Davoud Ahmadvand

Current Position

Assistant of Professor of clinical biochemistry in school of Allied Medical sciences in Tehran University of Medical sciences.

Postdoc

Centre for Pharmaceutical Nanotechnology and Nanotoxicology,
Department of Pharmaceutics and Analytical Chemistry, Faculty of Pharmaceutical Sciences
University of Copenhagen
Denmark.
2009 –2013

Education

-Ph.D. Clinical biochemistry, Faculty of Medicine, Tarbiat Modarres University, Tehran, Iran, 2003- 2008

Research Supervisor: Prof. Mohammad Javad Rasaee

Thesis:

Production and characterization of camel single domain antibody (Nanobody) against Endoglin.

-M.Sc. In Clinical Biochemistry, Faculty of Medicine, Tehran University of Medical Sciences, Tehran, Iran, 1999-2001

Research Supervisors: Prof. Bijan Farzami and Dr. Shahnaz Khaghani

Thesis:

Induction of insulin secretion by a component of Urtica Dioica leave extract in perifused Islets of Langerhans and its in vivo effects in normal and streptozotocin diabetic rats.

-B.Sc: Biology, Faculty of Sciences, Razi University, Kermanshah, Iran, 1993-1997

Publication

1- B. Farzami, D. Ahmadvand, S. Vardasbi, F. J. Majin and Sh. Khaghani, Induction of insulin secretion by a component of Urtica Dioica leave extract in perifused Islets of Langerhans and its in vivo effects in normal and streptozotocin diabetic rats. J Ethnopharmacol. 2003; 89(1):47-53.

2- Meshkani R, Taghikhani M, Mosapour A, Larijani B, Khatami S, Khoshbin E, Ahmadvand D, Saeidi P, Maleki A, Yavari K, Nasoohi N, Adeli K. 1484insG Polymorphism of the PTPN1 Gene Is Associated with Insulin Resistance in an Iranian Population. Arch Med Res. 2007; 38(5):556-562.

3 - Rahbarizadeh, F., Khoddami Vishteh, V., Ahmadvand, D. Over–expression and purification of recombinant nanobodies and preparation of conjugated second antibody against them. Journal of Medical Sciences Modares. 2007;10(1):17-29. (Persian, 1386).

4- Ahmadvand, D. Rahbarizadeh, F., Khoddami Vishteh, V. High-expression of monoclonal nanobadies and preparation of HRP conjugated second antibody against them. Hybridoma. 2008; 27(4):269-276.

5- Ahmadvand, D., M.J. Rasaee , F.Rahbarizadeh, M. Mohammadi Production and Characterization of a High Affinity Nanobody against Human Endoglin (CD105), Hybridoma, 2008; 27(5):353-60.

6- Seyed Hamid Aghaee Bakhtiari, Fatemeh Rahbarizadeh, Sadegh Hasannia, Davoud Ahmadvand, Farnoush Jafari Iri-Sofla and Mohammad Javad Rasaee. Anti-MUC1 Nanobody Can Redirect T-Body Cytotoxic Effector Function. Hybridoma, 2009; 28(2):85-92.

7- Ahmadvand D, Rasaee MJ, Rahbarizadeh F, Kontermann RE, Sheikholislami F. Cell selection and characterization of a novel human endothelial cell specific nanobody. Mol Immunol. 2009; 46(8-9):1814-23.

8- Davoud Ahmadvand, Fatemeh Rahbarizadeh, Bita Geramizadeh, Rahim Ahmadvand, Mohamad Hosein Karimi, Hasan Akrami, Padideh Ebadi ,Cloning and expression of vascular endothelial growth factor receptor-1 in Escherichia coli and analysis of its growth inhibition effect on human umbilical vein endothelial cells. Journal of Medical Sciences Modares. 2009;12(1):1-9. (Persian).

9- Farzaneh Sheikholeslami, Mohammad J. Rasaee, Mohammad A. Shokrgozar, Manijeh Mokhtari Dizaji, Fatemeh Rahbarizadeh and Davoud Ahmadvand, Isolation of a Novel Nanobody Against HER-2/neu Using Phage Displays Technology, Lab Medicine 2010; 41:69-76.

10- Mehrnaz Nouri , Fatemeh Rahbarizadeh , Davoud Ahmadvand . Inhibithion Effect of Lactobacillus Salivarius and Lactobacillus Crispatus isolated from chicken gastrointestinal tract on Salmonella enteritidis and Escheichia coli growth. Iranian J Biotech, 2010; 8(1): 32-37.

