

# Fatemeh Ghaemimanesh, Ph.D.

## Curriculum Vitae

Department of Antibody-Antigen Engineering  
Monoclonal Antibody research Center  
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### Research Interest

Early detection of cancer, Targeted immunotherapy of cancer, Antibody based imaging

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### Academic Experience

- Since 2014 Research Associate Scientist in Antibody-Antigen Engineering Department, Monoclonal Antibody Research Center, Avicenna Research Institute, Tehran, Iran
- 2011-2014 Postdoctoral Research Fellow in the laboratory of Dr Mahmood Jeddi-Tehrani, Avicenna Research Institute, Tehran, Iran
- 2006 Research Assistant in Department of Stem Cell Biology, Royan Research Institute, Tehran, Iran
- 2005 Research Assistant in Department of Molecular Immunology and Vaccine Research, Pasteur Institute of Iran, Tehran, Iran

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### Educational Background

- 2006-2011 PhD Degree in **Molecular Genetics**, Department of Biological Sciences, Tarbiat Modares University, Tehran, Iran  
Thesis title: Investigating the role of *SORT1* in survival of ovarian carcinoma cells
- 2002-2005 MSc Degree in **Molecular Biology**, Department of Biology, Khatam University, Tehran, Iran  
Thesis title: Gene and protein vaccination of BALB/c mice against *Leishmania parasite* by targeting *Signal Peptidase*
- 1998-2002 BSc degree in **Molecular Biology**, Department of Basic Sciences, University of Tehran, Tehran, Iran

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### Sabbatical

- 2010 (8 months) Laboratory of Professor Håkan Mellstedt, Department of Oncology-Pathology, **University Hospital of Karolinska**, Stockholm, Sweden.  
Project entitle: Apoptosis induction in melanoma cells by inhibition of receptor tyrosine kinase ROR1 using siRNA and specific monoclonal antibodies

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### Publications

1. Farahi F, **Ghaemimanesh F**, Milani S, Razavi SM, Hadavi R, Bayat A.A, Salimi A, Akhondi MM, Rabbani H. *GPI-anchored Fibromodulin as a Novel Target for Chronic Lymphocytic*

*Leukemia, Diagnostic and Therapeutic Implications*, under review in Journal of Cancer Research and Clinical Oncology.

2. Farahi F, **Ghaemimanesh F**, Milani S, Razavi SM, Bayat AA, Akhondi MM, Rabbani H. *Monoclonal and Polyclonal Antibodies Specific to Human Fibromodulin*. Accepted in Iranian Journal of Biotechnology, 2018.
3. Farahi F, **Ghaemimanesh F**, Milani S, Razavi SM, Akhondi MM, Rabbani H. *Sortilin as a Novel Diagnostic and Therapeutic Biomarker in Chronic Lymphocytic Leukemia*. Submitted to AJMB.
4. Milani S\*, **Ghaemimanesh F\***, Salimi A, Hadavi R, Bayat AA, Alirezapour B, Rabbani H. *Production and evaluation of a <sup>67</sup>Ga-labeled anti-Ror1 monoclonal antibody in a mouse model of breast cancer*, Journal of Radioanalytical and Nuclear Chemistry, 2018; 316 (1): 267–273. (\*: equally contributed)
5. Hemmati A, Hassannia H, Milani S, Hadavi R, **Ghaemimanesh F**, Rabbani H. *Detecting Receptor Tyrosine Kinase ROR1 Using a Novel anti-ROR1 Polyclonal Antibody*. Monoclonal Antibodies in Immunodiagnosis and Immunotherapy, 2018; 37 (1): 38-44.
6. **Ghaemimanesh F**, Bayat A, Ahmadian Gh, Zarnani AH, Behmanesh M, Jeddi-Tehrani M, Rabbani H, *Production and Characterization of a Novel Monoclonal Antibody against Human Sortilin*. Monoclonal Antibodies in Immunodiagnosis and Immunotherapy, 2015; 34 (6), 390-395.
7. **Ghaemimanesh F**, *Peptide-based Monoclonal Antibody 2D8 Against Human Sortilin*. Monoclonal Antibodies in Immunodiagnosis and Immunotherapy, 2015; 34 (6): 444.
8. Tara SS, **Ghaemimanesh F**, Zarei S, Reihani-Sabet F, Pahlevanzadeh Zh, Modarresi MH, Jeddi-Tehrani M, *Methylenetetrahydrofolate reductase C677T and A1298C polymorphisms in male partners of recurrent miscarriage couples*, Journal of Reproductive and Fertility, 2015;16 (4):193-198.
9. Vojgani Y , Zarie S , Rajaei S, Tabriz CT, **Ghaemimanesh F**, Mohammadinia N, Jeddi-Tehrani M, *Sero-prevalence of antibodies against Varicella Zoster Virus in children under seven-years old in 2012 in Tehran, Iran*. Iranian journal of public health, 2014; 43: 1569-1575
10. **Ghaemimanesh F**, Ahmadian Gh, Talebi S, Zarnani AH, Behmanesh M, Hemmati S, Hadavi R, Jeddi-Tehrani M, Farzi M, Akhondi MM, Rabbani H, *The effect of sortilin silencing on ovarian carcinoma cells*. Avicenna Journal of Medical Biotechnology, 2014; 6: 169-177
11. Hojjat-Farsangi M, **Ghaemimanesh F**, Daneshmanesh AH, Bayat AA, Mahmoudian J, Jeddi-Tehrani M, Rabbani H, Mellstedt H. *Inhibition of the receptor tyrosine kinase ROR1 by anti-ROR1 monoclonal antibodies and siRNA induced apoptosis of melanoma cells*. PLoS One, 2013; 8: e61167
12. Sharifiaghdas F, Hamzehiesfahani N, Moghadasali R, **Ghaemimanesh F**, Baharvand H. *Human amniotic membrane as a suitable matrix for growth of mouse urothelial cells in comparison with human peritoneal and omentum membranes*. Urology Journal, 2007; 4:71-8

