

In The Name of God

Curriculum Vitae



Niloofar Taghipour

Assistant Professor in School of Advanced Technologies in Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran

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Academic background

-PhD in Molecular Medicine, 2012-2017, School of Advanced Technologies in Medicine , Shahid Beheshti University, Tehran, Iran.

-MSc in Medical Parasitology, 2004-2007, School of Medicine, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

-BSc in Medical Laboratory, 2002-2004, School of Allied Medical Sciences, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Title of Thesis:

- PhD : Investigation of immunogenic effects of *Syphacia obvelata* in treatment of experimental DSS-colitis mouse model.

Supervisors: Dr. Nariman Mossafa, Dr. Hamid Asadzadeh Aghdaei.

- MSc : Cloning and expression of recombinant Echinococcus granulosus antigen B, in pQE-30 expression vector.

Supervisors: Dr. Bahram Kazemi

Awards and Honors

-Membership in Iran's National Elites Foundation.

- Ranked Third, in the Ph.D Entrance Examination held by Ministry of Health and Medical Education, 2012.

- Ranked Second, among Ph.D students in the Board exam, 2015.

- Ranked First, in the MSc Entrance Examination held by Ministry of Health and Medical Education, 2004.

Research Skills:

-Computer Sciences and Genetic engineering software:

- Microsoft Office, Data search engines.
- Bioinformatics software : SnapGene, primer 3, bioedit, Oligo7, Gene Runner , Allele ID.....
- Phylogenetic software such as: MEGA 6-10
- Gene expression software such as: REST
- Statistical software such as: SPSS, Graph Pad Prism
- Reference manager software : Endnote , Mendeley

-Research experience:

- DNA and RNA extraction methods.
- PCR (Nested-PCR , RFLP-PCR,.....)
- Real-time PCR
- Cloning and expression of recombinant proteins in bacteria and mammalian cells.
- Protein extraction and analysis methods (BCA, Bradford, ELISA, Affinity chromatography , SDS - PAGE , Western blotting, Gel diffusion, in vitro cytotoxicity assay , LDH release assay.....)
- Cell culture techniques , PBMC isolation from whole blood cell .
- Flow cytometry
- Gene transfer to bacterial and mammalian cells.

- Working with animal models
- Proficiency in a variety of routine and specific tests for parasites and related diseases.

Work Experience

- School of Advanced Technologies in Medicine , Shahid Beheshti University, Tehran, Iran. July 2020 – present **Assistant Professor**.
- Parasitology Department of Shahid Beheshti, University of Medical Science, Tehran, Iran, 2007- 2020(July) :
 - Laboratory Supervisor
 - Teaching at Postgraduate Degree (MSc,PhD).
 - Collaboration in more than 20 PhD and MSc theses.

Research Interests :

- Cell therapy, Immunotherapy, Gene therapy, Tissue engineering, Regenerative medicine , Molecular parasitology, Immunoparasitology.

Published Articles:

- The Current Status and Future Direction of Extracellular Nano-vesicles In the Alleviation of Skin Disorders.Ghorbani R, Hosseinzadeh S, Azari A, Taghipour N, Soleimani M.Current Stem Cell Research & Therapy.2023
- Identification and genotyping of Acanthamoeba spp. in the water resources of western IranA Karimi, F Kheirandish, AJ Mamaghani, N Taghipour, SF Mousavi, ...Parasite Epidemiology and Control, e00308.2023
- ITS2 rDNA fragments of Leishmania species isolated from the great gerbil in Iran. M Shirazian, NTaghipour, A Akhavan, STabaei1, NNovelty in Biomedicine 2023, 1, 9-15
- Design of a polytopic construct of LACK, TSA and GP63 proteins for the diagnosis of cutaneous leishmaniasis: An in silico strategy.Z Arab-Mazar, M Mohebbali, MM Ranjbar, SJS Tabaei, AJ Mamaghani, ...Journal of Asia-Pacific Entomology 25 (4),

101982

- The effect of extracellular matrix remodeling on material-based strategies for bone regeneration. R Fattahi, FM Chamkhorami, N Taghipour, SH Keshel. *Tissue and Cell*. 2022 Feb 1;76:101748. doi: 10.1016/j.tice.2022.101748.

