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Education:

- BSc. Microbiology and Immunology, School of Medicine, University of Washington, Seattle, USA/Tehran University.
- MSc. Clinical Immunology, Department of Immunology, School of Medical Sciences, University of Tehran (1989-1991) Thesis: TNF- α and SIL-2R in serum and synovial fluid of rheumatoid arthritis under supervision of Dr. Rafiee
- Ph.D Medical Biotechnology, Pasteur Institute of Iran. Thesis: Biochemical and immunogenicity analysis of amastigote form of *Leishmania major* under supervision of Dr. Alimohammadian and Dr. J.A. Louis, (University of Lausanne, Institute of Biochemistry, Switzerland) (1991-1996).
- Post Doc: different periods during 1996-1999 in University of Lausanne, Institute of Biochemistry, Switzerland.

Position:

- Researcher, Fred Hutchinson Cancer Research Center, Seattle, Washington, USA. 1978-1979.
- Researcher, Faculty of Science, Tehran University, Science Dept., Tehran, Iran. 1982-1983.
- Member of scientific board of Pasteur Institute of Iran; 1996-present
- Assistant Professor in Dept. of Immunology, Pasteur Institute of Iran; 1996-2001
- Associate Professor; Pasteur Institute of Iran; 2001
 - Head of Molecular Immunology and Vaccine Research Laboratory 1997-2014
- Head of Dept. of Immunology, Pasteur Institute of Iran, 2001-2003
- Director of Education, Pasteur Institute of Iran 2004-2006
- Professor; Pasteur Institute of Iran; 2008-present

- Member of Research Strengthening Group in WHO/TDR, Geneva, Switzerland, 2004-2010
- Head of Department of Immunotherapy and *Leishmania* Vaccine Research, Pasteur Institute of Iran, 2014-present

Awards:

- Pasteur-UNESCO Gold Medal, October 2001, Paris.
- Best Women Elites around the country and all Elites and Devotees around the Islamic World, Iran, 2007
- Iran Academy of Medical Sciences- 2009, Tehran, Iran.
- 17th Razi Research Festival on Medical Sciences Award, 2011, Iran
- Islamic Education, Scientific and cultural organization award (ISESCO), 2011, Iran
- Science Ministry of Research festival Award, 2012, Tehran, Iran.
- The Academy of Medical Sciences Award, 2015, Tehran, Iran
- Awards for best researcher in Pasteur Institute of Iran, 2014 and 2017
- Awards for high ranked researcher in Pasteur Institute of Iran 2017

Patent:

Vaccine development against experimental canine visceral leishmaniasis using a combination of DNA and protein immunization with cysteine proteinases type I and II of *L. infantum*.
Number 31547, Iran.

2012:

1. Generation of genetically transfected *Leishmania major* expressing *egfp* gene, ID: 75936.
2. Generation of genetically transfected *Leishmania infantum* expressing *egfp* gene, ID: 75762.
3. Generation of genetically transfected *Leishmania tropica* expressing *egfp* gene, ID:75764.
4. Generation of genetically transfected *Leishmania tarentolae* expressing *egfp* gene, ID:75765.

Submitted Genes to Genbank:

- 1- *Leishmania major* Cysteine Proteinase A gene AJ130942 Genbank 1998.
- 2- *Leishmania major* Signal Peptidase type I gene AY129954 Genbank 2002.
- 3- *Leishmania infantum* Signal Peptidase type I gene AY129955 Genbank 2002.
- 4- C-terminal region of the *L. major*'s Lmj28.1400 orthologue EU041954 2009.
- 5- *Leishmania tarentolae* strain TarII minicircle HM579788 2010.
- 6- *L. major* ARG Badirzadeh et al. (17.1.2016).sqn Arginase KU641750

- 7- *L. infantum* ARG Taheri et al (23.1.2016).sqn Arginase KU641751
- 8- *L. tarentolae* ARG Taheri et al. (23.1.2016). sqn Arginase KU641752
- 9- *L. tropica* ARG Taheri et al. (23.1.2016).sqn Arginase KU641753

International Grant Support:

- 1- Identification and characterization of the gene coding for a 24 kDa amastigote specific protein of *Leishmania major*- a putative vaccine subunit candidate (Supported by UNDP/World Bank/WHO, ID# 970556 (1997-2001) \$98,000
- 2- Cocktail recombinant protein and DNA vaccination of cpa, cpb and gp63 against *L. major* (Supported by UNDP/World Bank/WHO, ID # 981134) (1998-2002) \$41,000
- 3- Evaluation of immune responses against *L. infantum* cysteine proteinases in Kala-azar individuals and DNA vaccinated dogs. (Supported by UNDP/World Bank/WHO, ID # A10115) (2001-2003) \$125,000
- 4- Preparation of diagnostic kit using *L. infantum* C-terminal extension of type I cysteine proteinases for early detection of human visceral leishmaniasis (EMRO WHO, R6/18/3, ID RP04/9) (2003-2006) \$12,000
- 5- Immunotherapy study using the combination of dSLIM and Sodium stibogluconate (Sb) against *Leishmania major* infection in susceptible BALB/c mice (supported by MOLOGEN AG) 20,000Euros
- 6- Contribution of human neutrophils in the development of protective immune responses during in vitro *Leishmania major* infection (supported by Karolinska Institute, Pasteur Institute of Iran and Iran ministry of Health) (2008- 2014), 110,000 Euros
- 7- A novel Strategy Combining Live Non-pathogenic *Leishmania* Expressing Selected Parasites Antigens with Sand Fly Salivary Gland Components as a Candidate Vaccine for Cutaneous Leishmaniasis. (Supported by NIH, INB2-7015-TN-10, 2010-2013) \$30,000
- 8- Live non Pathogenic *Leishmania* expressing selected parasite Antigens as novel vaccine strategy to control visceral leishmaniasis in dogs. (Supported by Iran Ministry of Health and Laval University, Canada) 2011-2014 \$440000
- 9- Potential effect of ravuconazole (E1224) as an oral therapy against *L. tropia* infection in BALB/c mice model. DNDi (Drugs for Neglected Diseases initiative) 2012-2013. 20,000Euros
- 10- Identification of a protective sand fly salivary vaccine. ICGEB, Italy, 2015-2017, ID# CRP/IRN15-02, 70,000Euros

11- EU project LeiSHield-MATI “A multi-disciplinary international effort to identify clinical, molecular and social factors impacting cutaneous leishmaniasis”, funded by the Research and Innovation Staff Exchange (RISE) Program, Marie Skłodowska-Curie Actions, Horizon 2020 (Grant Agreement N°778298) **act as co applicant**

National Project:

- 1-** Isolation, cloning and expression of cysteine proteinase a and b from *L. infantum* and immunological evaluation of recombinant proteins in infected dogs. (IPI, ID#144)
- 2-** Comparison of DNA and recombinant protein vaccination with Signal peptidase type I of *L. major* in BALB/c mice. (IPI, ID#218)
- 3-** Evaluation of IgG subclass responses to different overlapping CTE peptides in active and recovered Visceral leishmaniasis individuals. (IPI, ID#230)
- 4-** Evaluation of combined DNA and protein vaccination of C terminal extension from cysteine proteinase type I against *L. infantum* infection in BALB/c mice. (IPI, ID#239)
- 5-** Gene disruption of type I signal peptidase and evaluation of its role in growth survival infectivity and protection in *Leishmania major*. (IPI, ID#271)
- 6-** Evaluation of solid lipid nanoparticle loaded paramomycin (lipopar) on pilot scale production and *Leishmania* growth *in vitro* and *in vivo* conditions. (IPI, No: 637, 2012).
- 7-** Searching for virulence factors in non-pathogenic parasite *Leishmania Tarentolae*. (IPI, ID#282)
- 8-** Production of different transgenic *Leishmania* strains expressing green fluorescent protein (GFP) through homologous recombination into the chromosomal 18S rRNA locus of parasite. (IPI, ID#499)
- 9-** Design of recombinant non-pathogenic *Leishmania tarntolae* vaccines expressing HPV16 E7 linked to Gp96 and their immunostimulatory potential in C57BL/6 mice tumor model. (Sandough pajoheshgaran)
- 10-** Live nonpathogenic *Leishmania* expressing selected parasite antigens as a novel vaccine strategy to control visceral in dogs. (IPI, ID# 565)
- 11-** In vitro evaluation of solid lipid Nanoparticle harboring paramomycin on *Leishmania*. (IPI, ID#637)
- 12-** Cloning and expression of sand fly saliva PpSP15 in *L. tarentolae*. (IPI #645, 2012)
- 13-** Assessment of induced CD8+ T cells following DNA and Live vaccine using *Leishmania* encoding MHC class I restricted epitopes at pre and post challenge against *L. major* in BALB/c mice model. (ID: 91053539 Sandough pajoheshgaran,).
- 14-** Assessment of induced CD8+ T cells following DNA and Live vaccine using *Leishmania* encoding MHC class I restricted epitopes at pre and post challenge against *L. major* in BALB/c mice model. (IPI, ID: 663).
- 15-** Leishmanicidal activities of nitroheteroarylmethylene-3(2H)-benzofuranone in macrophage in vitro model and in vivo activities of effective ones on BALB/c mice infected to *L. major*.
- 16-** Evaluation of recombinant *L.tarentolae* harboring immunogenic protein of sandfly as an experimental vaccine in BALB/C mice against *L.major* infection (IPI#719).
- 17-** Preparation and evaluation of different therapeutic tools using alpha defensin (HNP1) and IP-10 in BALB/c mice infected with *L. major* (IPI#572).

Teaching:

- Advance Immunology for Ph.D students, 1998-present
- Vaccine development for Ph.D students, 2004-2020
- Medical Biotechnology for MSc students, 2003-present

Evaluation/ Expertise

Member of Research Strengthening Group in WHO/TDR, 2004-2009

Scientific Councils

- Board of Biotechnology, Ministry of Health, Tehran, Iran, 2001-2007
- Board of Research, Pasteur Institute of Iran, 1999-present
- Board of Education, Pasteur Institute of Iran, 2000-present

Workshop

- 1- Organizer of national microarray workshop- 2005
- 2- Organizer of national micro RNA workshop-2005
- 3- Organizer of International workshop on *Leishmania*-March 2008
- 4- Organizer of International workshop on Gene targeting in *Leishmania* via Transfection, 11th International Congress of Immunology and Allergy of Iran, Tehran, In Pasteur Institute of Iran, Molecular Immunology & Vaccine Research Lab., 26th April, 2012.
- 5- Organizer of International *Leishmania* workshop, Tehran, Nov 2016
- 6- Organizer of MATI *Leishmania* panel, Tehran, Nov 2016

PUBLICATIONS:

BOOK Chapter

- 1- Non-Viral Delivery Systems in Gene Therapy and Vaccine Development. Azam Bolhassani and Sima Rafati. INTECH, OPEN ACCESS PUBLISHER. University Campus,
- 2- Neglected Tropical Diseases- Middle East and North Africa. Mary Ann McDowell and Sima Rafati, Springer 2014, ISBN 978-3-7091-1612-8

ARTICLES: <https://www.ncbi.nlm.nih.gov/pubmed/?term=Rafati+S>

1. Taslimi Y, Masoudzadeh N, Bahrami F, Rafati S. Cutaneous leishmaniasis: multiomics approaches to unravel the role of immune cells checkpoints. *Expert Rev Proteomics*. 2022 Mar;19(3):213-225. doi: 10.1080/14789450.2022.2131545. Epub 2022 Oct 12.
2. Lajevardi MS, Taheri T, Gholami E, Seyed N, Rafati S. Structural analysis of PpSP15 and PsSP9 sand fly salivary proteins designed with a self-cleavable linker as a live vaccine candidate against cutaneous leishmaniasis. *Parasit Vectors*. 2022 Oct 19;15(1):377. doi: 10.1186/s13071-022-05437-x.
3. Seyed N, Zahedifard F, Habibzadeh S, Yousefi R, Lajevardi MS, Gholami E, Rafati S.

Antibiotic-Free Nanoplasmids as Promising Alternatives for Conventional DNA Vectors. *Vaccines (Basel)*. 2022 Oct 13;10(10):1710. doi: 10.3390/vaccines10101710.

4. Lajevardi MS, Gholami E, Taheri T, Sarvnaz H, Habibzadeh S, Seyed N, Mortazavi Y, Rafati S. *Leishmania tarentolae* as Potential Live Vaccine Co-Expressing Distinct Salivary Gland Proteins Against Experimental Cutaneous Leishmaniasis in BALB/c Mice Model. *Front Immunol*. 2022 Jun 10;13:895234. doi: 10.3389/fimmu.2022.895234. eCollection 2022.
5. Bahrami F, Masoudzadeh N, Van Veen S, Persson J, Lari A, Sarvnaz H, Taslimi Y, Östensson M, Andersson B, Sharifi I, Goyonlo VM, Ottenhoff TH, Haks MC, Harandi AM, Rafati S. Blood transcriptional profiles distinguish different clinical stages of cutaneous leishmaniasis in humans. *Mol Immunol*. 2022 Sep;149:165-173. doi: 10.1016/j.molimm.2022.07.008. Epub 2022 Jul 26.
6. Shokouhy M, Sarvnaz H, Taslimi Y, Lajevardi MS, Habibzadeh S, Mizbani A, Shekari F, Behbahani M, Torrecilhas AC, Rafati S. Isolation, characterization, and functional study of extracellular vesicles derived from *Leishmania tarentolae*. *Front Cell Infect Microbiol*. 2022 Aug 3;12:921410. doi: 10.3389/fcimb.2022.921410. eCollection 2022.
7. Moazzezy N, Rismani E, Rezaei M, Karam MRA, Rafati S, Bouzari S, Oloomi M. Computational evaluation of modified peptides from human neutrophil peptide 1 (HNP-1). *J Biomol Struct Dyn*. 2022 Feb;40(3):1163-1171. doi: 10.1080/07391102.2020.1823249. Epub 2020 Sep 26.
8. Shermeh AS, Zahedifard F, Habibzadeh S, Taheri T, Rafati S, Seyed N. Evaluation of protection induced by in vitro matured BMDCs presenting CD8⁺ T cell stimulating peptides after a heterologous vaccination regimen in BALB/c model against *Leishmania major*. *Exp Parasitol*. 2021 Apr;223:108082. doi: 10.1016/j.exppara.2021.108082. Epub 2021 Feb 11.
9. Moazzezy N, Asadi Karam MR, Rafati S, Bouzari S, Oloomi M. Inhibition and eradication activity of truncated α -defensin analogs against multidrug resistant uropathogenic *Escherichia coli* biofilm. *PLoS One*. 2020 Jul 14;15(7):e0235892. doi: 10.1371/journal.pone.0235892. eCollection 2020.
10. Seyed N, Rafati S. Th1 concomitant immune response mediated by IFN- γ protects against sand fly delivered *Leishmania* infection: Implications for vaccine design. *Cytokine*. 2021 Nov;147:155247. doi: 10.1016/j.cyto.2020.155247. Epub 2020 Aug 29.
11. Masoudzadeh N, Mizbani A, Rafati S. Transcriptomic profiling in Cutaneous Leishmaniasis patients. *Expert Rev Proteomics*. 2020 Jul-Aug;17(7-8):533-541. doi: 10.1080/14789450.2020.1812390. Epub 2020 Sep 4.

