

Curriculum vitae

Personal Information

Full name: Majid Golkar

Date and place of birth: September 3, 1974- Tabriz, Iran

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Education

Ph.D., Medical Biotechnology, Pasteur institute of Iran, Tehran, Iran, 1999-2005

Pharm.D. Shahid Beheshti University of Medical Science, Tehran, Iran,
1992-1998

Research Experience

- Associate Professor, Department of Parasitology, Pasteur Institute of Iran, Tehran, Iran, 2005-present
- Production and Evaluation of recombinant Protein and DNA Vaccines, applying different adjuvant and delivery systems for immunization against *Toxoplasma* acute and chronic infection
- Assessment of *Toxoplasma* Recombinant Proteins in serological tests for detection of *Toxoplasma* infection, and discriminating acute from chronic infection.
- Development of Molecular and Serological Tools for Accurate diagnosis of *T. gondii* infection

- Recombinant Production, Process Development and formulation of Recombinant therapeutic proteins

Skills and Techniques

DNA and RNA purification- PCR- Cloning- Protein expression in *E. coli* and mammalian cells- Protein and antibody purification (performing various separation techniques by FPLC)- Physicochemical and biological characterization of proteins (SDS-PAGE, WB, IFI, ELISA, CD, RP-HPLC, Mass Spectrometry), Cell culture and cell-based bioassays, mice handling, characterization of cellular immune responses (spleen cell culture, ELISA, ELISPOT, Flow Cytometry).

Teaching Experience

Different topics of Genetic Engineering to Ph.D. students of Pasteur Institute of Iran and Tehran University of medical science.

Patents and inventions

- Patent No. 37007 registered in Iran: Production of GRA6 recombinant protein (amino acids 40-230) and its application for detection of IgM antibodies in sera of pregnant women with acute Toxoplasma infection
- Patent No. 78100 registered in Iran: Usefulness of GRA6 protein in IgG avidity determination for discriminating acute from chronic Toxoplasma infection
- Development of a recombinant IgG ELISA kit for diagnosis of Toxoplasma gondii infection (approved by quality control division of Ministry of health)

Awards and honors

- Post-Doctoral Scholarship from Islamic Development Bank (2010).
- The appreciated young faculty member of Pasteur institute of Iran, awarded in 2007 and 2010.
- 21st Century Bio-Award for Young Scientists; Second Prize in the Category of Prevention (2008)
- Full scholarship for Ph.D. studies, Pasteur institute of Iran ,1999-2005
- First rank in written Ph.D. entrance exam. Pasteur institute of Iran, 1998

Publications

2015: Allahyari M, Mohabati R, Babaie J, Amiri S, Siavashani ZJ, Zare M, Sadeghiani G, **Golkar M.** Production of in-vitro refolded and highly antigenic SAG1 for development of a sensitive and specific Toxoplasma IgG ELISA. *J Immunol Methods.* 416:157-66.

2014: Havakhah Y, Esmaeili Rastaghi AR, Amiri S, Babaie J, Aghighi Z, **Golkar M.** Prevalence of Toxoplasma gondii in Sheep and Goats in Three Counties of Gilan Province, North of Iran; the More Humid Climate the Higher Prevalence. *J Med Microbiol Infec Dis.* 2 (2): 80-83

2014: Talebzadeh M, Mohabati R, Babaie J, Amiri S, Allahyari M, **Golkar M.** Production of MAG1 Antigen of Toxoplasma gondii in Escherichia coli. *J Med Microbiol Infec Dis.* 2(1): 40-44.

2013: Amerizadeh A, Khoo BY, Teh AY, Golkar M, Abdul Karim IZ, Osman S, Yunus MH, Noordin R. Identification and real-time expression analysis of selected Toxoplasma gondii in-vivo induced antigens recognized by IgG and IgM in sera of acute toxoplasmosis patients. *BMC Infect Dis.* 24:13-287.

