



Negar Seyed
Department of Immunotherapy and *Leishmania* Vaccine Research
Pasteur Institute of Iran, Tehran, Iran
Negarse@gmail.com
Tel-fax 0098 21 64112810

Education

- B.Sc. (1996-1998): Cellular and Molecular Biology, Faculty of Science, Tehran University, Tehran, Iran.
- M.Sc.(1999-2002) : Medical Immunology, Faculty of Medicine, Shahid Beheshti Medical School, Tehran, Iran.
- Ph.D. (2006-2012): Medical Biotechnology, Pasteur Institute of Iran, Tehran, Iran.

Experiences

- Research assistant of Cellular and Molecular Research Center, Faculty of medicine, Shahid Beheshti Medical School, 2002 – 2006.
- Sabbatical opportunity: Inserm, UMR 1098, September-May 2012, Besancon, France.
- Sabbatical opportunity: Pasteur Institute of Paris, Laboratory of Immunobiology of Dendritic Cells, October-December 2018, Paris, France.

Position

- Assistant professor at Pasteur Institute of Iran, Immunotherapy and *Leishmania* Vaccine Research Dept. Jan 2013 onward.

Area of Expertise

- Reverse Vaccinology and whole genome mining for new vaccine candidates,
- Peptide Vaccine Research for Leishmaniasis,
- Sub-unit vaccine development focusing on adaptive immune correlates that control early inflammatory conditions by innate immunity especially neutrophils,

Publications

1. E. Davarpanah, N. Seyed, F. Bahrami, S. Rafati, R. Safaralizadeh, T. Taheri. "***Lactococcus lactis* expressing sand fly PpSP15 salivary protein confers long-term protection against Leishmania major in BALB/c mice**". PLoS Neglected Tropical Diseases, 2020, 14 (1).
2. N. Seyed, S. Rafati. "***Resolution and pro-resolving lipid mediators in Leishmania infection***". Journal of Medical Microbiology and Infectious diseases. 2019; 7 (3):61-65.
3. N.S. Savar, F. Zahedifard, S.A. Shermeh, S. Rafati, N. Seyed. "***The Nano-plasmid vector as an alternative for the conventional pcDNA platform for vaccine design***". European Journal of Immunology, 2019, 49: 1651-1651.
4. E. Gholami, F. Oliveira, T. Taheri, N. Seyed, S. Gharibzadeh, S. Rafati. "***DNA plasmid coding for Phlebotomus sergenti salivary protein PsSP9, a member of the SP15 family of proteins, protects against Leishmania tropica***". PLoS Neglected Tropical Diseases, 2019, 13 (7), e0007585.
5. N. Seyed, N.C. Peters, S. Rafati. "***Translating Observations from Leishmanization into non-Living Vaccines: The Potential of Dendritic Cell Based Vaccination Strategies against Leishmania***". Frontiers in Immunology, 2018, 9: 1227.
6. Z. Abdossamadi, N. Seyed, F. Zahedifard, T. Taheri, S. Rafati, "***Human Neutrophil Peptide 1 as immunotherapeutic agent against Leishmania infected BALB/c mice***". PLoS Neglected Tropical Diseases, 2017, 11 (12): e0006123.
7. Z. Abdossamadi, N. Seyed, S. Rafati. "***Mammalian host defense peptides and their implication on combating Leishmania infection***". Cellular immunology, 2017, 309, 23-31.
8. N. Seyed, S. Rafati. "***Innate Immunity Plays a Key Role in Leishmania Infection: Implications for Vaccine Design***". Journal of Medical Microbiology and Infectious Diseases, 2016, 4(3 and 4): 39-44.
9. N. Seyed, T. Taheri, S. Rafati. "***Post Genomics and Vaccine Improvement for Leishmania***". Front Microbiol. 2016; 7: 467.
10. T. Taheri, N. Seyed, A. Mizbani, S. Rafati. "***Leishmania-based expression systems***". Appl Microbiol Biotechnol, 2016, 100 (17): 7377-85.
11. M. Zandieh, T. Kashi, T. Taheri, F. Zahedifard, Y. Taslimi, N. Seyed. "***Assessment of Protection Induced by DNA and Live Vaccine Encoding Leishmania MHC Class I***".