11- Moghimi SM, Andersen AJ, Hashemi SH, Lettiero B, Ahmadvand D, Hunter AC, Andresen TL, Hamad I, Szebeni J. Complement activation cascade triggered by PEG-PL engineered nanomedicines and carbon nanotubes: The challenges ahead. J Control Release. 2010; 146(2):175-181.

12- Davoud Ahmadvand, Fatemeh Rahbarizadeh, Farnoush Jafari Iri-Sofla , Gholamreza Namazi, Sepideh Khaleghi, Bita Geramizadeh, Parvin Pasalar, Hosein Karimi, Seyed Hamid Aghaee Bakhtiari . Inhibition of Angiogenesis by Recombinant VEGF Receptor Fragments. Lab Medicine. 2010; 41: 417-422.

13- Fatemeh Rahbarizadeh, Mehrnaz Nouri, Davoud Ahmadvand, Hossein Nourollahi, Cell surface display of Salmonella outer membrane protein A on Lactobacillus salivarius: a first step towards food-grade live vaccine against Salmonella infections. Food Biotechnol, 2011, 25(2): 151-164.

14- Rahbarizadeh F, Ahmadvand D, Sharifzadeh Z. Nanobody; an Old Concept and New Vehicle for Immunotargeting. Immunol Invest. 2011, 40(3): 299-338.

15- Davoud Ahmadvand, Fatemeh Rahbarizadeh and Seyed Moein Moghimi, Biological Targeting and Innovative Therapeutic Interventions with Phage-Display Peptides and Structured Nucleic Acids (Aptamers). Curr Opin Biotechnol. 2011 Dec;22(6):832-8. Epub 2011 Mar 17.

16-Elham Sadeqzadeh, Fatemeh Rahbarizadeh, Davoud Ahmadvand, Mohammad J. Rasaee, Ladan Parhamifar, S. Moein Moghimi,Combined MUC1-specific nanobody-tagged PEG-polyethylenimine polyplex targeting and transcriptional targeting of tBid transgene for directed killing of MUC1 over-expressing tumour cells. J Control Release. 2011 Nov 30;156(1):85-91. Epub 2011 Jun 24.

17- S. Moein Moghimi, Alina J. Andersen, Davoud Ahmadvand, Peter Wibroe, Thomas L. Andresen, A. Christy Hunter, Material properties in complement activation, Adv Drug Deliv Rev. 2011 Sep 16;63(12):1000-7. Epub 2011 Jun 12.

18- Ahmadvand D., Rahbarizadeh F., Sadeqzadeh E., et al. Nanobody-tagged polyplexes for transcriptional targeting of a lethal transgene and cancer cell killing. Abstract, congress European Biophysics Journal with Biophysics Letter. 2011, aug 40 (1): 230.

19- Farnoush Jafari Iri-Sofla, Fatemeh Rahbarizadeh, Davoud Ahmadvand, Mohammad J. Rasaee, Nanobody-based chimeric receptor gene integration in Jurkat cells mediated by PhiC31 integrase, Experimental Cell Research, Exp Cell Res. 2011,317(18):2630-41.

20- Safarian F. , Rahbarizadeh F. ,Sharifzadeh Z. , Ahmadvand D. , Moghimi SM . Gene delivery targeted to the TAG72 overexpressing tumour cells using an nanobody conjugated polyethyleneglycol-modified polyamidoamine dendrimer . Abstract , congress , European Biophysics Journal with Biophysics Letter. 2011, 40 (1): 239.

21-Sara Minaeian, Fatemeh Rahbarizadeh, Seyyed Hamid Zarkesh-Esfahani, Davoud Ahmadvand Enrichment of nanobody gene library against human papillomavirus as the main cause of cervical cancer. DANESHVAR Medicine, Aug-Sep 2011, (94): 17- 26

22- Sharifzadeh Z, Rahbarizadeh F, Shokrgozar MA, Ahmadvand D, Mahboudi F, Rahimi Jamnani F, Aghaee Bakhtiari SH. Development of Oligoclonal Nanobodies for Targeting the Tumor-Associated Glycoprotein 72 Antigen. Mol Biotechnol. 2013 Jun; 54(2):590-601.

23- Minaeian S, Rahbarizadeh F, Zarkesh Esfahani SH, Ahmadvand D. Characterization and enzyme-conjugation of a specific anti-L1 nanobody. J Immunoassay Immunochem. 2012; 33(4):422-34.

24- Sharifzadeh Z, Rahbarizadeh F, Shokrgozar MA, Ahmadvand D, Mahboudi F, Jamnani FR, Moghimi SM. Genetically engineered T cells bearing chimeric nanoconstructed receptors harboring TAG-72-specific camelid single domain antibodies as targeting agents. Cancer Lett. 2013 Jul 1; 334(2):237-44.