-A Challenging Diagnosis of Two Ruptured and Intact Pulmonary Echinococcal Cysts in a 54-Year-Old Woman: A Case Report. L Haghighi, M Rahimi, H Behniafar, N Taghipour, R Jafari. *Acta Parasitologica* 2021, 1-4.

- Comparison of Three Commonly Used Genetic Markers for Detection of *Leishmania Major*: An Experimental Study. H Behniafar, VM Vaziri, SJS Tabaei, N Taghipour *Ethiopian Journal of Health Sciences*.2021. 31 (4).

-Inhibition of anti-inflammatory cytokines, IL-10 and TGF- β , in *Leishmania major* infected macrophage by miRNAs: A new therapeutic modality against leishmaniasis. F Hamidi, S Mohammadi-Yeganeh, MHM Hoseini, SJS Tabaei, Niloofar Taghipour, Zohreh Lasjerdi, Mostafa Gholamrezaei, Ali Haghighi *Microbial Pathogenesis* 2021.153.

-The Effects of Particulate Matter on C57BL/6 Peritoneal and Alveolar Macrophages, H Rahmani, S Sadeghi, N Taghipour, M Roshani, D Amani, T Ghazanfari *Iranian Journal of Allergy, Asthma and Immunology* 2020.

-Presence and diversity of *Leishmania RNA virus* in an old zoonotic cutaneous leishmaniasis focus, northeastern Iran: haplotype and phylogenetic based approach. R Saberi, M Fakhar, H Hajjaran, A Ataei-Pirkooh, M Mohebali, Niloofar Taghipour, Hajar Ziaei Hezarjaribi, Yousef Moghadam, Abouzar Bagheri, *International Journal of Infectious Diseases* 2020, 101, 6-13.

- Recent researches in effective antileishmanial herbal compounds: narrative review. Sahar Ghodsian, Niloofar Taghipour, Niloofar Deravi, Hamed Behniafar, Zohreh Lasjerdi. *Parasitology Research*.2020. 119 (12), 3929-3946.

- Chitosan-based Scaffolds, Suitable Structures for Wound Healing Dressing: A Short Review. Niloofar Taghipour, Niloofar Deravi, Mohsen Rahimi. *Journal of Regeneration, Reconstruction & Restoration" Triple R*. 22 July 2020.

-Comparative Expression Profile Analysis of Apoptosis-Related miRNA and Its Target Gene in *Leishmania major* Infected Macrophages. Z Lasjerdi, H Ghanbarian, SM Yeganeh, SJS Tabaei, M Mohebali, Niloofar Taghipour, Ameneh Koochaki, Ali Haghighi, *Iranian Journal of Parasitology*2020, 15 (3), 332.

-Candidate antigenic epitopes for vaccination and diagnosis strategies of *Toxoplasma gondii* infection: A review. AJ Mamaghani, A Fathollahi, A Spotin, M mehdi Ranjbar, M Barati. Somayeh Aghamolaie, Maryam Karimi, Niloofar Taghipour, Mohammad

Ashrafi, Seyyed Javad Seyyed Tabaei .Microbial pathogenesis 2019.137.

-Detection of spiked *Fasciola hepatica* eggs in stool specimens using LAMP technique, S Ghodsian, S Rouhani, S Fallahi, SJ Seyyedtabaei, N Taghipour, Iranian journal of parasitology 2019. 14 (3), 387.

-Immunomodulatory effect of *Syphacia obvelata* in treatment of experimental DSS-induced colitis in mouse model. Taghipour N, Mosaffa N, Aghdaei HA, Rostami-Nejad M, Weinstock JV, Shahnavaaz S, Zali MR. Sci Rep. 2019 Dec 13;9(1):19127.

-*Syphacia obvelata*: A New Hope to Induction of Intestinal Immunological Tolerance in C57BL/6 Mice. Taghipour N, Mosaffa N, Rostami-Nejad M, Homayoni MM, Mortaz E, Aghdaei HA, Zali MR. Korean J Parasitol. 2017 Aug;55(4):439-444.

-An experimental model of colitis induced by dextran sulfate sodium from acute progresses to chronicity in C57BL/6: correlation between conditions of mice and the environment. Taghipour N, Molaei M, Mosaffa N, Rostami-Nejad M, Asadzadeh Aghdaei H, Anissian A, Azimzadeh P, Zali MR. Gastroenterol Hepatol Bed Bench. 2016 Winter;9(1):45-52.