2013: Mohabati R, Babaie J, Amiri S, Talebzadeh M, Fard-Esfahani P, Darbouy M, **Golkar M.** Expression and Purification of Recombinant ROP1 of Toxoplasma gondii in Bacteria. *Avicenna J Med Biotechnol.* 5(4):227-33.

2013: Mojadadi MS, **Ebtekar M, Golkar M,** Khanahmad H, Azadmanesh K. Comparative evaluation of viral and nonviral methods of gene delivery to mouse mesenchymal stem cells. *Urmia Med J.* 24(2):79-89.

2013: Mohabati R, Babaie J, Amiri S, Talebzadeh M, Fard-Esfahani P, Darbouy M, **Golkar M.** Expression and Purification of Recombinant ROP1 of Toxoplasma gondii in Bacteria. (4):227-233. *Avicenna J Med Biotechnol* 3(3): 135-141.

2013: Babaie J, Amiri S, Mostafavi E, Hassan N, Lotfi P, Esmaeili Rastaghi AR, **Golkar M.** Seroprevalence and Risk Factors for Toxoplasma gondii Infection among Pregnant Women In Northeast Iran. *Clin Vaccine Immunol.* 20(11):1771-3.

2013: Deshpande PS, Kotresha D, Noordin R, Yunus MH, Saadatnia G, **Golkar M**, Osman S, Karim IZ, Ghaffarifar F. IgG Avidity Western blot Using Toxoplasma gondii rGRA-7 Cloned from Nucleotides 39-711 for Serodiagnosis of Acute Toxoplasmosis. *Rev Inst Med Trop Sao Paulo*. 55(2):79-83.

2012: Saadatnia G and **Golkar M**. A Review on Human Toxoplasmosis. *Scand J Infect Dis*. 44(11):805-14.

2012: Habibi Anbouhi M, Feiz Barazandeh A, Bouzari S, Abolhassani M, Khanahmad H, **Golkar M**, Aghasadeghi MR, Behdani M, Jahanian-Najafabadi, Shokrgozar MA. Functional Recombinant Extra Membrane Loop of Human CD20, an Alternative of the Full Length CD20 Antigen. *Iran Biomed J*. 16(3):121-126.

2012: Mojadadi M Sh, Ebtekar M, **Golkar M**, Khanahmad H. Effect of interleukin -27 on recovery from experimental autoimmune encephalomyelitis in C57BL/6 mice. *Feyz*. 16(3): 219-228.

2011: Miri, M, Zare M, Khalili G, **Golkar M**. Expression and Single-step Purification of GRA8 Antigen of Toxoplasma gondii in Escherichia coli. *Avicenna J Med Biotechnol*. 3(2):67-77.

2011: Babaie J, Sadeghiani G, **Golkar M**. Construction and In vitro Expression Analyses of a DNA Plasmid Encoding Dense Granule GRA5 Antigen of Toxoplasma gondii. *Avicenna J Med Biotechnol*. 3(3): 135-141.

2010: Jalali SAH, Nikbakht Brujeni Gh, Tadjbakhsh H, Koochi MK, **Golkar M**, Rabbani M. Cloning and high level expression of bovine interferon gamma gene in eukaryotic cells (COS-7). *Iranian Journal of Veterinary Research*. 11(2):125-133.

2010: Elyasi H, Babaie J, Pelloux H, Fricker-Hidalgo H, Brenier-Pinchartd MP, Zare M, Sadeghiani G, **Golkar M**. Use of dense granule antigen GRA6 in Immunoglobulin G avidity test to exclude acute Toxoplasma infection during pregnancy. *Clin Vaccine Immunol*. 17(9):1349-55.

2010: Beheshti S, Sayyah M, **Golkar M**, Sepehri H, Babaie J, Vaziri B. Changes in hippocampal connexin 36 mRNA and protein levels during epileptogenesis in the kindling model of epilepsy. *Prog Neuropsychopharmacol Biol Psychiatry*. 34(3):510-5.