12. Bhor R, Rafati S, Pai K. Cytokine saga in visceral leishmaniasis. *Cytokine*. 2021 Nov;147:155322. doi: 10.1016/j.cyto.2020.155322. Epub 2020 Oct 28
13. Moazzezy N, Asadi Karam MR, Rafati S, Bouzari S, Oloomi M. A Synthetic Peptide 2Abz²³S²⁹ Reduces Bacterial Titer and Induces Pro-Inflammatory Cytokines in a Murine Model of Urinary Tract Infection. *Drug Des Devel Ther*. 2020 Jul 17;14:2797-2807. doi: 10.2147/DDDT.S259937. eCollection 2020.
14. Eskandar M, Gholami E, Seyed N, Taslimi Y, Habibzadeh, S, Rafati S, Taheri T. Visualization of *Leishmania tropica* Infection in BALB/c Mice by Bioluminescence Imaging. *Iran Biomed J*. 2020 May;24(3):164-72. doi: 10.29252/ibj.24.3.164. Epub 2019 Dec 1.
15. Masoudzadeh N, Östensson M, Persson J, Mashayekhi Goyonlo V, Agbajogu C, Taslimi Y, Erfanian Salim R, Zahedifard F, Mizbani A, Malekafzali Ardekani H, Gunn BM, Rafati S, Harandi AM. Molecular signatures of anthroponotic cutaneous leishmaniasis in the lesions of patients infected with *Leishmania tropica*. *Sci Rep*. 2020 Oct 1;10(1):16198. doi: 10.1038/s41598-020-72671-7.
16. Seyed N, Rafati S. Th1 concomitant immune response mediated by IFN- γ protects against sand fly delivered *Leishmania* infection: Implications for vaccine design. *Cytokine*. 2020 Aug 29:155247. doi: 10.1016/j.cyto.2020.155247.
17. Masoudzadeh N, Mizbani A, Rafati S. Transcriptomic profiling in Cutaneous Leishmaniasis patients. *Expert Rev Proteomics*. 2020 Jul-Aug; 17(7-8):533-541. doi: 10.1080/14789450.2020.1812390
18. Taslimi Y, Agbajogu C, Brynjolfsson SF, Masoudzadeh N, Mashayekhi V, Gharibzadeh S, Östensson M, Nakka SS, Mizbani A, Rafati S, Harandi AM Profiling inflammatory response in lesions of cutaneous leishmaniasis patients using a non-invasive sampling method combined with a high-throughput protein detection assay. *Cytokine*. 2020 Mar 17;130:155056. doi: 10.1016/j.cyto.2020.155056
19. Davarpanah E, Seyed N, Bahrami F, Rafati S, Safaralizadeh R, Taheri T. *Lactococcus lactis* expressing sand fly PpSP15 salivary protein confers long-term protection against *Leishmania major* in BALB/c mice. *PLoS Negl Trop Dis*. 2020 Jan 3;14(1):e0007939. doi: 10.1371/journal.pntd.0007939
20. Cytokine saga in visceral leishmaniasis. Bhor R, Rafati S, Pai K. *Cytokine*. 2020 Oct 28:155322. doi: 10.1016/j.cyto.2020.155322
21. Caridha D, Vesely B, van Bocxlaer K, Arana B, Mowbray CE, Rafati S, Uliana S, Reguera R, Kreishman-Deitrick M, Sciotti R, Buffet P, Croft SL. Route map for the discovery and pre-clinical development of new drugs and treatments for cutaneous leishmaniasis. *Int J Parasitol Drugs Drug Resist*. 2019 Jun 20. pii: S2211-3207(19)30078-8. doi: 10.1016/j.ijpddr.2019.06.003.
22. Ansari N, Rafati S, Taheri T, Roohvand F, Farahmand M, Hajikhezri Z, Keshavarz A, Samimi-Rad K. A non-pathogenic *Leishmania tarentolae* vector based- HCV polytope

- DNA vaccine elicits potent and long lasting Th1 and CTL responses in BALB/c mice model. *Mol Immunol.* 2019 Jul;111:152-161. doi: 10.1016/j.molimm.2019.04.009
23. Zahedifard F, Lee H, No JH, Salimi M, Seyed N, Asoodeh A, Rafati S. Anti-leishmanial activity of Brevinin 2R and its Lauric acid conjugate type against *L. major*: In vitro mechanism of actions and in vivo treatment potentials. *PLoS Negl Trop Dis.* 2019 27;13(2):e0007217. doi: 10.1371/journal.pntd.0007217. eCollection 2019 Feb
 24. Gholami E, Oliveira F, Taheri T, Seyed N, Gharibzadeh S, Gholami N, Mizbani A, Zali F, Habibzadeh S, Bakhadj DO, Meneses C, Kamyab-Hesari K, Sadeghipour A, Taslimi Y, Khadir F, Kamhawi S, Mazlomi MA, Valenzuela JG, Rafati S. DNA plasmid coding for *Phlebotomus sergenti* salivary protein PsSP9, a member of the SP15 family of proteins, protects against *Leishmania tropica*. *PLoS Negl Trop Dis.* 2019 Jan 11;13(1):e0007067. doi: 10.1371/journal.pntd.0007067. eCollection 2019 Jan
 25. Khadir F, Shaler CR, Oryan A, Rudak PT, Mazzuca DM, Taheri T, Dikeakos JD, Haeryfar SMM, Rafati S. Therapeutic control of leishmaniasis by inhibitors of the mammalian target of rapamycin. *PLoS Negl Trop Dis.* 2018 Aug 22;12(8):e0006701. eCollection 2018
 26. Bahrami F, Harandi AM, Rafati S. Biomarkers of Cutaneous Leishmaniasis. *Front Cell Infect Microbiol.* 2018 Jun 26;8:222. doi: 10.3389/fcimb.2018.00222. eCollection 2018. Review.
 27. Seyed N, Peters NC, Rafati S. Translating Observations From Leishmanization Into Non-Living Vaccines: The Potential of Dendritic Cell-Based Vaccination Strategies Against *Leishmania*. *Front Immunol.* 2018 Jun 4;9:1227. eCollection 2018. Review
 28. Zahedifard F, Rafati S, Prospects for antimicrobial peptide-based immunotherapy approaches in *Leishmania* control. *Expert Rev Anti Infect Ther.* 2018 Jun;16(6):461-469. doi: 10.1080/14787210.2018.1483720. Epub 2018 Jun 12. Review
 29. Taslimi Y, Rafati S. Study Break: Possible Diagnostic Improvement for Cutaneous Leishmaniasis: Is It Achievable? *Iran Biomed J.*
 30. Abdossamadi Z, Seyed N, Zahedifard F, Taheri T, Taslimi Y, Montakhab-Yeganeh H, Badirzadeh A, Vasei M, Gharibzadeh S, Rafati S. Human Neutrophil Peptide 1 as immunotherapeutic agent against *Leishmania* infected BALB/c mice. *PLoS Negl Trop Dis.* 2017 Dec 18;11(12):e0006123. PMID:
 31. Abdossamadi Z, Taheri T, Seyed N, Montakhab-Yeganeh H, Zahedifard F, Taslimi Y, Habibzadeh S, Gholami E, Gharibzadeh S, Rafati S. Live *Leishmania tarentolae* secreting HNP1 as an immunotherapeutic tool against *Leishmania* infection in BALB/c mice. *Immunotherapy.* 2017 Oct;9(13):1089-1102. doi: 10.2217/imt-2017-0076.
 32. Masoudzadeh N, Mizbani A, Taslimi Y, Mashayekhi V, Mortazavi H, Sadeghipour P, Ardekani HM, Rafati S. *Leishmania tropica* infected human lesions: Whole genome transcription profiling. *Acta Trop.* 2017 Dec;176:236-241.
 33. Montakhab-Yeganeh H, Abdossamadi Z, Zahedifard F, Taslimi Y, Badirzadeh A, Saljoughian N, Taheri T, Taghikhani M, Rafati S. *Leishmania tarentolae* expressing CXCL-10 as an efficient immunotherapy approach against *Leishmania major*-infected BALB/c mice. *Parasite Immunol.* 2017 Oct;39(10).
 34. Badirzadeh A, Taheri T, Abedi-Astaneh F, Taslimi Y, Abdossamadi Z, Montakhab-Yeganeh H, Aghashahi M, Niyyati M, Rafati S. Arginase activity of *Leishmania* isolated from patients with cutaneous leishmaniasis. *Parasite Immunol.* 2017 Sep;39(9)