-Potential treatment of inflammatory bowel disease: a review of helminths therapy
N Taghipour, HA Aghdaei, A Haghighi, N Mossafa, SJS Tabaei, ...Gastroenterology and hepatology from bed to bench. 2014. 7 (1), 9.

-Prevalence of *Trichinella* spp. Infections in Hunted Wild Boars in Northern Iran. Rostami A, Khazan H, Kazemi B, Kia EB, Bandepour M, Taghipour N, Mowlavi G. Iran J Public Health. 2018 Dec;46(12):1712-1719.

-Prevalence, Clinical Manifestations and Genotyping of *Cryptosporidium* Spp. in Patients with Gastrointestinal Illnesses in Western Iran. Kiani H, Haghighi A, Seyyedtabaei SJ, Azargashb E, Zebardast N, Taghipour N, Rostami A, Xiao L. Iran J Parasitol. 2017 Apr-Jun;12(2):169-176.

-Molecular Identification of *Leishmania* Species in a Re-Emerged Focus of Cutaneous Leishmaniasis in Varamin District, Iran. Behravan M, Moin-Vaziri V, Haghighi A, Rahbarian N, Taghipour N, Abadi A, Hajjaran H. J Arthropod Borne Dis. 2017 Mar 14;11(1):124-131. eCollection 2017 Mar.

-Frequency of Cutaneous Leishmaniasis and Species Identification in Suspected Individuals from Golestan Province, Northern Iran in 2014. Hezari F, Niyati M, Seyyed Tabaei SJ, Mohebbali M, Moin Vaziri V, Behniafar H, Azargashb E, Taghipour N. Iran J Public Health. 2016 Oct;45(10):1348-1354

-MOLECULAR SURVEILLANCE OF *Plasmodium vivax* AND *Plasmodium falciparum* DHFR MUTATIONS IN ISOLATES FROM SOUTHERN IRAN. Sharifi-Sarasiabi K, Haghighi A, Kazemi B, Taghipour N, Mojarad EN, Gachkar L. Rev Inst Med

Trop Sao Paulo. 2016;58:16. doi: 10.1590/S1678-9946201658016. Epub 2016 Mar 22.

-Ophthalmology hospital wards contamination to pathogenic free living Amoebae in Iran. Lasjerdi Z, Niyati M, Lorenzo-Morales J, Haghighi A, Taghipour N. Acta Parasitol. 2015 Sep;60(3):417-22. doi: 10.1515/ap-2015-0057.

-Prevalence and Genetic Characterization of *Cryptosporidium* Spp. In Diarrheic Children from Gonbad Kavous City, Iran. Sharbatkhori M, Nazemalhosseini E, Taghipour N, Pagheh AS, Mesgarian F. Iran J Parasitol. 2015 Jul-Sep;10(3):441-7.

-Cloning and Sequence Analysis of Recombinant *Plasmodium vivax* Merozoite Surface Protein 1 (PvMSP-142 kDa) in pTZ57R/T Vector. Mirahmadi H, Spotin A, Fallahi S, Taghipour N, Turki H, Seyyed Tabaei SJ. Iran J Parasitol. 2015 Apr- Jun;10(2):197-205.

-Comparison of the RE and B1 gene for detection of *Toxoplasma gondii* infection in children with cancer. S Fallahi, B Kazemi, M Bandehpour, Z Lasjerdi, N Taghipour, N Zebardast, Nikmanesh B, Omrani VF, Ebrahimzadeh F. Parasitology international. 2014. 63 (1), 37-41.

-Application of Multiplex PCR for Detection and Differentiation of *Entamoeba histolytica*, *Entamoeba dispar* and *Entamoeba moshkovskii*. Zebardast N, Haghighi A, Yeganeh F, Seyyed Tabaei SJ, Gharavi MJ, Fallahi S, Lasjerdi Z, Salehi N, Taghipour N, Kohansal C, Naderi F. Iranian Journal of Parasitology .2014.9 (4), 466-473.