2009: Sadeghiani G, Zare, Babaie J, Shokrgozar MA, Azadmanesh k, Fard-Esfahani P and **Golkar M**. Heterologous Production of Dense Granule GRA7 Antigen of *Toxoplasma gondii* in *Escherchia Coli*. *Southeast Asian J Trop Med Public Health*. 40:692-700.

2009: Babaie J, Zare M, Sadeghiani G, Lorgard-Dezfuli M, Aghighi Z, **Golkar M** (2009) Bacterial Production of Dense Granule Antigen GRA8 of *Toxoplasma gondii*. *Iran Biomed J*. 13(3):145-151.

2008: **Golkar M**, Azadmanesh K, Khalili G, Khoshkholgh Sima B, Babaie J, Mercier C, Brenier-Pinchart MP, Fricker-Hidalgo H, Pelloux H, Cesbron-Delauw MF. Serodiagnosis of Recently Acquired *Toxoplasma gondii* Infection in Pregnant Women Using Enzyme-Linked Immunosorbent Assays with a Recombinant Dense Granule GRA6 Protein. *Diagn Microbiol Infect Dis*. 61:31-39.

2007: **Golkar M**, Rafati S, Abdel-Latif MS, Brenier-Pinchart MP, Fricker-Hidalgo H, Khoshkholgh Sima B, Babaie J, Pelloux H, Cesbron-Delauw MF, Mercier C. The dense granule protein GRA2, a new marker for the serodiagnosis of acute *Toxoplasma* infection: comparison of sera collected in both France and Iran from pregnant women. *Diagn Microbiol Infect Dis*. 58:419-426.

2007: **Golkar M**, Shokrgozar MA, Rafati S, Musset K, Assmar M, Sadaie R, Cesbron-Delauw MF, Mercier C. Evaluation of protective effect of recombinant dense granule antigens GRA2 and GRA6 formulated in monophosphoryl lipid A (MPL) adjuvant against *Toxoplasma* chronic infection in mice. *Vaccine*. 25:4301-4311.

2005: **Golkar M**, Shokrgozar MA, Rafati S, Sadaie R, Assmar M (2005) Construction, expression and preliminary immunological evaluation of a DNA plasmid encoding GRA2 protein of *Toxoplasma gondii*. *Iran Biomed J*. 9:1-8.

2004: **Golkar M**, Rafati S, Taslimi Y, Taheri T, Doustdari F, Assmar M (2004) High-level expression and evaluation of antigenicity of a recombinant *Toxoplasma gondii* GRA2 protein. *Iranian J Biotech.* 2:170-176.

1998: Pourgholami MH, Saadat H, Ahmadiyani A, **Golkar M**, Amini H, Goudarzvand M. Bioequivalence of Sodium Valproate tablets manufactured in Iran compared to its foreign counterpart. *Physiol Pharmacol.* 1:40-44.

Lectures /Seminars/Meetings/Abstracts

Abstracts

2012: Babaie J, Sadaie M.R, Amiri S , **Golkar M**. Immunization of C57BL/6 Mice with GRA2 Combined with MPL Conferred Short-term, but not Long-term, Immune Protection Against *Toxoplasma gondii*. Immunology, 11th Biennial congress on Asthma and Allergy, April 2012.

2012: Allahyari M, Vatanara A, **Golkar M**, Ramazani V, Babaie J, Amiri S. Recombinant SAG1 antigen - loaded PLGA microspheres as a novel vaccine delivery system against *Toxoplasma gondii*. 13th Iranian Pharmaceutical Sciences Congress, 2012;7(5).

2008: Sadeghiani Gh, **Golkar M**, Shokrgozar M.A, Azadmanesh K, Babaie J, Zare M. “Serodiagnosis of acute *Toxoplasma gondii* infection in pregnant women using enzyme-linked immunosorbent assays with a recombinant dense granule GRA7 protein”. Biotechnology and Bioinformatics Symposium (BIOT-2008) Oct. 17-18, 2008 Arlington, Texas, USA- poster presentation.