13. Rafati S, Gholami E, Hassani N, **Ghaemimanesh F**, Taslimi Y, Taheri T, Soong L. *Leishmania major heat shock protein 70 (HSP70) is not protective in murine models of cutaneous leishmaniasis and stimulates strong humoral responses in cutaneous and visceral leishmaniasis patients.* Vaccine, 2007; 25: 4159-4169
14. Rafati S, **Ghaemimanesh F**, Zahedifard F. *Comparison of potential protection induced by three vaccination strategies (DNA/DNA, Protein/Protein and DNA/Protein) against Leishmania major infection using Signal Peptidase type I in BALB/c mice.* Vaccine, 2006; 24: 3290-3297

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### Book Chapter

Zarnani AH, Bozorgmehr M, Shabani M, Barzegar-Yarmohammadi L, **Ghaemimanesh F**, Jeddi-Tehrani M, *Monoclonal antibodies for cancer immunotherapy*, In the Book: Cancer Immunology: Bench to Bedside Immunotherapy of Cancers, Springer-Verlag Berlin and Heidelberg GmbH, 2015: 293-328

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### Abstract

1. Ghari M, Milani S, Javadi Gh, Bayat AA, Hadavi R, Rabbani H, **Ghaemimanesh F**. *Detecting Epithelial Cell Adhesion Molecule in Human Carcinoma Cell Lines Using a Developed Polyclonal Antibody.* The 14<sup>th</sup> International Congress of Immunology and Allergy. 26-28<sup>th</sup> April. 2018; Tehran. Iran
2. Mohammadzadeh M, **Ghaemimanesh F**, Hashemi M, Negahdari B, Bayat AA, Hadavi R, Milani S, Rabbani H. *Developing a specific anti-TAZ (WWTR1) Polyclonal Antibody.* The 14<sup>th</sup> International Congress of Immunology and Allergy. 26-28<sup>th</sup> April. 2018; Tehran. Iran
3. Zandeh K, Milani S, Hashemi M, Mohammadi J, **Ghaemimanesh F**, Bayat AA, Hadavi R, Rabbani H. *Generating a Novel Monoclonal Antibody Against CD73 as a Potential Diagnostic Marker in Human Carcinomas.* The 14<sup>th</sup> International Congress of Immunology and Allergy. 26-28<sup>th</sup> April. 2018; Tehran. Iran
4. Milani S, **Ghaemimanesh F**, Salimi A, Hadavi R, Bayat AA, Alirezapour B, Rabbani H. *Production and preclinical evaluation of 67Ga-CHX-A-DTPA-anti ROR1 radioimmunoconjugate in a mouse model of breast cancer.* The 3<sup>rd</sup> International Seminar of New Approaches in Cancer Prevention and Targeted Cancer Therapy, 29<sup>th</sup> Nov. to 1<sup>st</sup> Dec. 2017; Mashhad, Iran
5. Hemmati A, Hassannia H, Babaei S, Khademi Sh, Hadavi R, Jeddi-Tehrani M, **Ghaemimanesh F**, *Detecting Receptor Tyrosine Kinase ROR1 Using a Novel anti-ROR1 Polyclonal Antibody*, , 1<sup>st</sup> National congress of basic medical sciences and the knowledge based technology, 6-8<sup>th</sup> February 2016; Tehran, Iran
6. Sadri-Ardalani F, Amiri MM, Emami S, Hadavi R, Yousefi P, **Ghaemimanesh F**, Jeddi-Tehrani M, Shabani M, Shokri F. *Induction of HER2 specific anti tumor antibody response by DNA immunization.* The 12<sup>th</sup> international congress of immunology and allergy of Iran. 29<sup>th</sup> April-2<sup>nd</sup> May 2014; Tehran, Iran