-Canine visceral leishmaniasis: a comparative study of real-time PCR, conventional PCR, and direct agglutination on sera for the detection of *Leishmania infantum* infection. Mohammadiha A, Haghighi A, Mohebbali M, Mahdian R, Abadi AR, Zarei Z, Yeganeh F, Kazemi B, Taghipour N, Akhoundi B, Barati M, Mahmoudi MR. Veterinary parasitology. 2013. 192 (1), 83-90.

-Comparison of real-time PCR and conventional PCR with two DNA targets for detection of *Leishmania (Leishmania) infantum* infection in human and dog blood samples, Mohammadiha A, Mohebbali M, Haghighi A, Mahdian R, Abadi AR, Zarei Z, Yeganeh F, Kazemi B, Taghipour N, Akhoundi B. Experimental parasitology. 2013. 133 (1), 89-94

-Thermotolerant *Acanthamoeba* spp. isolated from therapeutic hot springs in northwestern Iran, R Solgi, M Niyati, A Haghighi, N Taghipour, SJS Tabaei, M Eftekhari. Journal of water and health. 2012. 10 (4), 650-656

-Molecular identification of animal isolates of *Echinococcus granulosus* from Iran using four mitochondrial genes. M Rostami Nejad, N Taghipour, Z Nochi, E Nazemalhosseini Mojarad. Journal of helminthology. 2012. 86 (04), 485-492.

-Molecular identification of *Hartmannella vermiformis* and *Vannella persistens* from

man-made recreational water environments, Tehran, Iran. M Nazar, A Haghghi, N Taghipour, A Ortega-Rivas, F Tahvildar-Biderouni, Parasitology research.2012. 111 (2), 835-839.

-Antibiotic resistance pattern of *E. coli* isolated from urine culture in 660 Army clinical laboratory center in Tehran 2008. R Hamid-Farahani, AR Tajik, M Noorifard, A Keshavarz, N Taghipour, . Ann Mil Health Sci Res.2012. 10 (1), 45- 49.

-Species identification of birds nasal *Trichobilharzia* in Sari, North of Iran. SH Maleki, A Athari, A Haghghi, N Taghipour, SH Gohardehi, SS Tabaei.Iranian journal of parasitology.2012. 7 (4), 82.

-Isolation of *Acanthamoeba* species in surface waters of Gilan province-north of Iran. MR Mahmoudi, N Taghipour, M Eftekhar, A Haghghi, P Karanis.Parasitology research.2012. 110 (1), 473-477.

-Molecular epidemiology of cryptosporidiosis in Iranian children, Tehran, Iran.

Taghipour N, Nazemalhosseini-Mojarad E, Haghghi A, Rostami-Nejad M, Romani S, Keshavarz A, Alebouyeh M, Zali M. Iran J Parasitol. 2011 Dec;6(4):41-5.

-Molecular determination of *Echinococcus granulosus* isolated from hydatid cyst using mitochondrial *atp6* gene. Rostami Nejad M, Nazemalhosseini E, Taghipour N, Nochi Z, Cheraghpour K, Dabiri H, Mohebbi SR, Noorinayer B, Zali MR . Journal of Gorgan University of Medical Sciences, Summer 2011. 13.Number 2.

-Subtype analysis of *Cryptosporidium parvum* and *Cryptosporidium hominis* isolates from humans and cattle in Iran. Nazemalhosseini E, Haghghi A, Taghipour N, Keshavarz A, Mohebi SR, Zali MR, Xiao L. Veterinary Parasitology 179 (2011) 250–252

-Subtype analysis of *Cryptosporidium parvum* and *Cryptosporidium hominis* isolates from humans and cattle in Iran. E Nazemalhosseini, A Haghghi, N Taghipour, A Keshavarz, ...Veterinary parasitology.2011. 179 (1), 250-252.

-Potentially pathogenic free-living amoebae isolated from hospital wards with immunodeficient patients in Tehran, Iran. Lasjerdi Z, Niyyati M, Haghghi A, Shahabi S, Biderouni FT, Taghipour N, Eftekhar M, Nazemalhosseini Mojarad E. Parasitol Res. 2011 Sep;109(3):575-80.

-Genotyping of *Acanthamoeba* isolated from water in recreational areas of Tehran, Iran, Nazar M, Haghghi A, Niyyati M, Eftekhar M, Tahvildar F, Taghipour N, Abadi A, Nazemalhosseini Mojarad E, Athari A. Journal of water and health.2011. 9 (3), 603-608.

