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PROFILE

Research scientist with 25 years of extensive experience in routine and molecular diagnostic Microbiology laboratory, quality control and **producing of TB diagnostic kits and TB vaccine**. Through and proven knowledge of techniques in microbiology, molecular **Mycobacteriology**, **TB Protein Purification** and Immunology. Effective managerial, problem-solving, planning and organizational skills combined with team effort to produce specific results. Extensive experience managing large-scale projects from the requirements gathering phase to completion.

CURRENT RESEARCH PROJECTS (2020-2025)

- Identification of secreted proteins of *Mycobacterium tuberculosis* in sputum samples from active pulmonary tuberculosis patients as a diagnostic targets
- Evaluation of immunologic character in patients with MDR-TB and healthy subjects following T-cell stimulation by proteins purified from MDR-TB clinical isolates
- Cellular Immune response in identified protein candidate MDRTB and its comparison to healed and healthy patients
- Purification of *Mycobacterium tuberculosis* membrane and secretory glycoproteins by concanavalin affinity capture and its identification by Mass spectrometry
- Evaluation of indirect agglutination test to detect Lipoarabinomannan (LAM) Antigen in rapid Diagnosis of *Mycobacterium Tuberculosis*
- Modified *M. bovis* BCG genome via induction of PE32/PPE65 protein from RD9 region of *M. marinum* strain to improvement of BCG vaccine under *in vitro* condition

CAREER HISTORY

Pasteur Institute of Iran - Tehran, Iran

Research Scientist (*TB Protein Purification Scientist*)

May 1998-present

- TB Protein Purification Process Development
- Responsibilities include TB antibody purification, chemical modification
- Analysis of diversity of proteins identified by whole proteome analysis
- Developing new reagents for TB Antibody/protein purification and Ag/Ab based assays
- Identification of *Mycobacterial* proteins of drug resistant (X/MDRT-TB) and sensitive isolates by two-dimensional electrophoresis and Mass Spectrometry
- The Cellular *Immune Response* to identified protein of *Mycobacterium tuberculosis*
- Identify MDR-TB proteins upregulated/expressed by comparative Sensitive TB proteome analysis
- Implementing bioinformatics knowledge for analysis and interpretation of proteomic and genomic sequencing data utilizing several bioinformatics database search engines
- Enthusiastic published Research Scientist with outstanding academic and practical training in TB proteome research
- In charge of the evaluation of MDR-TB from *Mycobacteria* and preparation of Ag60 from *Mycobacterium tuberculosis* and extraction of antibodies by affinity chromatography

May 1998-2008

- Supervisor of routine and molecular Tuberculosis laboratory.
- Responsible of sampling, culture, direct smear, susceptibility testing and identification of Multiple-Drug-Resistant (MDR) strains. These methods are being tested on different types of specimen including sputum, blood, urine, etc.
- Closely involved in maintaining accurate laboratory and testing records quality control and quality assurance programs.
- Responsible of statistical evaluation of various data using epidemiological and statistical software's such as SPSS and Epi Info.
- Responsible of PCR section for molecular typing of MDR isolates in TB patients, SDS-PAGE and blotting of MDR-TB from *Mycobacteria*.

Research Coordinator

May 1998-2008

- Assessment of Multiple-Drug-Resistant (MDR) TB in order to determine genomic variation of Rif (rifampin) and INH (isoniazid) by rapid chemical cleavage of mismatch (CCM) in heteroduplexes formed between DNA of MTB H37Rv and clinical strains resistant to Rif.
- Molecular epidemiology studies on MDR resistant TB strains and Gene mutation analysis was performed by PCR and DNA sequencing.
- DNA fragment amplified from normal and mutant rpoB gene for genomic variation of MDR-TB strains.

Albert Medical Laboratory - Tehran, Iran-part time

Nov.1993-Apr 2004

Albert Medical Laboratory provides a wide range of pathology, diagnostic, and blood bank services for Tehran province. It is a member of the regional laboratory network and is associated with reference laboratories.

Microbiology Technical Specialist

- Responsible of microbiology, parasitology and mycology section.
- Prepared standard artificial media and solution for microbiology division.
- Culture of clinical samples and performance of urine analysis.
- Conventional and rapid microbiological methods for identification of parasites and fungi.
- Closely involved in implementing procedures of Zinc Sulfate Flotation, Formalin-Ether-Sedimentation, Trichrome stain, modified Toluidine Blue O stain and staining thin or thick film for identification of parasitic cyst, helminthes eggs, larva and trophozoites.

Institute of Animal Science - Karaj, Iran

1995-1997

Microbiology Technical Specialist

- Manager of microbiology section.
- Evaluation of the influence of *Trichoderma viridi* on the improvement of feed efficiency (wheat straw).
- Delignification of wheat straw with white rot fungus *Phanerochaete chrysosporium*.

