

Dr. GEITA SAADATNIA

Personal Information

- FIRST NAME: Geita
- LAST NAME: Saadatnia
- SEX: Female
- NATIONALITY: Iranian
- ADDRESS: Department of Biotechnology, Iranian Research Organization for Science and Technology (IROST)
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Educations

Ph.D. Molecular Medicine (Molecular Biology): 2011, Institute for Research in Molecular Medicine (INFORMM), Universiti Sains Malaysia (USM)

Thesis title: Analysis of *Toxoplasma Gondii* Excretory Secretory Antigens (ESA) and Identification of Potential Markers of Acute Infection

M.Sc. Medical Research (Cellular Biology): 2006, Advanced Medical and Dental Institute (AMDI), Universiti Sains Malaysia (USM)

Thesis title: Detection of PIK3CA and BCL6 Proteins in Nasopharyngeal Carcinoma by Immunohistochemistry on Malaysian Patients

B.Sc. Public Health: 2004, Kerman University of Medical Sciences and Health Services. Iran

Research Experiences (PI or Co-Investigator)

- Design and evaluation of a quantitative real-time PCR assay for detection of *Toxoplasma gondii*
- Optimizing the expression of tripartite drug recombinant fusion protein in Escherichia coli in fermentor under non-continuous conditions.
- Cloning, expression and purification of sarcosine oxidase enzyme for use in clinical applications
- A study on the effect of specific antisense oligo of twist protein on the aggressiveness of prostate cancer cells
- Determining the antibiotic resistance pattern of group B streptococcus and investigating its resistance genes in pregnant women referred to Sarem Hospital
- Investigating the relationship between leiomyoma and sexually transmitted diseases and cytomegalovirus
- Investigating the potential of chitosan nanoparticles loaded with primaquine in the treatment of malaria

- A study on SRS3 recombinant protein as diagnostic and/or vaccine candidate for toxoplasmosis
- Role of 14-bp insertion/deletion polymorphism in HLA-G among Iranian women with recurrent spontaneous abortions
- Analysis of *Toxoplasma gondii* excretory secretory antigens (ESA) and identification of potential markers of acute infection
- Identification and characterization of in vitro expressed *Toxoplasma gondii* proteins in acute infection
- Identification of *Toxoplasma gondii* sequences of potential diagnostic value via cDNA library immunoscreening
- Identification of potential diagnostic markers of *Helicobacter pylori* infection via immunoproteomic approach
- Acute *Toxoplasma gondii* infection: development of recombinant antigen-based screening test and characterization of circulating antigens
- A study on infection markers in human hydatid disease via proteomics approach
- Detection of PIK3CA and BCL6 Proteins in Nasopharyngeal Carcinoma by Immunohistochemistry

Teaching Experiences

Molecular Biology

Human Genetics

Genetic engineering applications in microbiology

Genetics of eukaryotes and prokaryotes

Advanced bacteriology

Microbial products

New topics in microbiology

Working Experience:

- Academic member at Department of Biotechnology, Iranian Research Organization for Science and Technology (IROST), Tehran, Iran, Since Sep.2012
- Responsible for communication with the industry, Department of Biotechnology, IROST
- Director of Medical Biotechnology and Pharmaceutical Industries Group of Department of Biotechnology, IROST: 2018-2020
- Visiting Lecturer, Islamic Azad University, Eslamshahr Branch, Tehran, Iran: Sep. 2011-2012
- Research Officer, Molecular Parasitology Laboratory, Parasitology Department, Pasteur Institute of Iran: Jun. 2011- 2012
- Lab Representative, Institute for Research in Molecular Medicine (INFORMM), Universiti Sains Malaysia (USM): 2007-2009
- Representative of Students Research Center, Health Faculty, Kerman University of Medical Sciences and Health Services: 2003-2004
- Advisor of Health Homes, Bardsir Health Center, Kerman-Iran: 2002-2003

Scientific Memberships

- Specialized committee member of biotechnology and basic medical sciences of Khwarizmi International Award (KIA)
- Specialized biotechnology committee member of Khwarizmi youth Award
- Iranian Society of Biotechnology
- Iranian Society of Microbiology

