



**Asal Katebi, Ph.D.**

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**Date of Birth:** August 15, 1989

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**CURRENT POSITION:**

Pasteur Institute of Iran (IPI)  
Immunology Department  
69 Pasteur Ave.,  
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**RESEARCH SKILLS:**

**Molecular Immunology/Biology:**

- Fundamental techniques of bacteriology, immunology and molecular biology laboratories
- Cloning, Transfection
- DNA, RNA and Plasmid Extraction and Purification
- PCR and RT-PCR (conventional and Real-Time)
- SDS-PAGE & Western Blotting
- ELISA, Lymphocyte Proliferation Test, Cytokine Assay, Antibody Assay, MTT assay
- Laboratory mouse techniques and dissection of organs

**Nanoparticle Preparation and Characterization:**

- Synthesis of Nanoparticles by Double-Emulsion Solvent Evaporation Method

**Extracellular vesicles (Exosome) Preparation and Characterization**

**Cell Culture:**

- Parasite culture (*Leishmania* and LRV)
- Cell culture (Primary cells and cell lines (J774A.1, THP1, HL-60, HT-29, RAW264.7, and MCF-7))

**Immunofluorescence Assay:**

- Basic Flow-Cytometry & Software
- Fluorescence Microscopy

**Computer Skills:**

- Windows, Internet and MS Office
- Statistical Analyses (GraphPad Prism)

**RESEARCH EXPERIENCE:**

- Working with DNA and Live vaccines and TLRs (CpG, Pam3csk4, R848) and preparation of PLGA nanoparticle against Cutaneous Leishmaniasis in a mice model.
- Diagnosis process and evaluation of Covid-19 kits.

**PUBLICATIONS & PRESENTATIONS:****A. Peer-reviewed Publications:**

1. **A. Katebi**, E. Gholami, T. Taheri, F. Zahedifard, S. Habibzadeh, Y. Taslimi, F. Shokri, B. Papadopoulou, S. Kamhawi, J.G. Valenzuela, S. Rafati. *Leishmania tarentolae* secreting the sand fly salivary antigen PpSP15 confers protection against *Leishmania major* infection in a susceptible BALB/c mice model. *Molecular Immunology* 67 (2015) 501–511.

**PMID: 26298575**

2. **A Katebi**, S Rafati, E Gholami, T Taheri. *Leishmania tarentolae* secreting the sand fly salivary antigen PpSP15 and CpG motifs confers protection against *Leishmania major* infection in a susceptible BALB/c mice model. *EUROPEAN JOURNAL OF IMMUNOLOGY*, 2019.

3. **Asal Katebi**, Reyhaneh Varshochian, Farhad Riazi-rad, Mazdak Ganjalikhani-Hakemi, Soheila Ajdary. Combinatorial delivery of antigen and TLR agonists via PLGA nanoparticles modulates *Leishmania major*-infected-macrophages activation. *Biomedicine & Pharmacotherapy* 137 (2021) 111276.

4. Ava Behrouzi, Farhad Riazi-Rad, Hoorah Mazaheri, **Asal Katebi**, Soheila Ajdary. Impact of Gut Microbiota on immune system. *Acta Microbiologica et Immunologica Hungarica*. 10.1556/030.2021.01532.

5. **Asal Katebi**, Farhad Riazi-rad, Soheila Ajdary. Treatment of Experimental Cutaneous Leishmaniasis by the Therapeutic Vaccine SLA-R848-Pam3CSK4. *J Clin Cell Immunol*, Vol.12 Iss.5 No:1000627.

6. Ava Behrouzi\*, **Asal Katebi\***, Farhad Riazi-Rad, Hoorah Mazaheri, Soheila Ajdary. The role of microbiota and immune system crosstalk in cancer development and therapy. *Acta Microbiologica et Immunologica Hungarica*. 10.1556/030.2022.01650.