35. Badirzadeh A, Taheri T, Taslimi Y, Abdossamadi Z, Heidari-Kharaji M, Gholami E, Sedaghat B, Niyyati M, Rafati S. Arginase activity in pathogenic and non-pathogenic species of *Leishmania* parasites. *PLoS Negl Trop Dis*. 2017 Jul 14;11(7):e0005774.
36. Taslimi Y, Sadeghipour P, Habibzadeh S, Mashayekhi V, Mortazavi H, Müller I, Lane ME, Kropf P, Rafati S. A novel non-invasive diagnostic sampling technique for cutaneous leishmaniasis. *PLoS Negl Trop Dis*. 2017 Jul 13;11(7):e0005750
37. Golshani M, Rafati S, Nejati-Moheimani M, Pourabdi S, Arsang A, Bouzari S. Protein/Protein, DNA/DNA and DNA/Protein based vaccination strategies using truncated Omp2b against *Brucella* infection in BALB/c Mice. *Int J Med Microbiol*. 2017 Jun;307(4-5):249-256. doi: 10.1016/j.ijmm.2017.03.004.
38. Bahrami F, Späth GF, Rafati S. Old World cutaneous leishmaniasis challenges in Morocco, Algeria, Tunisia and Iran (MATI): a collaborative attempt to combat the disease. *Expert Rev Vaccines*. 2017 16(5):415-417.
39. Abdossamadi Z, Seyed N, Rafati S. Mammalian host defense peptides and their implication on combating *Leishmania* infection. *Cell Immunol*. 2016 ;309:23-31.
40. Taslimi Y, Zahedifard F, Rafati S. Leishmaniasis and various immunotherapeutic approaches. *Parasitology*. 2016 15:1-11.
41. Taslimi Y, Zahedifard F, Habibzadeh S, Taheri T, Abbaspour H, Sadeghipour A, et al. Antitumor Effect of IP-10 by Using Two Different Approaches: Live Delivery System and Gene Therapy. *J Breast Cancer*. 2016 ;19(1):34-44.
42. Taheri T, Seyed N, Rafati S. DNA Integration in *Leishmania* Genome: An Application for Vaccine Development and Drug Screening. *Methods Mol Biol*. 2016;1403:603-22.
43. Taheri T, Seyed N, Mizbani A, Rafati S. *Leishmania*-based expression systems. *Appl Microbiol Biotechnol*. 2016 Sep;100(17):7377-85.
44. Seif S, Kazemi F, Gholami E, Seyed N, Taslimi Y, Habibzadeh S, et al. EGFP reporter protein: its immunogenicity in *Leishmania*-infected BALB/c mice. *Appl Microbiol Biotechnol*. 2016 May;100(9):3923-34.
45. Sadeghi S, Seyed N, Rafati S, Taheri T. Optimization of the Timing of Induction for the Assessment of Nitric Oxide Production in *Leishmania major* Infected Macrophage Cells. *Iran J Parasitol*. 2016 Jul-Sep;11(3):325-31.
46. Mortazavi H, Sadeghipour P, Taslimi Y, Habibzadeh S, Zali F, Zahedifard F, et al. Comparing acute and chronic human cutaneous leishmaniasis caused by *Leishmania major* and *Leishmania tropica* focusing on arginase activity. *J Eur Acad Dermatol Venereol*. 2016 Dec;30(12):2118-21.
47. Miahpour A, Haji-Fatahaliha M, Keshavarz H, Gharavi MJ, Mohamadi H, Babaloo Z, et al. T Helper 1 (Th1), Th2, and Th17 Responses to *Leishmania major* Lipophosphoglycan 3. *Immunol Invest*. 2016 Oct;45(7):692-702.
48. Kiani SJ, Taheri T, Rafati S, Samimi-Rad K. PUF proteins: Cellular functions and potential applications. *Curr Protein Pept Sci*. 2016 Sep 14.
49. Hosseini M, Haji Fatahaliha M, Aghebati-Maleki L, Movassagh Pour A, Rafati S, Seifi-Najmi M, et al. Recombinant *Leishmania major* lipophosphoglycan 3 activates human T-lymphocytes via TLR2-independent pathway. *J Immunotoxicol*. 2016;13(2):263-9.
50. Heidari-Kharaji M, Taheri T, Doroud D, Habibzadeh S, Rafati S. Solid lipid nanoparticle loaded with paromomycin: in vivo efficacy against *Leishmania tropica* infection in BALB/c mice model. *Appl Microbiol Biotechnol*. 2016 Aug;100(16):7051-60.

51. Heidari-Kharaji M, Taheri T, Doroud D, Habibzadeh S, Badirzadeh A, Rafati S. Enhanced paromomycin efficacy by solid lipid nanoparticle formulation against *Leishmania* in mice model. *Parasite Immunol.* 2016 Oct;38(10):599-608.
52. Golshani M, Rafati S, Nejati-Moheimani M, Ghasemian M, Bouzari S. Comparison of potential protection conferred by three immunization strategies (protein/protein, DNA/DNA, and DNA/protein) against *Brucella* infection using Omp2b in BALB/c Mice. *Vet Microbiol.* 2016 Dec 25;197:47-52.
53. Seyed N., Taheri T., Rafati S., “*Post-genomics and Vaccine Improvement for Leishmania*”. *Frontiers in Microbiology, Front Microbiol.* 2016 Apr 6;7:467. doi: 10.3389/fmicb.2016.00467. Review.
54. Gholami E, Zahedifard F, Rafati S. Delivery systems for *Leishmania* vaccine development. *Expert Rev Vaccines.* 2016 Jul;15(7):879-95.
55. Kharaji MH, Doroud D, Taheri T, **Rafati S.** Drug Targeting to Macrophages With Solid Lipid Nanoparticles Harboring Paromomycin: an In Vitro Evaluation Against *L. major* and *L. tropica*. *AAPS PharmSciTech.* 2015 Nov 9
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- 11-Rafati S., Nakhaee AR., Taghikhani M., Taheri T., Mohebbali M., Immunological evaluation of naturally infected dogs to recombinant type I and type II cysteine proteinases of *Leishmania infantum*.
- 12-Rafati S., Nakhaee AR., Taheri T., Taslimi Y., Darabi H., Combination of DNA and protein immunization with cysteine proteinases type I and II of *L. infantum* protects dogs against experimental visceral leishmaniasis.
- 13-Rafati S., Zahedifard F., Nazgouee F., Taslimi Y., Doustdari F., Eravani D., Protective capacity of cysteine proteinases type I and II against Experimental *L. infantum* infection in BALB/b mice.
- 14-Rafati S., Zadeh Vakili A. Taheri H., Taslimi Y., Doustari F., Salmanian AH., Immunization with the hybrid protein vaccine consisting of *Leishmania major* cysteine proteinases type I and II partially protect BALB/c mice against leishmaniasis.
- 15-Farzaneh P., Ebtekar M, Hassan Z., Rafati S., Murine cytokine patterns following Rubella vaccination.
- 16-Protective vaccination against experiment canine visceral Leishmaniasis using a combination of DNA and protein immunization with cysteine proteinases type I and II of *L.infantum*. S. Rafati, A Nakhaee, H. Davis, Y. Taslimi, T. Taheri, H. Darabi, D. Eravani, S.Sanos, P.Kaye, M, Taghikhani, Sh. Jamshidi, M.A. Rad. **Third World ongress on Leishmaniosis, 10-15 April 2005, Palermo-Terrasini, Sicily, Italy:**
- Prime-boost vaccination using cysteine proteinases type I & II of *L. infantum* confers protective immunity in murine visceral leishmaniasis. S. Rafati, F. Zahedifard, F. Nazgouee.
 - Type I signal peptidase from *Leishmania* is a target of the immune response in both human and mice model. S. Rafati, AH. Salmanian, F. Ghaemi Manesh, T. Taheri, Y.Taslimi, S. Masina, C. Schaff, N. Fasel.
- 17-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. S. Rafati et al. **The Second International Conference on Modern Vaccines adjuvants and delivery systems. 12-14 Sept 2006 London, UK:**
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 - Prime-boost vaccination using cysteine proteinases type I & II of *L. infantum* confers protective immunity in murine visceral leishmaniasis. S. Rafati et al.