Book Publications

- Genetic engineering in *Toxoplasma gondii*: from classic to CRISPR
Geita Saadatnia, Marjan Enshaeieh, Iranian Research Organization for Science and Technology publications, 2020 (In Persian)
- Toxoplasmosis and neurological disorders
Geita Saadatnia, Marjan Enshaeieh, Taimurzadeh Novin Publications 2021, (In Persian)

International Article Publications

- Enshaeieh M, **Saadatnia G***, Babaie J, Golkar M, Choopani S, Syyah M. Valproic Acid Inhibits Chronic Toxoplasma Infection and Associated Brain Inflammation in Mice, Antimicrobial Agents and Chemotherapy; 2021; 65(10)
- Berizi M, Babaie J, Fard-Esfahani P, Enshaeie M, Rahmah N, **Saadatnia G***, Golkar M*. Development of a quantitative real-time PCR assay for detection of *Toxoplasma gondii* in brain samples, Iranian Journal of Parasitology; 2021; 16(4)
- Mirzadeh A, **Saadatnia G***, Golkar M, Babaie G, Amiri S .*In Silico* Prediction of T and B Cell Epitopes and Cloning of Recombinant Truncated SAG1-related Sequence 3 (rtSRS3) Gene for Developing *Toxoplasma gondii* Vaccine. Archives of Clinical Infectious Diseases; 2020; 15(6)
- **Saadatnia G**, Saremi A, Salehian B, Salehian P. Uterine Leiomyoma and Reproductive Tract Infections Detected by Polymerase Chain Reaction, Iranian Journal of Pathology, Iranian Journal of Pathology, 2019; 14(1)
- Mirzadeh A, **Saadatnia G***, Golkar M, Babaie J, Rahmah N. Production of *Toxoplasma gondii* recombinant SAG1-related sequence 3 (SRS3) and its use for serodiagnosis of human toxoplasmosis. Protein Expression and Purification. 2017; 133
- Marashiyan SM, Moradian F, **Saadatnia G***, Golkar M, Evaluation of recombinant SRS3 antigen for diagnosis of toxoplasmosis by enzyme-linked immunosorbent assay. Arch Clin Infect Dis. 2017; 12(1): e35612. doi: 10.5812/archcid.35612.
- Khalilpour A, Amutha S, Lee CW, **Saadatnia G**, Nagarajan V, Sabariah O, Ahmad MM, Rahmah N. Antigenic Proteins of *Helicobacter pylori* of Potential Diagnostic Value. Asian Pac J Cancer Prev. 2013;14(3)

- Moghadam ZK, Ghaffarifar F, Khalilpour A, Abdul Aziz F, **Saadatnia G**, Noordin R. IgG4 detection of Echinococcus granulosus paramyosin is a useful diagnostic test for human hydatidosis. Clin Vaccine Immunol. 2013 Apr.; 20(4)
- Poonam SD, Kotresha D, Rahmah N, Muhammad Hafiznur Y, **Saadatnia G**, Golkar M, Sabariah O, Izzati Zahidah AK, Ghaffarifar F. IgG avidity Western blot using *Toxoplasma gondii* rGRA-7 cloned from nucleotides 39-711 for serodiagnosis of acute toxoplasmosis. Revista do Instituto de Medicina Tropical de São Paulo, 2013 Apr.; 55(2)
- Amerizadeh A, Idris ZM, Yin KB, Kotresha D, Yunus MH, Abdul Karim IZ, **Saadatnia G**, Ying TA, Noordin R. Identification of *Toxoplasma gondii* in-vivo induced antigens by cDNA library immunoscreening with chronic toxoplasmosis sera. Microb Pathog. 2013 Jan.; 54 (2)
- Tommy YBW, Lim TS, Rahmah N, **Saadatnia G**, Choong YS. Theoretical investigation on structural, functional and epitope of a 12 kDa excretory-secretory protein from *Toxoplasma gondii*. BMC Structural Biology, 2012 Nov.; 30 (12)
- **Saadatnia G**, Golkar M. A review on human toxoplasmosis. Scand J Infect Dis. 2012 Nov.; 44(11)
- Kotresha D, Poonam D, Muhammad Hafiznur Y, **Saadatnia G**, Nurulhasanah O, Sabariah O, Tan SY, Izzati Zahidah AK, Rahmah N. Recombinant proteins from new constructs of SAG1 and GRA7 sequences and their usefulness to detect acute toxoplasmosis. Trop Biomed. 2012 Mar.; 29(1)
- **Saadatnia G**, Mohamed Z, Ghaffarifar F, Osman E, Moghadam ZK, Noordin R. *Toxoplasma gondii* excretory secretory antigenic proteins of diagnostic potential. APMIS. 2012 Jan.; 120(1)
- **Saadatnia G**, Ghaffarifar F, Khalilpour A, Amerizadeh A, Rahmah N. A *Toxoplasma gondii* 10 kDa in vitro excretory secretory antigen reactive with human IgM and IgA antibodies. Trop Biomed. 2011 Dec.; 28(3)
- **Saadatnia G**, Haj Ghani H, Khoo BY, Maimunah A, Rahmah N. Optimization of *Toxoplasma gondii* cultivation in VERO cell line. Trop Biomed. 2010 Apr.; 27(1)
- Emelia O, Zeehaida M, Sulaiman O, Rohela M, **Saadatnia G**, Yeng C, Rahmah N. An assay for selection of sera with circulating *Toxoplasma gondii* antigens. J Immunoassay Immunochem. 2010; 31(1)