7. Ebrahim Alijani, Farhad Riazi Rad, **Asal Katebi**, Soheila Ajdary. Differential expression of miR-146 and miR-155 in active and latent tuberculosis infection (Accepted).

8. Matineh Nouri\*, **Asal Katebi\***, Ava Behrouzi, Soheila Ajdary and Farhad Riazi-Rad. Pro-inflammatory response and TLR signaling in human neutrophil and macrophage- cell lines infected with LRV+ *L. major* (Submitted).

### **B. Posters and Abstracts:**

1. **A. Katebi**, S. Rafati, E. Gholami, T. Taheri. *Leishmania tarentolae* secreting the sand fly salivary antigen PpSP15 and CpG motifs confers protection against *Leishmania major* infection in a susceptible BALB/c mice model.

17th International Congress of Immunology, 19–23 October 2019, Beijing, China. (2019)

Eur. J. Immunol. 2019. 49 (Suppl. 3): 1–222. DOI: 10.1002/eji.201970400

2. **A. Katebi**, E. Gholami, T. Taheri, S. Rafati. Recombinant live non-pathogenic *L. tarentolae*-PpSP15-EGFP stimulates protection against *Leishmania major* infection in BALB/c mice model. Poster in the IUIS-IIS-FIMSA Course “Basic and Advanced Translational Immunology”, October 12-16, 2019, Jaipur, India.

3. **A. Katebi**, E. Gholami, T. Taheri, F. Zahedifard, S. Habibzadeh, Y. Taslimi, F. Shokri, B. Papadopoulou, S. Kamhawi, J.G. Valenzuela, S. Rafati. *Leishmania tarentolae* secreting the sand fly salivary antigen PpSP15 and CpG motifs confers protection against *Leishmania major* infection in a susceptible BALB/c mice model. Oral presentation in the 10<sup>th</sup> EFIS/EJI SOUTH EAST EUROPEAN IMMUNOLOGY SCHOOL (SEEIS2018), October 19 - 21, 2018, Yerevan, Armenia.

4. **A. Katebi**, E. Gholami, T. Taheri, F. Zahedifard, S. Habibzadeh, Y. Taslimi, F. Shokri, B. Papadopoulou, S. Kamhawi, J.G. Valenzuela, S. Rafati. A live nonpathogenic *Leishmania tarentolae* vaccine containing sand fly salivary antigen PpSP15 and CpG motifs induces the generation of Th17 and Th1 cells against *Leishmania major* infection in BALB/c mice. Oral Presentation in the 13<sup>th</sup> International Congress of Immunology & Allergy, 26-29 April 2016, Tabriz, Iran.

5. **A. Katebi**, E. Gholami, T. Taheri, F. Zahedifard, S. Habibzadeh, Y. Taslimi, F. Shokri, B. Papadopoulou, S. Kamhawi, J.G. Valenzuela, S. Rafati. Evaluation of recombinant *L.tarentolae* harboring immunogenic protein of sandfly as an experimental vaccine in BALB/C mice against *L.major* infection. Oral Presentation in the 12<sup>th</sup> International Congress of Immunology & Allergy, April-May 2014, Tehran, Iran.

6. **A. Katebi**, A. Mirshafeyee. Evaluation of ASO titer in the serum of pregnant women and compared with newborns cord. Poster Presentation in the 12<sup>th</sup> International Congress of Immunology & Allergy, April-May 2014, Tehran, Iran.

7. **A. Katebi**, A. Mirshafeyee. Purification of brain antigens and its reaction with the patient sera with Alzheimer disease. Poster Presentation in the 12<sup>th</sup> International Congress of Immunology & Allergy, April-May 2014, Tehran, Iran.