-Genotyping of *Cryptosporidium* spp. in clinical samples: PCR-RFLP analysis of the TRAP-C2 gene. EN Mojarad, A Keshavarz, N Taghipour, A Haghghi, B Kazemi, A Athari. Gastroenterology and Hepatology from bed to bench.2011. 4 (1), 29.

- Development of sensitive detection of cryptosporidium and giardia from surface

water in iran. Mahmoudi M, Ashrafi K, Abedinzadeh H, Tahvildar-Bideruni F, Haghghi A, Bandehpour M, Taghipour Lailabadi N, Kazemi B. Iran J Parasitol. 2011 Aug;6(3):43-51.

-Hydatid cyst prevalence in slaughtered animals, A neglected health problem. Mohamamd Rostami Nejad, Somayeh Jahani-Sherafat, Kouros Cherahipour, Ehsan Nazemalhosseini Mojarad, Niloofar Taghipour, Mohammad Reza Zali . Paramedical Sciences Journal. Summer 2012;2(2): 25-21.

-Application of recombinant Echinococcus granulosus antigen B to ELISA kits for diagnosing hydatidosis . Kalantari E, Bandehpour M, Pazoki R, Taghipour-Lailabadi N, Khazan H, Mosaffa N, Nazaripouya MR, Kazemi B. Parasitol Res. 2010 Mar;106(4):847-51.

- DNA fingerprinting of bovine Cryptosporidium isolates in Qazvin province, Iran

Ehsan Nazemalhosseini Mojarad, Niloofar Taghipour, Ali Haghghi, Akbar Keshavarz, Mohammad Rostami Nejad, Mohammad Reza Zali . koomesh 2011, 12(4): 408-412

-Expression of a recombinant serine-rich Entamoeba histolytica protein (SREHP)

S Nekoeian, A Haghghi, B Kazemi, S Tabaei, S Javad, N Taghipour. Pejouhesh .2010.34 (2), 123-127.

-Cryptosporidium Genetic Diversity Based on Analysis of COWP, SSU-rRNA and TRAP-C2 Polymorphic Genes in Children with Diarrhea in Tehran and Qazvin Provinces: A Survey from Iran. A Haghghi, N Taghipour, N Sahebkhietari, Z Nochi, B Kazemi. Pajoohandeh Journal .2010.14 (6), 299-306.

-Identification of Leishmania species isolated from human cutaneous Leishmaniasis in Gonbad-e-Qabus city using a PCR method during 2006-2007. Mesgarian F , Rahbarian N , Mahmoud Radi M , Hajaran H , Shahbaz F , Mesgarian Z , Taghipour N. Tehran University of Medical Sciences.2010. 68 (4).

-Molecular Characterization of Dihydrofolate Reductase-Thymidylate Synthase Gene Concerning Antifolate Resistance of Plasmodium vivax. K Sharifi, A Haghghi, L Gachkar, B Kazemi, N Taghipour, N Hosseinzadeh. Iranian Journal of Parasitology.2009. 4 (4), 10-18.

-Identification of Leishmania species isolated from human cutaneous leishmaniasis using PCR method, Rahbarian N, Mesgarian A, Mahmoudi Rad M, Hajaran H, Shahbazi F, Mesgarian Z, Taghipour N. Journal of research in health sciences.2009. 9 (2), 48-51.

Research projects and thesis done and ongoing:

- The synergic effect of TGF- β 3 and FGF-2 on tendo/ligamentogenesis of human periodontal ligament stem cells.
- Evaluation of the effect of "Zinc" oral supplement on the expression of genes, oxidative and antioxidant enzyme levels and inflammatory markers in patients with a history of multiple myeloma undergoing autologous bone marrow transplantation compared with placebo
- Evaluation of the efficiency of exosomes of AMSCs loaded in three-layer polyurethane-chitosan/gelatin-cellulose acetate scaffold in wound healing full thickness of skin in Rat model
- Design of bio-mimetic artificial skin, with exosomes derived from human umbilical cord stem cells for chronic wounds healing (diabetic foot ulcer) in Diabetic mouse model.
- Design and evaluation of Leishmania major recombinant poly-epitopic construct as the Laboratory diagnosis of human cutaneous leishmaniasis
- Evaluation of Immunomodulatory Effects of *Syphacia obvelata* Antigens on Lymphocytes Isolated from Inflammatory Bowel Disease (IBD) Patients.
- In vitro evaluation of Neutrophil Extracellular Traps (NETs) in the exposure to Leishmania major and salivary gland homogenates (SGH) of *Phlebotomus papatasi* in human neutrophils.
- In Vitro evaluation of Arginase1 (ARG1) and inducible nitric oxide synthase (iNOS) genes expression in the macrophages of Murrin models infected with *Leishmania major* in the exposure to salivary gland homogenates (SGH) of sand fly vector
- Comparison of the prevalence of Toxoplasma and Toxocara infection in chronic kidney disease (CKD) patients by immunological
- Prevalence of strongyloidiasis in immunocompromised patients in health centers of selected cities of Iran during 2020
- Evaluation the effect of synthetic miRNA inhibitor of IL-10 and TGF- β on *Leishmania major* infected macrophages
- Investigation of the effect of microRNA overexpression or downregulation on apoptosis induction in Iranian strain *Leishmania major*(MRHO/IR/75/ER)-infected macrophage

- AND 22 other projects

Participation in International Congresses

***Oral presentation:**

-14th International Congress of Immunology and Allergy:

Immunomodulatory effect of *Syphacia obvelata* in the treatment of experimental colitis induced by sodium dextran sulfate in a mouse model

-The Sixth National and the First Regional Congress on Parasitology and Parasitic Diseases:

Subcloning and expression of recombinant *Echinococcus granulosus* antigen B for diagnosis of hydatidosis

-The 7th National and the second Regional Congress on Parasitology and Parasitic Diseases:

1) Evaluation of *Cryptosporidium* subgenotype based on GP60 polymorph gene analysis in children with diarrhea.

2) Molecular identification of release amoebae isolated from rivers and waters of recreational areas of Tehran and Gilan provinces.

3) Genetic diversity of *Plasmodium vivax* dihydrofolate reductase-thymidylate synthase gene in Hormozgan province.

4) Frequency and molecular analysis of *Cryptosporidium* species in cattle in Qazvin province.

***Poster**

*4th International Congress and the 11th National Congress of Parasitology and Parasitic Diseases of Iran (NICOPA11):

1) Comparison of Three Common Molecular Markers for Detection of *Leishmania* DNA by PCR

2) *mmu-miR-27a* as a candidate miRNA which targets Inflammatory cytokines involved in *Leishmania major*-infected macrophage

* The 3rd International & 10th National Congress of Parasitology & Parasitic Diseases of Iran:

The expression profiles and role of miRNAs in induction of apoptosis in *Leishmania major*-infected macrophage cells: An in vitro study

*2nd International and 9th National Congress of Parasitology and Parasitic Diseases of Iran

Molecular surveillance of *Plasmodium vivax* and *Plasmodium falciparum* DHFR mutations in isolates from southern Iran.

*First International & 12th Iranian Congress of Microbiology:

- 1) Identification of free living amoebae in recreational Hot springs of Ardabil Province, Iran
- 2) The first report of *Hartmannella vermiformis* & *Vannella persistens* isolation from public areas of Tehran by molecular methods
- 3) Potentially pathogenic free living amoebae isolated from ophthalmology wards in Tehran, Iran

*Tropical Medicine and International Health:

Contamination of hospital wards with pathogenic free living amoebae in Tehran, Iran.

*The 4th Conference of the Scandinavian-Baltic for parasitology (SBSP):

The first report of *Hartmannella vermiformis* & *Vannella persistens* isolation from public areas of Tehran by molecular methods

*ICOPA XII Melbourne:

Isolation of *Acanthamoeba* belong to t4 and t5 genotypes from surface waters of recreational areas, Tehran, Iran

*European congress of Clinical Microbiology and Infection Diseases:

Identification of *Leishmania* species from human cutaneous leishmaniasis in Gonbad using PCR method

Book:

- *Cryptosporidium* and *Cryptosporidiosis*. Ali Haghghi, Akbar Keshavarz, Niloofar Taghipour. (compilation, in Persian)