7. **Ghaemimanesh F**, Zarnani AH, Behmanesh M, Jeddi-Tehrani M, Rabbani H, *Down regulation of sortilin as an ovarian carcinoma biomarker induces apoptosis in ovarian carcinoma cells*, The 8<sup>th</sup> APOCP Regional Conference, 1-3<sup>rd</sup> November 2015; Tehran, Iran
8. Hojjat-Farsangi M, **Ghaemimanesh F**, Daneshmanesh AH, Bayat AA, Mahmoudian J, Jeddi-Tehrani M, Mellstedt H, *Inhibition of the Receptor Tyrosine Kinase ROR1 by anti-ROR1 monoclonal antibodies and siRNA induced apoptosis of melanoma cells*. ASCO Annual Meeting. 31<sup>st</sup> May- 4<sup>th</sup> June 2013; Chicago, Illinois
9. **Ghaemimanesh F**, Babaei S, Shaban E, Zarnani AH, Jeddi-Tehrani M, Rabbani H, *Anti sortilin antibody induces apoptosis in ovarian cancer cell lines*. The 11<sup>th</sup> international congress of immunology and allergy of Iran. 26-29<sup>th</sup> April 2012; Tehran, Iran
10. Sharifiaghdas F, Hamzehiesfahani N, Moghadasali R, **Ghaemimanesh F**, Baharvand H, *Comparison of potential proliferation and growth of mouse urothelial cells cultivated on three individual matrixes including human amniotic, peritoneal and omentum membranes*. The 3<sup>rd</sup> international congress on stem cells biology and technology. 5-7<sup>th</sup> September 2007; Tehran, Iran
11. Gholami E, Hassani N, **Ghaemimanesh F**, Taslimi Y, Taheri T, Rafati S, *Leishmania major Heat Shock Protein 70 stimulates strong humeral responses in cutaneous and visceral leishmaniasis patients but not protective in mice model of experimental cutaneous leishmaniasis*. The 2<sup>nd</sup> international congress of biochemistry and biology. 28-31<sup>st</sup> October 2007; Shiraz, Iran
12. Rafati S, Gholami E, Hassani N, **Ghaemimanesh F**, Taslimi Y, Soong L, Taheri T, *Leishmania major Heat Shock Protein 70 is highly immunologic in patients but not protective in murine model of cutaneous leishmaniasis*. The 13<sup>th</sup> international congress of immunology. 21-25<sup>th</sup> August 2007; Rio de Janeiro, Brazil
13. Gholami E, Hassani N, **Ghaemimanesh F**, Rafati S, *Cloning, expression of Leishmania major Heat Shock Protein 70 and evaluation of its potential protection in murine model*. The 8<sup>th</sup> Iranian congress of immunology and allergy, 14-16<sup>th</sup> May 2006; Tehran, Iran
14. Hassani N, Gholami E, **Ghaemimanesh F**, Taslimi Y, Rafati S, *Leishmania major Heat Shock Protein 70 and sera reactivity of cutaneous and visceral leishmaniasis individuals*. The 8<sup>th</sup> international congress of immunology and allergy of Iran. 14-16<sup>th</sup> May 2006; Tehran, Iran
15. **Ghaemimanesh F**, Zahedifard F, Rafati S, *Comparison of potential protection induced by three vaccination strategies (DNA, Protein and DNA/Protein) against Leishmania major infection using Signal Peptidase type I, in BALB/c mice*. The 8<sup>th</sup> international congress of immunology and allergy of Iran. 14-16<sup>th</sup> May 2006; Tehran, Iran
16. Rafati S, Salmanian AH, **Ghaemimanesh F**, Taheri T, Taslimi Y, Masina S, Schaff C, Fasel N, *Type I signal peptidase of Leishmania is a target of immune response in both human and mice models*. The 3<sup>rd</sup> world congress on Leishmaniasis, 10-15<sup>th</sup> April 2005; Sicily, Italy