National Publications

- Azizvakili F, **Saadatnia G***, Hadizadeh M, Investigating the relationship between human papillomaviruses and herpes simplex virus types 1 and 2 with endometriosis lesions, scientific journal of Fasa University of Medical Sciences. (In Persian) 2019, 7(4)

- Rahimi M, **Saadatnia G***, Salehian P. Investigating the presence of group B streptococcus in the pairs of people infected with this bacterium, Sarem encyclopedia. (In Persian) 2018, 4(2)
- Paknahad B, **Saadatnia G***, Mirzaahmadi S, Salehian P. Investigation of polymorphism bp/-14 bp +14 of HLA-G gene among Iranian women with a history of recurrent spontaneous abortion, Sarem encyclopedia. (In Persian) 2018, 3(2)
- **Saadatnia G***, Rezaie S, Salehian P. Determining human papilloma virus genotypes in cervical fluid cytology samples of 2013 Sarem Hospital. Sarem encyclopedia. (In Persian) 2017: 1(4)
- Azizvakili F, **Saadatnia G***, Salehian P, Bakhtiari N, Rezaie S. Molecular diagnosis of Chlamydia trachomatis and Mycoplasma hominis in endometriosis lesions, Scientific Journal of Qazvin University of Medical Sciences. (In Persian) 2017, 20(5)
- **Saadatnia G***. Toxoplasmic infection in pregnant women, Sarem encyclopedia. (In Persian) 2016: 1(3)
- Bakhtiari N, **Saadatnia G**. RNA-based antisense drugs: types, mechanism of action and clinical trials, Scientific Journal of Qazvin University of Medical Sciences. (In Persian) 2014: 18(3)
- Hadizadeh M, Bakhtiari N, **Saadatnia G**. Nanoparticles as a tool for drug delivery in photodynamic therapy, Nano World Quarterly, Iran (In Persian) 2013:31

Presentations: Seminar/Conference

- The 23rd International Conference on Pathology and Laboratory Medicine, Iran, February 2022, Anti-psychotic mechanisms involved in Toxoplasma gondii elimination in mice brain
- The first international conference on sustainable development and mental-social health, Iran, February 2020, The relationship between chronic toxoplasmic infection and community mental health
- The 3rd International Biotechnology Conference of Iran, September 2019, The use of neuroleptics in the control of toxoplasmosis
- Third International Biomedical Congress, Iran, December 2019, Antipsychotic drugs with anti-toxoplasma activity in drug designing with mutual effects
- Third International Biomedical Congress, Iran, December 2019, Cryptic influences of *T. gondii* infection on human life