- Restricted Epitopes against L. major Challenge in Balb/c Mice Model***. Journal of Microbial and Biochemical Technology, 2015, 7: 427-438.
12. S. Sadeghi, N. Seyed, M.H. Etemadzadeh, S. Abediankenari, S. Rafati, T. Taheri. ***"In Vitro Infectivity Assessment by Drug Susceptibility Comparison of Recombinant Leishmania major Expressing Enhanced Green Fluorescent Protein or EGFP-Luciferase Fused Genes with Wild-Type Parasite"***. 2015. Korean Journal of Parasitology. 53(4): 385–394.
 13. S. Seif, F. Kazemi, E. Gholami, N. Seyed, Y. Taslimi, S. Habibzadeh, ***"EGFP reporter protein: its immunogenicity in Leishmania-infected BALB/c mice"***. Applied Microbiology and Biotechnology, 2015:1-12.
 14. T. Taheri, H.S. Nik, N. Seyed, F. Doustdari, M.H. Etemadzadeh, F. Torkashvand, S. Rafati. ***"Generation of stable L. major+ EGFP-LUC and simultaneous comparison between EGFP and luciferase sensitivity"***. Experimental parasitology, 2015, 150: 44-55.
 15. N. Seyed, T. Taheri, C. Vauchy, M. Dosset, Y. Godet, A. Eslamifar, I. Sharifi, O. Adotevi, C. Borg, P. S Rohrlich, S. Rafati. ***"Immunogenicity Evaluation of a Rationally Designed Polytope Construct Encoding HLA-A*0201 Restricted Epitopes Derived From Leishmania major Related Proteins in HLA-A2/DR1 Transgenic Mice: Steps Toward Polytope Vaccine."*** PLoS ONE, 2014, 9(10) e108848.
 16. T. Taheri, E. Gholami, F. Saatchi, N. Seyed, Y. Taslimi, S. Rafati ***"Expressional comparison between Episomal and stable transfection of a selected tri-fusion protein in Leishmania tarentolae"***. Vaccine Research, 2014, 1(1): 1-9.
 17. N. Seyed, T. Taheri, C. Vauchy, M. Dosset, I. Sharifi, P. S. Rohrlich, S. Rafati. ***"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."*** Frontiers in Immunology. Conference abstract: 15th international congress of immunology. Doi: 10.3389/conf.fimmu. 2013.02.00987
 18. N. Seyed, F. Zahedifard, Sh. Safaiyan, E. Gholami, F. Doustdari, K. Azadmanesh, M. Mirzaei, N.Saeedi Eslami, A. Khadem Sadegh, A. Eslamifar, I. Sharifi, S. Rafati. ***"In Silico Analysis of Six Known Leishmania major Antigens and In Vitro Evaluation of Specific Epitopes Eliciting HLA-A2 Restricted CD8 T Cell Response"***. PLoS Neglected Tropical Diseases. 2011. 5 (9): e1295.
 19. A. Bolhassani, E. Gholami; F. Zahedifard; N. Moradin; P. Parsi; F. Doustdari; N. Seyed; B. Papadopoulou; S. Rafati. ***"Leishmania major: Protective capacity of DNA vaccine using***

- amastin fused to HSV-1 VP22 and EGFP in BALB/c mice model*". Experimental parasitology 2011; 128(1): 9-17.
20. A. Bolhassani, T. Taheri, Y. Taslimi, S. Zamanilui, F. Zahedifard, N. Seyed, F. Torkashvand, B. Vaziri, S. Rafati. "**Fluorescent Leishmania species: development of stable GFP expression and its application for in vitro and in vivo studies**". Exp Parasitol. 2011, 127 (3): 637-644.
21. M. Salehi, A. Bolhassani, T. Taheri, E. Mohit, N. Seyed, F. Zahedifard, Y. Taslimi, M. Sattari and S. Rafati. "**Construction of a recombinant Leishmania tarentolae expressing human papillomavirus type 16 E7 gene and evaluation of its immunogenicity in C57BL/6 mice model**". Clinical Biochemistry, 2011. 44 (13): S74.
22. H. Saadat, P. Pakzad, N. Seyed. "**Assesment of Anti-Streptokinase Antibody in Patients with Heart Diseases and Normal Subjects**". Iranian Journal of Immunology, 2004, 1(1): 63-70.
23. B. Kazemi, F. Fallahian, N. Seyed "**Molecular cloning of the streptokinase mutant gene**". Pakistanian Journal of Biological Sciences, 2006, 9(3): 546-548.
24. B. Kazemi, F. Yasaei, M. Bandehpour, N. Seyed. "**Diagnosis of Trichomonas Vaginalis Infection by Urine PCR Analysis Compared to wet mount Microscopic Screening**". Journal of Medical Sciences, 2004, 4(3): 206 – 209.
25. B. Kazemi, N. Seyed, P. Shekari, M. Bandehpour, Z. Sharifnia, K. Parivar . "**Production of mutant recombinant streptokinase protein**". Archives of Clinical Infectious Diseases, 2008, 3(4): 179-183.
26. M. Bandehpour, N. Seyed, M. Shadnoush, P. Pakzad, B. Kazemi, "**Using recombinant Chlamydia Major Outer Membrane Protein (MOMP) in ELISA diagnostic Kit**" ,Iranian Journal of Biotechnology, 2006, 4(4): 239-244.
27. B. Kazemi, N. seyed, M. Bandehpour, P. pakzad, "**Cloning, Expression, and purification of Truncated Chlamydia Trachomatis Outer membrane Protein 2 (Omp2) and its application in an ELISA assay**", Iranian Journal of Immunology, 2008, 5(3): 148-155.
28. B. Kazemi, N. Seyed, E. Moslemi, M. Bandehpour, M. Bikhof Torbati, N. Saadat, A. Eidi, E. Ghayoor, F. Azizi, "**Insulin receptor gene mutations in Iranian patients with type II Diabetes Mellitus**", Iranian Biomedical Journal, 2009,13 (3): 161-168.
29. M. Bandehpour, Z. Sharifnia, N. Mohajeri, M. Taherkhani, N. Seyed, A. Koochaki, F. Yarian, R. Shirvani, P. Pakzad, H. Saadat, B. Kazemi. "**Comparative study of the reactivity of**