- 18-** Amastin peptide-binding antibodies as biomarkers of active human visceral leishmaniasis, S. Rafati et al. **16th European congress of Immunology. 6-9 Sept 2006, Paris, France.**
- 19-** Bolhassani A., Zahedifard F., Moradin N., Gholami E., Taslimi Y., Doustdari F., Taghikhani M. and Rafati S. Enhancement of DNA Vaccine Potency by Co-administration of HPV16E7 and Glycoprotein 96 in C57BL/6 Mice Model. **9th Iranian Congress of Immunology and Allergy, Iran Medical Science University, Jun 17-19, 2008.**
- Ghasemi N., Bolhassani A., Taghikhani M. and Rafati S. DNA vaccine efficiency against HPV16E7 by using Tat-PEI600 delivery system.
- 20-** Bolhassani A., Zahedifard F., Taslimi Y., Taghikhani M. and Rafati S. Immune Response Assessment against HPV16E7 and GP96 in Mice and Human Models. **1st International Congress on Health Genomics and Biotechnology and the 4th Iranian Congress of Genetic Disorders and Disabilities, Pasteur Institute of Iran, Tehran, Iran, 2007.**
- 21-** Bolhassani A., Zahedifard F., Taslimi Y., Nahavandian B., Taghikhani M. and Rafati S. Serum Antibodies to HPV16E7 and GP96 Fragments as Biomarkers in Iranian Women with Invasive Cervical Carcinoma. **9th Iranian Congress of Biochemistry and 2nd International Congress of Biochemistry and Molecular Biology, Shiraz, Oct. 29-Nov.1, 2007.**
- 22-** Bolhasani A., Zahedifard F., Taslimi Y., Moradin N., Taghikhani M., Rafati S. and Soleimanjahi H. Prime-Boost Vaccination Using Combination of HPV16E7 and GP96 in C57BL/6 Mice Model. **13th International Congress of Immunology, Brazil, August 21-25, 2007.**
- 23- WorldLeish4, 3-7 February 2009, Luchnow, India:**
- Analysis of survival and growth rate of *Leishmania major* heterozygote mutant of signal peptidase type I. Tahereh Taheri, Elham Gholami, Fatemeh Doustdari, Ali-Hatef Salmanian, S. Rafati.
 - The effect of A2 gene on infectivity of the non-pathogenic parasite *L. tarentolae*. Amir mizbani, Tahereh Taheri, Hiva Azizi and S. Rafati.
- 24- 11th European symposium of control release, Notherland, April 7-9, 2010.**

Enhanced transfection efficiency toxicity ratio of a novel *Leishmania* DNA cocktail vaccine formulated with positively charged biocompatible solid lipid nanoparticles. D. Droud, A. Vatanara, F. Zahedifard, E. Gholami, R. Vahabpour, A. Rouholamini Najafabadi, S. Rafati.

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- Production of Different Transgenic *Leishmania* strains expressing GFP through homologous recombination method. A. Bolhassani, T. Taheri, S. Zamanlui, Y. Taslimi, F. Zahedifard, E. Gholami, N. Seyed, S. Rafati
- Infectivity comparison of heterozygote mutant of signal peptidase type I with wild type of *Leishmania major*. T. Taheri, A. Salmanian, E. Gholami, F. Doustdari, F. Zahedifard, S. Rafati.
- Comparing the effect of different classes of CPG-ODN on human neutrophil survival and activation. S. Safaiyan, A. Bolhassani, Y. Taslimi, S. Nylen, H. Akuffo, S. Rafati.
- Enhancement of DNA vaccine potency by fusion of HSV-1 VP22 and EGFP to *Leishmania major* amastin antigen in BALB/c mice model. F. Zahedifard, S. Rafati, A. Bolhassani, E. Gholami, N. Moradin, P. Parsi, F. Doustdari, B. Papadopoulos.
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- Enhancement of vaccine potency against HPV using N-terminal of GP96 linked to E7 antigen in combination with IP-10 and TAT-PEI as gene delivery system. E. Mohit, A. Bolhassani, F. Zahedifard, Y. Taslimi, M. Taghikhani, A. Eslamifar, K. Samimifard, S. Rafati.
- In silico prediction and in vitro evaluation of *Leishmania major* specific peptides eliciting HLA class I restricted CD8⁺ Tcell responses. N. Seyed, F. Zahedifard, E. Gholami, F. Doustdari, A. Khadem, M. Mirzaei, K. Azadmanesh, A. Eslamifar, S. Rafati.
- Recombinant *Leishmania tarentolae* expressing the A2 virulence gene as a novel candidate vaccine against visceral leishmaniasis. A. Mizbani, T. Taheri, F. Zahedifard, Y. Taslimi, H. Azizi, K. Azadmanesh, B. Papadopoulos, S. Rafati.

- Plant-Base production of chimeric EspA, intimin and Tir of *Escherichia Coli* O157:H7; An insight into its immunological evaluation in animal model. J. Amani, M. Sashourpour, SL. Moosavi, S. Rafati, A.H. Salmanian.

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- *In silico* prediction and in vitro evaluation of *Leishmania major* specific peptides eliciting HLA class I restricted CD8+ Tcell responses. N. Seyed, F. Zahedifard, E, Gholami, F. Doustdari, A. Khadem, M. Mirzaei, K. Azadmanesh, A. Eslamifar, S. Rafati.
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- Recombinant *Leishmania tarentolae* expressing the A2 virulence gene as a novel candidate vaccine against visceral leishmaniasis. A. Mizbani, T. Taheri, F. Zahedifard, Y. Taslimi, H. Azizi, K. Azadmanesh, B. Papadopoulou, S. Rafati.
- Enhancement of DNA vaccine potency by fusion of HSV-1 VP22 and EGFP to *Leishmania major* amastin antigen in BALB/c mice model. F. Zahedifard, S. Rafati, A. Bolhassani, E. Gholami, N. Moradin, P. Parsi, F. Doustdari, B. Papadopoulou.
- Enhancement of vaccine potency against HPV using N-terminal of GP96 linked to E7 antigen in combination with IP-10 and TAT-PEI as gene delivery system. E. Mohit, A. Bolhassani, F. Zahedifard, Y. Taslimi, M. Taghikhani, A. Eslamifar, K. Samimifard, S. Rafati.
- Comparing the effect of different classes of CPG-ODN on human neutrophil survival and activation. S. Safaiyan, A. Bolhassani, Y. Taslimi, S. Nysten, H. Akuffo, S. Rafati.

22- International network Institute Pasture, 2010, Hong Kong SAR, China:

Novel strategy using live NON-Pathogenic *Leishmania* expressing selected parasite Antigens As A candidate Vaccine for Leishmaniasis.
Sima Rafati, Amir Mizbani, Tahere Taheri, Farnaz Zahedifard, Yasaman Taslimi, Barbara Papadopoulou.