**C. Contributions in Books:**

- Partial translation to Farsi of Cellular and Molecular Immunology By "Abul K.Abbas and Andrew H. Lichman". 7<sup>th</sup> edition 2012 ISBN: 978-0-8089-2425-8
- Partial translation to Farsi of Basic Immunology By "Abul K.Abbas MBBS" 2020 ISBN: 975-500-5589-51-3
- Partial translation to Farsi of Cellular and Molecular Immunology By "Abul K.Abbas, Andrew H. Lichman, and Shiv Pillai". 10<sup>th</sup> edition 2022 ISBN: 978-622-7664-56-0

**COURSES PARTICIPATED:**

- IUIS-IIS-FIMSA Course "Basic and Advanced Translational Immunology", October 12-16, 2019, Jaipur, India.
- 10th EFIS/EJI South East European Immunology School (SEEIS2018), October 19 - 21, 2018, Yerevan, Armenia.

**TEACHING EXPERIENCE:**

- 2019-Present "Practical Immunology" and "Theoretical Immunology" to students of laboratory science, Pasteur Institute of Iran (IPI).
- 2018- 2019 "Theoretical Immunology" to students of laboratory science, Tehran University of Medical Sciences, School of Allied Medical Sciences.
- 2017- 2018 "Theoretical Immunology" to students of nursing, Isfahan University of medical science, Isfahan, Iran.
- 2022 "qPCR: Assay design and application in immunological research" workshop, Pasteur Institute of Iran (IPI).
- 2022- Present "Theoretical Immunology" to students of Biotechnology, Tehran University of Medical Sciences, School of Allied Medical Sciences.

**RESEARCH PROJECTS PARTICIPATED: (March. 2018-Present):**

Immunology Department of Pasteur Institute of Iran (IPI)

Participated as investigator or co-worker or project manager

- *Leishmania tarentolae* secreting the sand fly salivary antigen PpSP15 confers protection against *Leishmania major* infection in a susceptible BALB/c mice model.

- Preparation and evaluation of the therapeutic vaccine containing *Leishmania major* antigens (SLA) with TLR2, 7/8 agonists in nanoparticle formulation for leishmaniasis control in BALB/c mice.
- Evaluation of the effect of LRV infected-*Leishmania major* on the expression of pro-inflammatory cytokines and comparison of the TLR signaling pathway in the Thp1 and HL-60 cell lines.
- Isolation and comparison of extracellular vesicles from Iran's *Leishmania major* isolates infected by Leishmania RNA virus-2 (LRV-2).
- Evaluation of immune responses in recipients of two different Covid-19 vaccines platform.
- Evaluation of immunogenicity and protection of an experimental vaccine based on Extracellular Vesicles obtained from *Leishmania major* infected with *Leishmania* RNA Virus in BALB/c mice.
- Long noncoding mRNA-based transcriptomic investigation of human inflammatory response of healthy, asymptomatic and healed patients due *Leishmania tropica* infection in an endemic area of cutaneous leishmaniasis.
- Construction and functional characterization of anti-CD19 chimeric antigen receptor expressing T cells capable of neutralizing the cytokine IL-1 $\beta$ .
- Preparation and evaluation of PLGA nanoparticles containing TLR7/8 agonist coated with M1 macrophages and Cyclic dinucleotide (CDN) agonist on selective uptake by tumor associated macrophages, and their polarization into M1 macrophages in vitro.

### Student theses (advisory)

- Evaluation of the pro-inflammatory genes expression in macrophages treated with extracellular vesicles (EVs) derived from macrophages infected with *Leishmania* virus RNA (LRV)-infected *Leishmania major* parasite.

**Scientific journal refereeing experience**

- Iranian Biomedical Journal
- Iranian journal of parasitology
- Vaccine research

**Grants**

- FIMSA Award (IUIS-IIS-FIMSA Course on “Basic and Advanced Translational Immunology” Rajasthan University of Health Sciences, Jaipur, INDIA. October 12-16, 2019.
- KAI (Korean Association of Immunologist) international meeting 2022 scholarship.

**LANGUAGES:**

Farsi (native), English (Advanced)