2008: Sadeghiani Gh, **Golkar M**, Shokrgozar M.A, Azadmanesh K, Babaie J, Zare M. “Production of *Toxoplasma gondii* Recombinant GRA7 Antigen for serodiagnosis of Toxoplasmosis”. The 2nd congress of clinical microbiology - 7-9 Oct. 2008 Tehran Iran, oral presentation.

2008: Expression and purification of recombinant GRA7 antigen of *Toxoplasma gondii*. The 2nd International Student Conference of Biotechnology - 15-17 Nov. 2008 Tehran, Iran -poster presentation.

2007: Golkar M, Babaie J, Azadmanesh K, Piyazak N, Assmar M. A recombinant GRA2 protein of *Toxoplasma gondii* protects against brain cysts production in C57BL/6 mice. *Immunology*, 6th Biennial congress on Asthma and Allergy, May 2007.

2007: Golkar M, Babaie J, Assmar M, Aghighi Z, Angaji L, Zare M, Lorgard-Dezfuli M. Prokaryotic expression and antigenicity evaluation of dense granule antigen GRA8 of *Toxoplasma gondii*. 1st Genomics congress and Biotechnology in non-communicable diseases. 3-1-10360 2007.

2007: Golkar M, Rafati S, Abdel-Latif M.S, Brenier-Pinchart Marie-Pierre, Fricker-Hidalgo H el ene, Khoshkholgh-Sima B, Babaie J, Pelloux Herv e, Cesbron-Delau Marie-France, Mercier Corinne. Usefulness of a recombinant dense granule GRA2 protein for serodiagnosis of acute *Toxoplasma* infection: comparison of sera from French and Iranian pregnant women. The III international congress on congenital Toxoplasmosis (ICOCT). 2007. Montenegro (Quind o), Colombia.

2006: Golkar M, Khoshkholgh Sima B, Khalili Gh, Asmar M, Mercier Corinne, Brenier-Pinchart Marie-Pierre, Hossein Khani S. The dense granule protein GRA2, a new marker for the serodiagnosis of acute *Toxoplasma* infection: comparison of sera from French and Iranian pregnant women. The 15th Iranian congress of infectious diseases. 2006. Tehran, Iran.

2005: Golkar M, Assmar M, Sima Rafati, Shokrgozar M.A, Sadaie R, Mercier Corinne, Musset Karine, Cesbron Delauw Marie-France. A DNA vaccine expressing GRA2 protein of *Toxoplasma gondii* elicits antibody and T-cell response and partially protects against brain cyst production. The 35th ASI annual scientific meeting. 2005. Melbourne, Australia.

2004: Golkar M, Shokrgozar M.A, Rafati S, Sadaie M.R and Assmar M. Construction of an eukaryotic expression plasmid carrying *Toxoplasma gondii* dense granule antigen-2 (GRA2) and expression in mammalian cells. IX European multicolloquium of Parasitology. 2004. Valencia, Spain.

Thesis Supervision:

