpacts. **2014**;4(4):205-15.

63. Eskandani M, Dadizadeh E, Hamishehkar H, Nazemiyeh H, **Barar** J., Geno/cytotoxicty and Apoptotic Properties of Phenolic Compounds from the Seeds of Dorema Glabrum Fisch. C.A., Bioimpacts. **2014**;4(4):191-8.

62. Johari-Ahar M, Rashidi MR, **Barar** J, Aghaie M, Mohammadnejad D, Ramazani A, Karami P, Coukos G, Omidi Y., An ultra-sensitive impedimetric immunosensor for detection of the serum oncomarker CA-125 in ovarian cancer patients., Nanoscale. **2015** Feb 28;7(8):3768-79.

61. Heidari HR, Bandehpour M, Vahidi H, **Barar** J, Kazemi B, Naderi-Manesh H., Cloning and Expression of TNF Related Apoptosis Inducing Ligand in Nicotiana tabacum. Iran J Pharm Res. **2015** Winter;14(1):189-201.
60. Barghi L, Asgari D, **Barar J,** Nakhlband A, Valizadeh H., Synthesis, characterization and in vitro anti-tumoral evaluation of Erlotinib-PCEC nanoparticles.Asian Pac J Cancer Prev. **2014**;15(23):10281-7.

59. Eskandani M, Abdolalizadeh J, Hamishehkar H, Nazemiyeh H, **Barar J**., Galbanic acid inhibits HIF-1α expression via EGFR/HIF-1α pathway in cancer cells. Fitoterapia. **2015** Mar;101:1-11.

58. Barzegari A, Saeedi N, Zarredar H, **Barar J**, Omidi Y., The search for a promising cell factory system for production of edible vaccine. Hum Vaccin Immunother. **2014**;10(8):2497-502.

57. Sharifi S, **Barar** J, Hejazi MS, Samadi N., Roles of the Bcl-2/Bax ratio, caspase-8 and 9 in resistance of breast cancer cells to paclitaxel.Asian Pac J Cancer Prev. **2014**;15(20):8617-22.

56. Mashinchian O, Johari-Ahar M, Ghaemi B, Rashidi M, **Barar** J, Omidi Y., Impacts of quantum dots in molecular detection and bioimaging of cancer. Bioimpacts. **2014**;4(3):149-66.

55. Heidari HR, Bandehpour M, Vahidi H, **Barar** J, Kazemi B, Naderi-Manesh H., Improvement in the stability and functionality of Nicotiana tabacum produced recombinant TRAIL through employment of endoplasmic reticulum expression and ascorbate buffer mediated extraction strategies. Bioimpacts. **2014**;4(3):123-32.

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53. Omidi Y, **Barar** J.,Targeting tumor microenvironment: crossing tumor interstitial fluid by multifunctional nanomedicines. Bioimpacts. **2014**;4(2):55-67.

52. **Barar** J, Omidi Y., Surface modified multifunctional nanomedicines for simultaneous imaging and therapy of cancer., Bioimpacts. **2014**;4(1):3-14.

51. Matthaiou EI, **Barar** J, Sandaltzopoulos R, Li C, Coukos G, Omidi Y., Shikonin-loaded antibody-armed nanoparticles for targeted therapy of ovarian cancer., Int J Nanomedicine. **2014** Apr 15;9:1855-70.

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46. **Barar** J, Omidi Y., Intrinsic bio-signature of gene delivery nanocarriers may impair gene therapy goals. Bioimpacts. **2013**;3(3):105-9.

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44. Heidari Majd M, Asgari D, **Barar** J, Valizadeh H, Kafil V, Abadpour A, Moumivand E, Mojarrad JS, Rashidi MR, Coukos G, Omidi Y., Tamoxifen loaded folic acid armed PEGylated magnetic nanoparticles for targeted imaging and therapy of cancer.Colloids Surf B Biointerfaces. **2013** Jun 1;106:117-25

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41. Heidari Majd M, Asgari D, **Barar** J, Valizadeh H, Kafil V, Coukos G, Omidi Y., Specific targeting of cancer cells by multifunctional mitoxantrone-conjugated magnetic nanoparticles. J Drug Target. **2013** May;21(4):328-40.

40. Ebrahiminezhad A, Ghasemi Y, Rasoul-Amini S, **Barar J**, Davaran S., Preparation of novel magnetic fluorescent nanoparticles using amino acids. Colloids Surf B Biointerfaces. **2013** Feb 1;102:534-9.

39. Khosroushahi AY, Naderi-Manesh H, Yeganeh H, **Barar J**, Omidi Y., Novel water-soluble polyurethane nanomicelles for cancer chemotherapy: physicochemical characterization and cellular activities. J Nanobiotechnology. **2012** Jan 5;10:2.