23- Participated at the " Neglected Protozoan Diseases" taking place at the Institute Pasture in Paris on 24/09/2010.

24- The third Iranian proteomics congress Pasteur Institute of Iran, 2010, Iran, Tehran.

25- Scientific International Meeting, Institute Pasteur , paris, 2011:

- In silico prediction and in vitro evaluation of *Leishmania major* specific peptides eliciting HLA class I restricted CD8+ Tcell responses.
N. Seyed, F. Zahedifard, E. Gholami, F. Doustdari, A. Khadem, M. Mirzaei, K. Azadmanesh, A. Eslamifar, **S. Rafati**.
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Tahereh Taheri, Ali-hatef salmanian, Elham gholami, Behroz vaziri, Fatemeh torkashvand, **Sima Rafati**.
- In vitro bactericidal activity of recombinant human α -defensin-1 against *Echerchia coli* investigation of its Leishmanicidal activity.
S.Dabirian, A bolhassani, S khatami, F zahedifard, Y taslimi, F doustdari, R mirzazadeh, **S. Rafati**.
- Linking of antigen to immunostimulatory molecule,co-administration of chemokines and non-viral gene delivery system:Different strategies to enhance DNA and protein-based vaccine potency against HPV.
E Mhit, A Bolhassani, F Zahedifard, Y taslimi, **S Rafati**.
- Generation of a live non-pathogenic *Leishmania* expressing immunodominant parasite antigens(A2-CPA-CPB-CTE) as a candidate vaccine against visceral leishmania.
N Saljoughian, F zahedifard, A bolhassani, T Taheri, Y Taslimi, S Rafati.
- Evaluation of DNA and live vaccine potency against HPV infections.
A Bolhassani, M Salehi, T Taheri, E Mohit, F Zahedifard, **S Rafati**.

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2012, Puerto Rico convention center:

- Oral: GP96, IP-10 and PE1600-TAT: combined strategy for HPV vaccine potency enhancement.
E Mohit, A Bolhassani, F Zahedifard, N Seyed, A Eslamifar, M Taghikhani, K Samimirad, **S Rafati**.
- Poster: HPV vaccine development using NT-GP96 adjuvant and PE1600-TAT delivery system.
A Bolhassani, E Mohit, F Zahedifard, **S Rafati**.

27- 12th Iranian congress of biochemistry & 4th International congress of biochemistry and molecular biology, Mashhad, Iran, 2011:

- Oral: Construction of a recombinant *Leishmania tarentolae* expressing human papillomavirus type 16 E7 gene and evaluation of its immunogenicity in C57bl/6 mice model. M Salehi, A Bolhassani, T Taheri, E Mohit, N Seyed, F Zahedifard, Y Taslimi.
- poster: E7-gp96 fusion protein vaccine enhances specific immune responses in mice model. E Mohit, A Bolhassani, F Zahedifard, M Taghikhani, A Eslamifar, K Samimirad, Y Taslimi, **S Rafati**.

28- 11th International congress of Immunology and Allergy, Tehran, Iran. April 26-29, 2012.

- Generation and using stable gfp-luc transgenic *Leishmania major* for in vitro and in vivo drug screening. Taheri T., Doustdari F., Agi E. and Rafati S.
- Recombinant *Leishmania tarentolae* expressing immunodominant parasite antigens as an effective vaccine against visceral leishmaniasis in mouse model. Saljoughian N., Zahedifard F., Taheri T., Bolhassani A. , Taslimi Y., Doustdari F. and Rafati S.
- Live recombinant *Leishmania* vector expressing HPV16E7 linked to N-terminal fragment of gp96 as a candidate vaccine against HPV. Hossinzadeh S., Bolhassani A., Taheri T., Zahedifard F., Taslimi Y., Rafati S., Agi E., Motamedirad M. and Hashemi M.
- Comparison between episomal and stable transfection of *Leishmania tarentolae* using vaccine candidate antigens. Gholami E., Taheri T., Saatchi F., Seyed N., Taslimi Y. and Rafati S.

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- In vitro evaluation of human neutrophil peptide-1'S effect in presence or absence of CPG motif on *Leishmania* infected human neutrophils.

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- Cytotoxic CD8 T cell activation upon immunization of A2/ DR1 transgenic mice with a DNA construct encoding HLA-A*0201 restricted epitopes from L.Major related proteins.
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- An overview of *Leishmania* vaccine development: A live recombinant NON-Pathogenic *Leishmania* as an effective vaccine strategy against Leishmaniasis.

Rafati, S. Saljoghian, N. Taheri, T. Zahedifard, F. Gholami, E. Taslimi, Y. Doustdari, F. Kamhawi, S. Valenzuela, J. Papadopoulou, B.

- Generation of stable L.Major GFP/LUC+ and simultaneous comparison between EGFP and Luciferase sensitivity.
Taheri, T. Rafati, s.

- 31-** Rationally designed DNA construct encoding MHC class I restricted epitopes derived from *Leishmania major* proteins successfully provokes Cytotoxic CD8 T cell responses in Balb/c mice .Negar Seyed, Tahereh Taheri, Charline Vauchy, Magalie Dosset, Pierre S. Rohrllich, Iraj Sharifi, Sima Rafati. 15th International Congress of Immunology (ICI), 22-17 Aug 2013, Milan, Italy.
- 32-** Immunogenicity Evaluation in A2/DR1 Transgenic Mice of a DNA Construct Encompassing HLA-A*0201 Restricted Epitopes Immunoinformatically Screened out from 6 Known *Leishmania major* related proteins Negar Seyed, Tahereh Taheri, Farnaz Zahedifard, Shima Safaiyan ,Elham Gholami, Fatemeh Doustdari, Maryam Mirzaei, Iraj Sharifi, Sima Rafati , First international and 8th national congress of Parasitology, 16-18 Oct 2012 ,Kerman, Iran

29- 15th International Congress of Immunology. Milan, Italy, 22-27 Aug, 2013.

Rationally designed DNA construct encoding MHC class I restricted epitopes derived from *Leishmania major* proteins successfully provokes cytotoxic CD8 T cell responses in Balb/c mice. N. Seyed, **T. Taheri**, C. Vauchy, M. Dosset, I. Sharifi, P. Rohrtich, S. Rafati.

30- 12th International Congress of Immunology and Allergy. Tehran, Iran, April 29th to May 2nd 2014.

- a- Infectivity rate comparison of *Leishmania* expressing EGFP or EGFP-LUC proteins with wild-type *in vitro* evaluation for drug potency. Sadeghi S, **Taheri T**, Seyed N, Etemadzade H, Abedian S, Rafai S. (2486P).
- b- Comparison of infectivity rate in three lines of *Leishmania major* wild type and transfected with reporter genes (EGFP and EGFP-LUC) in susceptible BALB/c mice. Seif S, **Taheri T**, Gholami E, Taslimi Y, Seyed N, Doustdari F, Jamshidi Sh, Rafati S. (2305P).
- c- In vitro evaluation of paromomycin formulated with Solid Lipid Nanoparticle on *Leishmania major* and *Leishmania tropica*. Heidarikharaji M, Doroud D, **Taheri T**, Rafati S. (2004O).
- d- Enhanced protective efficacy of nonpathogenic recombinant *Leishmania tarentolae* expressing cysteine proteinases combined with a sand fly salivary antigen Gholami E, Zahedifard F, **Taheri T**, Taslimi Y, Doustdari F, Seyed N, Torkashvand F, Meneses C, Papadopoulou B, Kamhawi S, Valenzuela J, Rafati S. (1996O).
- e- Evaluation of recombinant *L.tarentolae* harboring immunogenic protein of sandfly as an experimental vaccine in BALB/C mice against *L.major* infection. Katebi A, Gholami E, **Taheri T**, Zahedifard F, Habibzadeh S, Shokri F, Rafati S. (2003O)
- f- N-Terminal Fragment of Gp96 Enhance Cellular and Humoral Immune Responses against HCV DNA Polytope Vaccine. Pishraft Sabet L, Samimi Rad K, Kosinska A D, Rafati S, Bolhassani A, Memarnejadian A, **Taheri T**, Alavian SM and Roggendorf M. (3271P)

31- 13th European Symposium on Controlled Drug Delivery, April 16-18, Egmond aan Zee, Nederland, 2014.