25- Minaeian S, Rahbarizadeh F, Zarkesh-Esfahani SH, Ahmadvand D, Broom OJ. Neutralization of human papillomavirus by specific nanobodies against major capsid protein L1 . J Microbiol Biotechnol. 2012 May; 22(5):721-8.

26- Jamnani FR, Rahbarizadeh F, Shokrgozar MA, Ahmadvand D, Mahboudi F, Sharifzadeh Z. Targeting high affinity and epitope-distinct oligoclonal nanobodies to HER2 over-expressing tumor cells. Exp Cell Res. 2012 Jun 10; 318(10):1112-24.

27- Khaleghi S, Rahbarizadeh F, Ahmadvand D, Rasaee MJ, Pognonec P. A caspase 8-based suicide switch induces apoptosis in nanobody-directed chimeric receptor expressing T cells. Int J Hematol. 2012 Apr; 95(4):434-44.

28- Moghimi, S. M.; Parhamifar, L.; Ahmadvand, D.; et al. Particulate Systems for Targeting of Macrophages: Basic and Therapeutic Concepts . JOURNAL OF INNATE IMMUNITY. 2012; 4 (5-6): 509-528

29- Heavy Chain Only Antibodies: A New Paradigm in Personalized HER2+ Breast Cancer Therapy. Moghimi SM, Rahbarizadeh F, Ahmadvand D, Parhamifar L. Bioimpacts. 2013; 3(1):1-4.

30- Fatemeh Rahimi Jamnani , Fatemeh Rahbarizadeh , Mohammad Ali Shokrgozar , Davoud Ahmadvand , Fereidoun Mahboudi , Zahra Sharifzadeh , Seyed Moien Moghimi . T cells expressing VHH-directed oligoclonal chimeric HER2 antigen receptors: towards tumor-directed oligoclonal T cell therapy. Cancer Letter. 2013 Accepted for publish

Patents

1 - Preparation of Heavy-chain antibody gene library from one-humped camel against tumor markers by pCom3x phagemid, I. R. Iran, Patent No. 43912, 2007.

2- Preparation of AR86, a recombinant single domain antibody, against CD105 on surface of cancerous endothelial cells, in order to targeting of breast, colon and pancreas cancer cells, I. R. Iran, Patent No.41943, 2007.

3 - Preparation of MR86 Nanobody against MUC1 in order to targeting of breast cancer cells, I. R. Iran, Patent No.41942, 2007.

4- Blood brain targeting by peptide and anti A-beta Amyloid antibody functionalized liposome for Alzheimer's disease therapy. Danish IP 2011, under revision.

Teaching Experiences

- License in qualifying teaching, Tarbiat Modarres University, Tehran 2004
- Clinical Biochemistry course to laboratory sciences students in Tehran and Arak University of Medical Sciences, 2002-2006
-General Biochemistry course to laboratory sciences students in Tehran and Arak University of Medical Sciences, 2002-2006
-Principles of Biophysics course to health students in Tehran University of Medical Sciences, 2003
- Biology and chemistry to Damagh, Nahavand, Tehran High school students.1997-2002
- Drug delivery; Pharmacology Faculty in Copenhagen University, 2009-2011.
- Nanomedicin; Pharmacology Faculty in Copenhagen University, 2009-2011.

Training and Workshop Attendants

-Gene transfer into stem cells.
From 5 – 8 October 2008
As instructor
Tarbiat Modarres University, Tehran, Iran.

-Application of recombinant technology in medicine from gene to protein.
From 11-14 March 2006
As instructor
Tarbiat Modarres University, Tehran, Iran.

-Production of camel (VHH) and mouse (scFV) recombinant antibodies.
From 10-14 Jun 2005
As instructor
Tarbiat Modarres University, Tehran, Iran.

-Immunoelectrophoretic methods.
From 25-27 July 2001
Tehran University of medical sciences, Tehran, Iran.

- Liposome technology.
Sep.2011
Mashhad University

Other Activities

-Head of education and research programs in region 10, Tehran Education and training Organization. (2003-2005)
- Head of organizing committee in 2nd International congress of Biochemistry, Tehran, Iran, Sep 2005.

Report to Gene bank

1- Camelus dromedarius clone AR1-86 immunoglobulin heavy chain variable region mRNA, partial cdsgi|168997706|gb|EU450798.1|[168997706]
2- Camelus dromedarius clone MR86 nonfunctional immunoglobulin heavy chain mRNA, partial sequencegi|161110486|gb|EU127839.1|[161110486]