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36. Ebrahimi M, Johari-Ahar M, Hamzeiy H, **Barar** J, Mashinchian O, Omidi Y., (**2012**), Electrochemical impedance spectroscopic sensing of methamphetamine by a specific aptamer. Bioimpacts, 2(2):91-5.

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34. **Barar** J. Targeting tumor microenvironment: the key role of immune system, (**2012**), Bioimpacts. 2(1):1-3.

33. Tohidkia MR, **Barar** J, Asadi F, Omidi Y., (**2012**), Molecular considerations for development of phage antibody libraries. J Drug Target, 20(3):195-208.

32. Jelvehgari M, **Barar** J, Nokhodchi A, Shadrou S, Valizadeh H., (**2011**), Effects of process variables on micromeritic properties and drug release of non-degradable microparticles., Adv Pharm Bull.,1(1):18-26.

31. Nakhlband A, **Barar** J. (**2011**), Impacts of nanomedicines in ocular pharmacotherapy.Bioimpacts, 1(1):7-22.

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26. Nakhlband A., **Barar J.**, Bidmeshkipour A., Heidari H.R. and Omidi Y., (2010), Bioimpacts of Anti Epidermal Growth Factor Receptor Antisense Complexed with Polyamidoamine Dendrimers in Human Lung Epithelial Adenocarcinoma Cells, *Journal of Biomedical Nanotechnology*, 6: 1-10.

25. Rezaiemanesh A, Majidi J., Baradaran B., Movasaghpour A., Nakhlband A., **Barar J.** (2010), Impacts of anti-EGFR monoclonal antibody in prostate cancer PC3 cells, *Human Antibodies*, 19(2-3):63-70.

24. Jelvehgari M., **Barar J.**, Valizadeh H., Shadrou S., Nokhodchi A., (2010), Formulation, characterization and in vitro evaluation of theophylline-loaded Eudragit RS 100 microspheres prepared by an emulsion-solvent diffusion/evaporation technique, *Pharmaceutical development and Technology*, Aug 19. [Epub ahead of print].

22. Jelvehgari, M., **Barar, J.**, Valizadeh, H., Heidari, N. (2010), Preparation and evaluation of poly (ε-caprolactone) nanoparticles-in-microparticles by W/O/W emulsion method, *Iranian Journal Basic Medical Sciences*,13 (3):

21. **Barar J,** Gumbleton M, Asadi M, Omidi Y., (2010), Barrier functionality and transport machineries of human ECV304 cells, *Med Sci Monit*, Jan;16(1):BR52-60.

23. Khani, S., Sohani, M.M., Mahna, N., Barar, J., Hejazi, M.S., Nazemieh, H., Atashpaz, S., Dadpour M.R., Omidi, Y., Cloning of taxadiene synthase gene into Arabidopsis thaliana (ecotype Columbia-0), *African Journal of Biotechnology*, 9 (12): 1734-1740.

20. Atashpaz, S., Khani, S., Barzegari, A., **Barar, J.**, Vahed, S.Z., Azarbaijani, R., Omidi, Y., (2010), A robust universal method for extraction of genomic DNA from bacterial species, *Microbiology*, 79 (4): 538-542.

19. Baradaran B., Zavaran Hosseini A., Majidi J., **Barar J.**, Farajnia S., Hassan Saraf Z., Abdolalizadeh J., and Omidi Y., (**2009**), Development and Characterization of Monoclonal ntibodies against Human Epidermal Growth Factor Receptor (EGFR) in Balb/c Mice, *Human Antibodies*, (in press).

18. Omidi Y. and **Barar J**., (**2009**), Induction of human alveolar epithelial cell growth factor receptors by dendrimeric nanostructures, *Int. J. Toxicol.*, (in press).

17. Ahmadian S., **Barar J.**, Saei A.A., Abolghassemi-Fakhree M.A. and Omidi Y., **(2009)**, Cellular toxicity of nanogenomedicine in MCF-7 cell line: MTT assay, *J. Visual Exp.,* Apr 3;(26). pii: 1191. doi: 10.3791/1191.

16. Kouhi H., Hamzeiy H., **Barar, J.** Asadi M., Omidi, Y., **(2009)**, Frequency of Five Important CYP2D6 Alleles within an Iranian Population (Eastern Azerbaijan), *Genetic Testing and Molecular Biomarkers*, (in press).

15. Majidi J., **Barar J.**, Baradaran B. and Omidi Y., **(2009)**, Target therapy of cancer: implementaion of antibodies and nanobodies, *Human Antibodies*, 18(3):81-100.