- 2014:** Clinical and experimental assessment of association between toxoplasmosis (*Toxoplasma gondii*) and acquisition of epilepsy.
- 2014:** Production of a biotinylated fusion protein containing antigenic parts of GRA7, GRA8, ROP1 in E.coli
- 2014:** Development of real-time PCR test for the enumeration of Toxoplasma cysts in mouse brain samples. M.S. Thesis.
- 2014:** Evaluation of cytotoxic effects of A1-NGR recombinant fusion protein on cancer cell lines. PhD Thesis.
- 2013:** Investigation of protective immunity against Toxoplasmosis by combination of SAG1 and GRA2 antigens and TLR4, TLR7 ligands associated with PLGA microparticle. PhD Thesis.
- 2012:** Evaluation of the effects of interleukin 27-transfected mesenchymal stem cells with RNA interference-IL-6 on certain neuroimmunological parameters in experimental autoimmune encephalomyelitis mice. PhD Thesis
- 2012:** Vaccination against *Toxoplasma gondii* infection by a combination of SAG1 antigen and TLR4 and TLR7 ligands in PLGA microsphere. PhD Thesis
- 2012:** Cloning, expression purification and antigenicity evaluation of MAG1 antigen from toxoplasma gondii, Iranian RH stain. M.S. Thesis.
- 2012:** Cloning and expression of ROP 1 gene in Eschercheria coli, Iranian RH stain of toxoplasma gondii. M.S. Thesis.
- 2011:** Cloning, expression, purification and antigenicity evaluation of SAG1 antigen from Toxoplasma gondii, Iranian RH strain; M.S. Thesis of Microbiology.
- 2011:** Use of recombinant GRA 2and GRA6 Proteins in IgG avidity ELISA for diagnosis of Acute Toxoplasmosis Infection. PhD Thesis.
- 2009:** Cloning, expression, purification and antigenicity evaluation of GRA7 antigen from Toxoplasma gondii, Iranian RH strain M.S. Thesis.

2007: Cloning, expression and purification of a recombinant toxoplasma gondii dense granule GRA2 protein and assessment of diagnostic performance of the protein in ELISA experiment. PhD Thesis.

2006: Evaluation of immunogenicity and protective efficacy of a recombinant GRA2 DNA vaccine against *Toxoplasma gondii* infection in C57BL/6 mice. M.S. Thesis.

2001-2005: Study of a DNA Vaccine against *Toxoplasma gondii* using GRA2 gene, supported by Pasteur Institute of Iran.

2003-2005: Evaluation of immunogenicity and protective efficacy of a recombinant GRA2 DNA vaccine against *Toxoplasma gondii* infection in BALB/c mice, supported by Pasteur Institute of Iran.

2004-2006: Evaluation of immunogenicity and protective efficacy of a recombinant GRA2 against acute *Toxoplasma* infection in CBA/J mice, supported by Pasteur Institute of Iran.

2006-2007: Purification of recombinant GRA6 protein of *Toxoplasma gondii*, supported by Pasteur Institute of Iran.

2007-2009: Evaluation of IgG avidity ELISA method using recombinant GRA2 and GRA6 proteins for serodiagnosis of acute *Toxoplasma* infection, supported by Pasteur Institute of Iran.

2009-2012: Development of a recombinant IgG ELISA diagnostic kit for serodiagnosis of *Toxoplasma* infection, supported by Iran National Science Foundation.

2009-2012: Development of a recombinant IgM ELISA diagnostic kit for serodiagnosis of acute *Toxoplasma* infection, supported by Pasteur Institute of Iran.

2010-2012: Production of recombinant epidermal growth factor (EGF) in *E. coli*, supported by Iranian Council of Stem Cell Technology, Ministry of Health.

2012- 2014: Development of an IgG avidity ELISA test for discriminating acute from chronic *Toxoplasma* infection using recombinant proteins supported by Eastern Mediterranean Health Genomics and Biotechnology Network (EMHGBN).

2012- 2014: Optimization of expression and purification of recombinant *Toxoplasma* ROP1 antigen, and evaluation of the purified protein in *Toxoplasma* IgM ELISA, supported by Iran National Science Foundation.

Active research areas:

- Production and Evaluation of *Toxoplasma* Protein and DNA Vaccines using different adjuvant systems, for prevention against acute and chronic infection
- Assessment of *Toxoplasma* Recombinant Proteins in serological tests for detection of *Toxoplasma* infection, and discriminating acute from chronic infection.
- Development of Molecular and Serological Tools for Accurate diagnosis of *T. gondii* infection
- Recombinant Production, Process Development and formulation of Recombinant therapeutic proteins