In vitro evaluation of paromomycin formulated with solid lipid nanoparticle on *L. major* and *L. tropica*. Heidari Kharaji M, Doroud D., Taheri T., Raftai S.

32- 13th International Congress of Parasitology, August 10th-15th, 2014. ICOPA XIII, Mexico. Recombinant *L. tarentolae* expressing sand fly immunogenic proteins as an experimental vaccine against *L. major* infection in BALB/c mice. Rafati Sima, Katebi Asal, Gholami Elham, Taheri Tahereh, Zahedifard Farnaz, Habibzadeh Sima, Papadopoulou Barbara, Kamhawi Shaden, Valenzuela, Jesus G.

33-9th European Congress on Tropical Medicine and International Health 6-10 Sept 2015 Basel Switzerland. Arginase activity in lesions of acute and chronic cases of cutaneous leishmaniasis due to *Leishmania tropica* and *Leishmania major*" Sadeghipour P, Mortazavi H., Taslimi Y., Habibzadeh S., Zahedifard F., **Rafati S.**

Supervisor:

Ph.D.:

1- Preparation and evaluation of cocktail vaccine against leishmaniasis with DNA encoding cysteine proteinases (CPA, CPB) of *Leishmania infantum*. (Alireza Nakhaee, Tarbiat Modarres University, 2004)

2- Genetic vaccination of BALB/c mice against *Leishmania major* with cysteine proteases fused genes (*cpa/b*). (Azita Zadevakili, Pasteur Institute of Iran, 2005)

3- Cloning, expression and purification of HPV16E7 and heat shock 96 recombinant proteins for evaluation of their immunostimulatory potential in C57BL/6 mice model. (Azam Bolhasani, Tarbiat Modarres University, 2008)

4- Gene disruption of type I signal peptidase and evaluation of its role in growth, survival, infectivity and protection in *Leishmania major*. (Tahereh Taheri, National Institute of Genetic Engineering and Biotechnology, 2010)

5- Preparation and evaluation of solid lipid nanoparticle-cysteine proteinase gene vector as a *Leishmania* vaccine novel formulation. (Delaram Doroud, Tehran university, 2011)

6- Designing a *Leishmania major* protective polytope vaccine based on human HLA class I epitopes using bioinformatics and *in silico* prediction models and evaluation in HLA transgenic mice. (Negar Sayed, Pasteur Institute of Iran, 2012)

7- Preparation and evaluation of a preventive and therapeutic HPV DNA vaccine using HPV16 E7 co-linked to GP96 and the role of IP-10 as immunomodulator. (Elham Mohit, Pasteur Institute of Iran, 2012)

- 8- A live nonpathogenic *Leishmania* expressing selected immunodominant parasite antigens (A2-CPA-CPB^{-CTE}) as a candidate vaccine against visceral leishmaniasis. (Noshin Sajoghian Esfehiani, Pasteur Institute of Iran, 2013)
- 9- Experimental scale preparation of human α -defensin-1 (HNP-1) and in vitro evaluation of its anti leishmania activity in presence or absence of CpG motif on *L. major* infected human neutrophils. (Sara Dabirian, Pasteur Institute of Iran, 2013)
- 10- Design and construction of HCV multi-epitope experimental vaccine and evaluation of its immunogenicity in mouse model. (Leila Sabet, Tehran university, ongoing)
- 11- Transgenic *L.tarentolae*, Immunogenicity of live *Leishmania* encoding CPA,CPB and A2, *L.infantum* experimental challenge in dog.(Mehdi Shahbazi, Medical University Isfahan, ongoing)
- 12- In vitro evaluation of solid lipid Nanoparticle harboring paramomycin on *Leishmania major* and *L. tropica* and its treatment efficacy on *L. major* infected BALB/c mice.(Maryam Heidari, Pasteur Institute of Iran,)
- 13- Immunotherapy by alpha defensin (HNP-1) using three different methods of gene therapy, peptide therapy and transgenic *L. tarentolae* in BALB/c mice infected with *L. major* (Zahra Abdolsamadi, Pasteur Institute of Iran)
- 14- Design and construction of HCV experimental vaccine based on the non pathogenic live *Leishmania tarentolae* expressing PT-gp96 construct and evaluation of its immunogenicity in BALB/c mice. (Nastaran Ansari, Tehran University, 2015).
- 15-** Identification of immunogenic proteins of *Ph. sergenti* salivary gland and evaluation of their protective role against *Leishmania tropica* infection in BALB/c mice model. (Elham Gholami, Tehran University, 2015)
- 16-** Identification and evaluation of arginase activity in pathogenic Iranian strains of *Leishmania* (*L. major*, *L. tropica*) and non-pathogenic *Leishmania* (*L. tarentolae*): their comparison with clinical isolated samples due to cutaneous leishmaniasis. (Alireza Badirzadeh, Parasitology, Shahid Beheshti University, 2014-2015)
- 17-** Design, expression and functional assessment of an engineered Pumilio Homology Domain (PUM-HD) of human Pumilio protein for binding to 5'-NCR of hepatitis C virus (Jalal Kiani, Tehran University, 2013-2015)
- 18-** Evaluation of Pathological and Immunological Efficacy of rapamycin in treatment of *Leishmania major* and *Leishmania tropica* in BALB/c mice model (Fateme Khadir 2015-2017)

- 19-** Immunotherapy by IP-10 using two different methods of gene therapy transgenic *L. tarentolae* in BALB/c mice infected with *L. major* (Yegane 2015-2016).
- 20-** Evaluation of whole genome transcriptional profiling of skin lesion in cutaneous leishmaniasis due to *Leishmania tropica* (2017-2020)
- 21-** Stable transfection of *Leishmania tarentolae* parasite by PpSP15 and PsSP9 genes from salivary proteins of two different species of phlebotomus sand fly carrying *Leishmania* and investigation of its immunogenic and protective effects in BALB/c mouse model infected with *Leishmania major* and *Leishmania tropica* (2019-2022)
- 22-** Comparative study of exosomes from non-pathogenic *Leishmania tarentolea*-GFP with *Leishmania major*-GFP: their impact on in vitro infected (2019-2022)
- 23-** Evaluation of protective effect of DNA encoding Apyrase against *Leishmania tropica* infection in BALB/c mice model 2021-ongoing).

Advisor:
Ph.D.