natural and mutated streptokinase with total anti-streptokinase Abs in human sera.
Blood Coagulation and Fibrinolysis. Blood Coagulation & Fibrinolysis: 2012, 23 (8): 734–738.

Book Chapter: T. Taheri, N. Seyed. S. Rafati. “DNA Integration in *Leishmania* Genome: An Application for Vaccine Development and Drug Screening”. Vaccine Design, Volume 1403 of the series Methods in Molecular Biology, Springer, 603-622.

Scientific Curriculum

- Attending 4th World Congress on Leishmaniasis, Worldleish4, February 3-7 2009, Lakno, India.
- Poster presentation at 14th International Congress of Immunology, August 2010, Kobe, Japan.
- Attending Scientific Meeting of the Young researchers of RIIP Paris, November 10, 2011.
- Oral presentation at 5th World Congress on Leishmaniasis, Worlleish5, May 13-17, 2013, Porto de Galinhas, Brazil.
- Oral presentation at Anual Scientific Meeting of researchers of Pasteur Institute International Network, Paris, September 10-13, 2014.
- Attending EMBO conference “Microbiology after Genomics revolution” (Genome 2014) Pasteur Institute of Paris, June 24-27, 2014.
- Attending theoretical and practical training course in “Metabolomics and it’s data analysis in Systems Biology”, Pasteur Institute of Iran, January 3-4, 2015.
- Poster presentation at Annual Scientific Meeting of researchers of RIIP Paris, October 10-13, 2015.
- Attending MOOC vaccinology course, Pasteur Institute of Paris, September 2015.
- Contributing in MATI regional meeting of “Pasteur Institute International Network”, November 7-9, 2016, Tehran, Iran.
- Attending annual Scientific Meeting of researchers of Pasteur Institute International Network, Paris, Nov 29- Dec 2, 2016.
- Attending Innate Immunity and Infectious Diseases course, Pasteur Institute of Paris, April 10-25, 2017, Paris, France.

- Poster presentation at 6th World Congress on Leishmaniasis: “CD8+ T cell contribute to protection against Cutaneous Leishmaniasis in BALB/c model: Implication for vaccine design”, Worlleish6, May 2-5, 2017, Toledo, Spain.
- Attending 14th International Congress of Immunology and Allergy, April 26-28, 2018, Tehran, Iran.
- Attending Advanced Immunology course, Pasteur Institute of Paris, November 19- December 21, 2018, Paris, France.
- Attending 17th International Congress of Immunology, October 19-23, 2019, Beijing, China.

Workshops

- Workshop holding on “Immunoinformatics and vaccine design”, 12th International Congress of Immunology and Allergy, April 29-May2, 2014. Tehran, Iran.
- Workshop holding on “Flow cytometry Basics and Applications”, Pasteur Institute of Iran, February 16-17, 2015, Tehran, Iran.
- Workshop holding on “Flow cytometry Basics and Applications”, Pasteur Institute of Iran, February 24-25, 2015, Tehran, Iran.
- Workshop holding on “Flow cytometry Basics and Applications”, Pasteur Institute of Iran, February 16-17, 2016, Tehran, Iran.
- Workshop holding on “Basics of ELISA: applications and Set up”, Pasteur Institute of Iran, February 19, 2017, Tehran, Iran
- Collaborating in the organization of the second workshop on “*Leishmania* and Leishmaniasis”, Pasteur Institute of Iran, November 9-13, 2016, Tehran, Iran.
- Workshop holding on “Biosafety and Biosecurity”, Pasteur Institute of Iran, November 31- December 1, 2019. Tehran, Iran.
- Workshop holding on “Recombinant Vaccine Design and production”, Pasteur Institute of Iran, February 2020, Tehran, Iran.

Technical expertise and computational knowledge

- Cell culture
- Flow cytometry
- Immunoassays including cytotoxicity assays, ELISpot, ICCS, CFSE, ELISA
- PCR and electrophoresis
- Gene cloning
- Western blotting
- Immunoinformatics and *in silico* peptide prediction