- The 9th National Biotechnology Conference of the Islamic Republic of Iran, May 2015, Expression of Toxoplasma SRS3 recombinant protein in Escherichia coli strain BL21pLysS (DE3)
- 7th International Laboratory and Clinical Congress (Infectious Diseases), February 2015, Cloning of Toxoplasma gondii recombinant SAG1-related sequence 3 (SRS3) gene in E. coli, strains DH5 α and TOP10
- The first national congress of biology and natural sciences of Iran, December 2014, Detection of Toxoplasma gondii specific immunoglobulin G in serum with SRS3 recombinant antigen using ELISA method
- 3rd INFORMM postgraduate colloquium, 2012, INFORMM, Health Campus, USM, 26-27 March 2012. Identification of potential protein marker of human hydatid disease via proteomics approach
- INFORMM Students' Colloquium 2009, INFORMM, Health Campus, USM, 10th- 11th October 2009, page 4. Optimization of Toxoplasma gondii Cultivation in VERO Cell line
- 3rd Regional Conference on Molecular Medicine 2009, Renaissance Hotel, Kota Bharu, Kelantan, Malaysia, 2nd - 4th May 2009, page 59. Identification of Excretory Secretory Antigenic Proteins of Toxoplasma gondii with Potential Diagnostic Value
- 3rd Regional Conference on Molecular Medicine 2009, Renaissance Hotel, Kota Bharu, Kelantan, Malaysia, 2nd - 4th May 2009, page 162. Optimization of in vitro Growth of Toxoplasma gondii in Vero Cell Culture
- 3rd Regional Conference on Molecular Medicine 2009, Renaissance Hotel, Kota Bharu, Kelantan, Malaysia, 2nd - 4th May 2009, page 153. An Assay for Selection of Serum Samples Containing Circulating Toxoplasma gondii Antigens for Use in Characterization Studies
- 2nd USM Penang International Postgraduate Convention 2008, 2nd Health & Medical Sciences Conference, Universiti Sains Malaysia, Penang, 18th - 20th June 2008, page 415. Excretory-secretory antigenic bands of Toxoplasma gondii with diagnostic potential

Involvement Activities:

- Workshop "Standardization of medical equipment" IROST, January 2016
- Workshop " technology-based entrepreneurship" IROST 27th -28th October 2015

- Workshop "PCR Based Diagnosis of Genetic Diseases" Iranian Biotechnology Society and Gene Transfer Pioneers (GTP) Reserch Group. Tehran. 27th-28th December 2012
- Workshop "DNA Methilation Analysis in Cancer" Iranian Molecular Medicine Network, At Pasteur Institute of Iran. 10th -12th July 2012
- Workshop "Scientific Writing" Institute for Graduate Studies (IPS), USM, Penang. 15th-18th December 2009
- Technical Seminar "Downstream Processing Technologies in Biotechnology" USM, Penang. 19th January 2009
- Workshop "Bioinformatics Application in Medicine" Malaysian Genomics Resource Centre, School of Computer Sciences, USM, Penang. 13th November 2008
- Workshop "One-Day INFORMM Hands-on Statistics Workshop" School of Mathematics, USM, Penang. 1st July 2008
- 3100 OFFGEL Familiarization, Life Sciences and Chemical Analysis, Agilent Technologies, INFORMM, USM, Penang. 5th-6th June 2008
- Workshop "Applied Bioinformatics and Genomics Workshop" Malaysian Genomics Resource Centre, School of Computer Sciences, USM, Penang. 30th October 2007
- Congress "Iranian Students from All Over the Word" Tehran, Iran. 25th -27th July 2007
- Course "Occupational Safety and Health Course for Post Graduate Students" Occupational Safety and Health Committee of USM, Penang, 16th July 2007
- Workshop "Methodology Workshop" Institute for Graduate Studies (IPS), USM, Penang. 25th June- 6th July 2007
- Course "Short Course in Molecular Medicine: Immunology" INFORMM, Health Campus, USM, Kubang Kerian, Kelantan. 17th -21st June 2007
- Workshop "Scientific Writing" Write to Publish, INFORMM and NBD Todown Grant, Health Campus, USM, Kubang Kerian, Kelantan. 20th -21st December 2006
- Workshop "Bioinformatics" Synamatix and Malaysian Genomics Resource Centre (MGRC) Tools, School of Computer Sciences, USM, Penang. 10th February 2006
- Seminar "Quality Assurance in Medicine and Dentistry" Pejabat Pelantar Penyelidikan, Advanced Medical and Dental Institute, USM, Penang. 3rd - 5th January 2006
- Workshop "Ethical and Methodological Issues in Cancer Research" Cluster Oncology, Hospital Kepala Batas, Butterworth, Advanced Medical and Dental Institute, USM, Penang. 3rd August 2005