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## Teaching Experience

Lecturer of **Genetic 1** course to bachelor student of Genetics, 3h/week (2016, 2018)

Lecturer of **Genetic 2** course to Bachelor student of Genetics, 3h/week (2016)

Co-lecturer of **GenBank and primer design** course to PhD students of Immunology (2015)

Co-lecturer of **Cell Cycle** course to PhD students of Biotechnology, 2h/week (2014)

Organizer and speaker of **Animal cell culture** workshop, Avicenna Research Institute (72h/course) (2016, 2017, 2018)

Organizer and speaker of **siRNA transfection into eukaryotic cells** workshop, University of Tehran (72h/course) (2011)

Speaker of **Cancer genetics** workshop, Yaft-Abad School (2011)

Lab instructor for **protein purification** workshop, Pasture Institute of Iran (2005)

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## Supervised and Advised Theses

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| In progress | Supervisor of PhD student (AA Bayat), Avicenna Research Institute<br>Thesis title: Studying the expression of ROR1, Sortilin and Fibromodulin (FMOD) antigens in patients with bladder and prostate carcinoma |
| 2018        | Supervisor of MSc student (M. Ghari), Islamic Azad University<br>Thesis title: Production and characterization of monoclonal and polyclonal antibodies against EpCAM  |
| 2018        | Advisor of PhD student (F. Farahi), Avicenna Research Institute<br>Thesis title: Studying the role of sortilin and ROR1 in Chronic Lymphocytic Leukemia   |
| 2017        | Advisor of MSc student (M Mohammadzadeh), Islamic Azad University of Medical Sciences<br>Thesis title: Developing monoclonal and polyclonal antibodies against cancer biomarker of TAZ (WWTR1)                |
| 2014        | Advisor of MSc student (E. Kazemi), Islamic Azad University<br>Thesis title: The effect of sodium butyrate on the expression of liver specific urea cycle genes (CPS1, OTC) in human lymphocytes              |

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## Lab Skill

### Molecular Skills

- PCR, RT-PCR, Real-Time qPCR
- Gene Cloning (digestion, ligation, transformation, screening)
- Primer Design
- RNA and DNA purification
- Agarose gel electrophoresis, SDS-PAGE
- Gene silencing (siRNA)
- Stably DNA transfection into cell lines

### Protein Skills

- Protein expression in prokaryotic and eukaryotic cells
- Protein purification
- Operation of fast protein liquid chromatography (FPLC) equipment

### **Cellular Biology Skills**

- Western blot
- Flow cytometry
- Immunohistochemistry and Immunocytochemistry
- Apoptosis assay
- Cell culture
- Cell proliferation assay, LTT, MTT, XTT
- Collection and storage of tissue samples from patients
- Parasite burden assay

### **Antibody Skills**

- Hybridoma technology
- Monoclonal and polyclonal antibody production
- Fluorescent dye conjugation of antibody
- ELISA
- Handling lab animals

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### **Workshop (trained)**

- 2017 Basic principles of ethics and welfare of animal use in science
- 2016 Audition for requirements of quality and competence in medical laboratories
- 2015 Innovations in oncology", National Center for Tumor Disease, Heidelberg, Germany
- 2015 Flow cytometry training course (theory and practice)
- 2014 The management of scientific research project
- 2008 The basic and advanced tips on writing of English scientific articles
- 2008 How to review a scientific article
- 2008 Gene delivery systems

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### **Computer Skill**

- **Programs:** Microsoft Office, Photoshop, End Note
- **Software:** Gene Runner, LinRegPCR, REST, FlowJo, Alpha Ease software, GraphPad Prism
- **Bioinformatics:** Ensembl Genome Browser, NEBcutter, Webcutter, Multiple Sequence Alignment, Map Viewer, BLAST, Swiss-Prot, ExPASy, UniProt

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### **Language**

Persian (Mother tongue), English (Professional), Arabic and German (Elementary)