14. Omidi Y. and **Barar J.**, **(2008)**, Polymorphisms in large neutral amino acids transporter, system L, in association with CNS disorders, *Biosci. Hypoth*. 1(2): 109-111.

13. **Barar J**., Javadzadeh A. and Omidi Y., **(2008)**, Ocular novel drug delivery: impacts of biological membranes and barriers, *Exper Opin. Drug Deliv.* 5 (5): 567-581.

12. Omidi Y., **Barar J.**, Ahmadian S., Heidari H.R., Ahmadpour-Yazdi H. and Akhtar S. **(2008)**, Microarray analysis of the toxicogenomics and the genotoxic potential of a cationic lipid-based gene delivery nanosystem in human alveolar epithelial A549 cells, Toxicol. Mech. Meth., 18 (4): 369-378.

11. Omidi Y., **Barar J.**, Ahmadian S., Heidari H.R. and Gumbleton M. **(2008)**, Characterization and astrocytic modulation of system L transporters in brain microvasculature endothelial cells, *Cell Biochem. Funct*. 26 (3): 381-91.

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7. Sakagami M., Omidi Y., Campbell L., Kandalaft L.E., Morris C.J., **Barar J**. and Gumbleton M., **(2006)**, Expression and Transport Functionality of FcRn within Rat Alveolar Epithelium: A Study in Primary Cell Culture and in the Isolated Perfused Lung, *Pharm Res,* 23(2):270-289.

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5. Omidi Y., **Barar, J**., Barzegar-Jalali M. and Zarrintan M.H., **(2005)**, Characterization of immortalized ECV304 cells cocultured with astrocytes as a cell-based blood-brain barrier model for in vitro biopharmaceutics studies, *Pharm. Sci.: J. Fac. Pharm. Tabriz Univ. Med. Scis.* Spring: 53-66.

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3. Sakagami, M., Omidi, Y., Campbell, L., Kandalaft, L.E., **Barar, J.** and Gumbleton, M. **(2004)** Molecular evidence for the expression of MHC Class I - like IgG receptor FcRn within intact rat lung alveolar epithelium and in primary alveolar cell cultures. *Proc. Resp. Drug Deliv.* IX. Volume II, 885-888. ISBN 1-930114-52-4.

2. Omidi Y., Campbell L., **Barar J.**, Connell D., Akhtar S. and Gumbleton, M. **(2003)** Characterisation of carrier transporters within, and utility of, an immortalised mouse brain capillary endothelial cell line (b.End3) as a blood-brain barrier in vitro model for drug uptake and transport studies *Brain Res.* 14;990(1-2):95-112.

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Abstracts (presentations)

12. Barar J., Heidari H. R., Ahmadpoor Yazdi H., Ahmadian S., , Omidi Y., **(2007),** Genomic impacts of cationic lipid gene delivery nanosystems in human alveolar epithelial A549 cells: A microarray analysis towards toxicogenomics, The 1st International Congress on Health Genomics & Biotechnology, 24-26 November, Tehran, IRAN.

11. Ahmadian S., **Barar J.,** Heidari H. R., , Ahmadpoor Yazdi H., Omidi Y., **(2007),** Inhibition of EGFR by antisense using dendrimeric gene delivery structures in MCF7 cells, *2nd International Congress of Biochemistry and Molecular Biology and 9th Iranian congress of Biochemistry*, October 29-1 November, Shiraz University of Medical Sciences, Shiraz, IRAN.

10. Jelvehgari M., VAlizadeh H., **q** Nokhodchi A., Shadro S., **(2007),** Influence of sucrose stearate as thedispersing agent on physical properties and release characterisrics of eudragir RS Micriospheres, The 5th International Postgraduate Research Symposium on Pharmaceutics, September 13-25, Isranbul- Turkey.

9. Heidari H. R., **Barar J.,** Ahmadian S., Ahmadpoor Yazdi H., Omidi Y., **(2007),** A microarray approach to 9. investigate genomic lipid-based gene delivery nanosystems in human alveolar epithelial A549 cells, *2nd International Congress of Biochemistry and Molecular Biology and 9th Iranian congress of Biochemistry*, October 29-1 November, Shiraz University of Medical Sciences, Shiraz, IRAN.

8. Barar J., EL-Eid A., Campbell L., Hollins A.J., Abulrob A.N. and GumbletonM., **(2000)**, Glucocorticoid Induction of caveolin-1expression and caveolae functionality in late culture of rat alveolar typeII cells, *3rd international intensive course and workshop on cell culture and other alternative drug delivery systems,* Feb 23-3 Mar, Saarbruken, Germany.