- 1- Cloning of Binding Domain of Clostridium Botulinum Toxin Type A in *Escherichia Coli*. (Mahmoud Tavallaie, Pasteur Institute of Iran, 2001)
- 2- Preparation and characterization of monoclonal antibody against amastigote stage of *Leishmania major* and studying its role in immunotherapy of infected BALB/c mice. (Ali Mirjalili, Pasteur Institute of Iran, 2001)
- 3- Evaluation of expression and immunogenicity of L7/L12 and P39 genes from *Brucella abortus* BALB/c mice. (Hamid Abtahi, Tarbiat Modarres University, 2004)
- 4- Construction of a pCMV plasmid using GRA2 cDNA of *Toxoplasma gondii* and evaluation of its immunogenicity against chronic toxoplasmosis in a CBA/J mice model. (Majid Golkar, Pasteur Institute of Iran, 2004)
- 5- Designing, construction and evaluation of a polyepitope DNA construct using immunodominant HCV epitopes. (Arash-Reza Memarnejadian Dezfooli, Pasteur Institute of Iran, 2009)
- 6- Evaluation of immunostimulatory potential of HCV subdominant epitopes in polyepitope construct. (Arash Arashkia, Pasteur Institute of Iran, 2009)
- 7- Plan based production of chimeric EspA, Intimin and Tir of *Escherichia coli* O157:H7; An insight into immunological evaluation in animal model. (Jafar Amani, National Institute of Genetic Engineering and Biotechnology, 2011)

8- Transfection of chloroplast with chameric antigens (ESPA, Int:Tir) of *E.coli* and its immunological evaluation in animal model.(Farokh Karimi, National Institute of Genetic Engineering and Biotechnology,ongoing)

Supervisor:

M.Sc.:

1- Vaccination of BALB/c mice with *Leishmania major* 24 KDa amastigote-specific cysteine proteinase (Masomeh Bakhshayesh, Iran medical University, 1997)

2- Isolation, characterization and cloning of cysteine proteinase gene (cpb) of *Leishmania major* in an expression vector of *E. coli*. (Katayon Hashemi Motlagh, Azad university, 1999)

3- Immunological evaluation of cp and sw3 genes of *L. major* in BALB/c mice using DNA vaccination. (Tahereh Taheri, Azad university, 1999)

4- Cloning and expression of cysteine proteinase genes (CPA, CPB) of *Leishmania infantum* in *E. coli* and purification of recombinant proteins. (Masomeh Ghalamkar Moazzam, khatam University, Winter 2001)

5- Immunological evaluation to two recombinant proteins CPA and CPB of *L. major* in BALB/c (Shiva Seyed Eslami, khatam University, 2001)

6- Immunological evaluation of type I cysteine proteinase immunized BALB/c mice against *L. major* by deletion of CD8+ cells. (Manijeh Narimani, Khatam University, 2001)

7- Molecular analysis and serological evaluation of rCPA and rCPB of *L. infantum* in infected dogs and human. (Andisheh Ghashghaei Mansour, khatam University, 2002)

8- Vaccination against visceral leishmaniasis by cysteine proteinases of *Leishmania infantum* in BALAB/c mice model. (Farnaz zahedifard, khatam University, 2003)

9- Comparison of three vaccination strategies (DNA/DNA, protein/protein and protein/DNA) against *Leishmania major* infection using signal peptidase type I in BALB/c mice. (Fatemeh Ghaemi Manesh, khatam University, 2005)

10- Evaluation of prime-boost vaccination using CTE extension of cysteine proteinase type I (CPB) of *L. infantum* in BALB/c mice. (Mahnaz Kakeh Azari, Tehran University, 2006)

11- Evaluation of dendrosome effect on protective efficacy of DNA vaccine encoding allergen Bet V 1A in BALB/c mice model. (Nariman Aghaei Bandbon Balenga, University of Tehran, 2005)

12- Cloning and expression of GRP94 from *L. major* (LPG3) and evaluation of its antigenicity in sera of human individuals with cutaneous and visceral leishmaniasis. (Nozhat Safae, University of Tehran, 2006)

- 13- Genetic analysis of susceptibility to cutaneous leishmaniasis in the population of Meshhad in Iran. (Behnaz Bakhshandeh, University of Tehran, 2006)
- 14- Cloning and expression of some epitopes of *Leishmania major* HSP70 gene and evaluation of humoral immunity in patients with cutaneous and visceral leishmaniasis. (Seyedeh Nafiseh Hassani, Khatam University, 2006)
- 15- Immunogenic and protective effects of prime-boost vaccination of *L. major* HSP70 in BALB/c and C57BL/6 mice models. (Alham Gholami, Khatam University, 2006)
- 16- Searching for virulence factors in non-pathogenic parasite *Leishmania tarentolae*. (Kasra Hassani, University of Tehran, 2007)
- 17- Evaluation of DNA/DNA and prime-boost vaccination using LPG3 against *L. major* infection in susceptible BALB/c mice. (Narges Abdian, Khatam University, 2008)
- 18- Protective evaluation of *L. major* Amastin in susceptible BALB/c mice using DNA and Prime-boost vaccination (Parto Parsi Mood, Khatam University, 2008)
- 19- Evaluation of prime-boost vaccination using cysteine proteinase type III (CPC) of *L. infantum* in BALB/c mice. (Naghmeh Khoshgoo, Khatam University, 2008)
- 20- Effect of (Tat49-57-PEI) nanoparticle in DNA DNA vaccination using E7 of human papillomaviruse in mice C57BL/6. (Nahid Ghasemi Ahmadabadi, Tarbiat Modarres University, 2008)
- 21- Evaluation of the effect of A2-gene transfection on the infectivity of the parasite *L. tarentolae*. (Amir Mizbani, University of Tehran, 2010)
- 22- Production of transgenic *Leishmania major* expressing GFP, through integration of GFP gene into rRNA promoter of genome. (Sohila Zamanloui, Shahed University, 2011)
- 23- Episomal cloning and expression of CPA and CPB in *Leishmania tarentolae*. (Faeze Saatchi, University of Tehran, 2011)
- 24- Construction of a Recombinant *Leishmania Tarentolae* Expressing Human Papillomavirus Type 16 E7 Gene and Evaluation of its Immunogenicity in C57BL/6 Mice Model. (Maryam Salehi, Shahid Beheshti University, 2011)
- 25- Evaluation of recombinant *L. tarentolae* harboring immunogenic protein of sandfly as an experimental vaccine in BALB/C mice against *L. major* infection (Asal Katebi, Tehran University, 2013-2015).

Advisor:

M.Sc.:

- 1- Gene rearrangement studying in diagnosis and classification in lymphoma by PCR method. (Fozie Javadi, Khatam University, 2001)
- 2- Studies on the prevalence of *cagA* and *vacA* alleles of *Helicobacter pylori* strains from Iranian patient. (Mohammad Daneshmand Miandoabi, Khatam University, 2000)
- 3- Study the effect of different routes of BCG administration on vaccination and outcome of cutaneous Leishmaniasis in BALB/c mice. (Sara Soudi, Tarbiat Modarres University, 2006)
- 4- A study of anti- and pro-inflammatory responses of human colorectal cell lines to BCG and inflammatory effects of rectal BCG administration in different animal species. (Hesamoddin Movassagh, Pasteur Institute of Iran, 2007)
- 5- Cloning, exprwssion and purification of recombinant HPV16 E7-CTgp96 fusion protein for immunity evaluation of DNA vaccine in C57BL/6 tumor mice model.(Amin Daemi, Beheshti university,2012)
- 6- Stable transfection and expression of GFP gene in *Leishmania mexicana* H.line and its infectivity rate in BALB/c mice macrophages. (Piman Bemani, Medical science University of Kerman, 2012)
- 7- Comparison of three lines of *Leishmania major* (wild-type, transfected with EGFP and EGFP-LUC) in susceptible BALB/c mice. (Samira Seif, Tehran University, 2012)
- 8- In vitro evaluation of amphotericin B in mice macrophages infected with *L. major*^{EGFP-LUC}. (Somaye Sadeghi, Medical science University of Mazandaran, 2012).
- 9- Assessment of induced CD8+ T cells following Live vaccine encoding Leishmania MHC class I restricted epitopes at pre and post challenge against *L. major* in BALB/c mice model. (Tahereh Kashi 2013).
- 10- Assessment of induced CD8+ T cells following DNA vaccine encoding MHC class I restricted epitopes at pre and post challenge against *Leishmania major* in BALB/c mice model. (Mojgan Zandieh 2013).
- 11- Lyophilization of *Leishmania* parasite and in vivo and in vitro infectivity evaluation. (Parisa Khalilinia, Islamic Azad University, 2013-2015)