7. Barar J., Campbell L. and Gumbleton M. **(2001)** Molecular and cellular basic of glucocorticoid modulation of alveolar epithelial cell differentiation, *The 8th Iranian Students' Seminar in Europe, UMIST, Manchester, UK, May.*

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5. Omidi Y., **Barar J.** and Gumbleton M., **(2003),** Expression and functionality of carrier-mediated transporters within an immortalized brain capillary cell line model of the blood-brain barrier, *BPC 2003, UK.*

4. Omidi Y., Campbell L., Connell D., **Barar J.** and Gumbleton M., **(2003),** Evaluation of an immortalized brain capillary endothelial cell line, b.End3, to serve as a model for drug uptake studies at the blood brain barrier (BBB), *9th Annual Symposium: Access of Therapeutics to the brain, Belfast, Ireland.*

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1. Omidi Y. and **Barar, J.**, **(1998)**, Atenolol matrices formulation and kinetics evaluation, *The Sixth congress of Pharmaceutical Sciences of Iran, Isfahan, Iran, Aug.*

Thesis supervised

پایاننامه های دوره داروسازی:

1. بررسی خواص ضد سرطانی *Scrophularia variegat* بر سلولهای سرطانی ریه. (راهنما)
2. کاربرد حامل های ویروسی در ژن درمانی. (راهنما)
3. ژن درمانی سرطان سینه با استفاده از نانو ذرات آنتی سنی EGFR. (راهنما)
4. فرمولاسیون میکرو و نانو پارتیکل های آهسته رهش گلی بنگلامید. (مشاور)
5. فرمولاسیون میکرو و نانو پارتیکل های آهسته رهش گلی ایندو متاسین. (مشاور)
6. بررسی انتقال پروتیین از سلولهای اپیتلیال ریه. (راهنما)
7. مطالعه سمیت سلولی و اثرات ضد سرطانی عصاره گیاه Gleditsia caspica در سلولهای سرطانی ریه. (راهنما)
8. فرمولاسیون میکروپارتیکل های تیوفیلین و بررسی خصوصیات و ریلیز آنها. (راهنما)
9. مطالعه سمیت سلولی و اثرات ضد سرطانی عصاره گیاهان ferula szowitsiana و chorozophora tinctoria در سلولهای سرطانی ریه (راهنما)
10. مطالعه سمیت سلولی و اثرات ضد سرطانی عصاره گیاه Gleditsia caspica در سلولهای سرطانی ریه (راهنما)

پایاننامه های دوره **PhD:**

1. کلونینگ و بیان ژن القا کننده آپوپتوز وابسته به خانواده فاکتور نکروز دهنده تومور در سلولهای توتون. (مشاور)
2. بررسی فیتو شیمیایی گونه هایی از جلبک های بومی دریای عمان و اثرات بیو لوژیک آنها. (راهنما)
3. تولید پایلوت ارلوتینیب، فرمولاسیون و بررسی خصوصیات فیزیکو شیمیایی و سایتوتوکسیسیته نانوپارتیکل های آهسته رهش آن بر روی رده سلولی سرطان ریه. (مشاور)
4. جداسازی قطعات کوچک نواحی متغیرآنتی بادی علیه فاکتور نکروز دهنده تومور آلفا از کتابخانه آنتی بادی فاژ (مشاور).
5. انتخاب و شناسایی آپتامر اختصاصی مت آمفتامین (مشاور).
6. سنتز و بررسی خواص فیزیکوشیمیایی و سیتوتوکسیسیته نانوذرات مغناطیسی هدفمند حاوی میتوگزانترون. (راهنما)
7. بررسی میزان بیان ژن آنتی ژن آنتی مولرین و رسپتورهای هورمونی در سلولهای گرانولوزای افراد چاق با سندرم پلی کیستیک تخمدان(مشاور).
8. جداسازی و شناسایی ترکیبات سیتو توکسیک از گیاهان Dorema Glabrum and Salivia Sahendica Boiss, ferula ovina Boiss, Fisch. C.A, Bushe فرموله کردن آنها در نانو ساختارهای لیپیدی و بررسی اثر آنها بر سلولهای سرطانی تخمدان و ریه تحت شرایط هایپوکسی (راهنما)

Membership

2007-present	Research Advisory Board of Student Research Committee (Tabriz University of Medical Sciences)
2006-present	Hematology and Oncology Research Centre (Tabriz University of Medical Sciences)
2005-present	Tuberculosis and Lung Research Centre (Tabriz University of Medical Sciences)
2004-present	Research centre for Pharmaceutical nanotechnology
1994-presnt	Iranian Medical Council
1994-present	Iranian Pharmaceutical Society