TECHNICAL SKILLS

Microbiology

- Cultivation and isolation of viable pathogens.
- Routine growth, passaging and cultivation of anaerobic pathogens.
- Identification of bacteria and fungi.
- Diagnostic of parasites in clinical samples.
- Preparation of culture media.
- Identification of typical and atypical Mycobacteria, according to WHO and IUATLD methods.
- Susceptibility testing of MDR-TB and XDR. XDR –TB is the abbreviation for extensively drug resistant tuberculosis.

Immunology

- ELISA
- SDS-PAGE, Western Blotting, 2DE
- Chromatography (Gel filtration ,Ion exchange, Affinity)
- Antigen and antibody extraction and purification.
- Cell Culture

Molecular Biology

- Nucleic acid extraction and purification.
- Various electrophoresis techniques.
- Northern and Southern blotting.
- PCR and RFLP.

Handling of laboratory animals

- Mice
- Rabbits

Instrumentation

- Nucleic acid extraction instruments.
- Fluorescent microscope.
- ELISA microplate reader.
- Thermo-cycler.
- Chromatography column preparation.
- 2DE instruments

Software and Data bank

- Epi Info, SPSS, MASCOT, 2D gel analysis software (Melanie, ImageMaster 2D)
- Protein Data Bank (PDB), PDBe, PDBj, MPDB
- Immune Epitope Database (IEDB)

EDUCATION

- B.Sc. in Microbiology (1992), Kerman University - Kerman, Iran.
- M.Sc. in Medical Parasitology (1998), Isfahan University - Isfahan, Iran.
- PhD in Medical Bacteriology (2016) , Pasteur Institute of Iran

CERTIFICATES and TRAININGS

- Molecular tools and Epidemiology of Tuberculosis - Pasteur Institute - Paris, **France**. Apr-**2005**
- Immunodiagnostic of Tuberculosis Antibodies - Pasteur Institute - Tanger, **Morocco**. Dec-**2004**.
- Clinical Trials of A60 Antigen - Anda Biologicals, Strasbourg, **France**. Nov-2003.
- Recombinant Technology and Gene Expression - Tarbiat Modares University, **Tehran**, Iran. Mar-**2006**.
- Microarray Data Analysis, Tehran University - **Tehran**, Iran. May-**2006**.
- Molecular Techniques in Diagnosis and Typing of Infectious Diseases. Pasteur Institute - **Tehran**, Iran. Nov **2006**.
- Lateral Flow Immuno-chromatographic Assay Development, Foundation Merieux, Lyon, **France**, from March to May **2016**
- Industrialization and production under ISO13495, Foundation Merieux, Lyon, **France**, from March **2016**
- IEDB user Workshop, NIH, **2017**, Maryland, Rockville, **USA**
- IEDB user Workshop (Virtual), NIH, **2020**, San Diego California, **USA**

- IEDB user Workshop (Virtual), NIH, **2021**, San Diego California, **USA**
- Tuberculosis fellowship, Research Center Borstel **Germany, 2023**
- Flowcytometry Course, Pasteur Institute-Cambodia **Cambodia, 2023**

MEMBERSHIP

The European Society of Mycobacteriology (**ESM**)

LANGUAGE

English

INTERNATIONAL CONGRESS

- *The third Asian African congress of Mycobacteriology (AASM).* **Jan 2021. webinar**
- *Combating Resistance, Microbes and Vectors.* **Nov 2018, Paris**
- *The second Asian African congress of Mycobacteriology (AASM).* **Feb 2017. Isfahan**
- *EMBO Conference Tuberculosis.* **Sep 2016. Paris**
- *The First Asian African congress of Mycobacteriology (AASM).* **Mar 2015. Isfahan**

PUBLICATION

- Yari S, Afrough P, Yari F, Ghazanfari Jajin M, Fateh A, **Hadizadeh Tasbiti A.** A potent subset of *Mycobacterium tuberculosis* glycoproteins as relevant candidates for vaccine and therapeutic target. **Sci Rep.** **2023** Dec 14; 13(1): 22194. doi: 10.1038/s41598-023-49665-2 PMID: 38092899.
- **Hadizadeh Tasbiti A**, Badmasti F, Siadat SD, Fateh A, Yari F, GHzanfari Jajin M, Yari S. Recognition of specific immunogenic antigens with potential diagnostic value in multi-drug resistant *Mycobacterium tuberculosis* inducing humoral immunity in MDR-TB patients. *Infect Genet Evol.* 2022 Jul 3;103:105328. doi: 10.1016/j.meegid.**2022**.105328. Epub ahead of print. PMID: 35788051.
- B,golichenari, S,yari, **AR Hadizadeh Tasbiti et al.** First conjugation directed traverse of gene cassettes harboring $\alpha 1$, 3GT from fast- growing *Mycobacterium smegmatis* mc² 155 to slow-growing pathogen *Mycobacterium tuberculosis*H37Rv, presumably opening up new scopes in tuberculosis treatment.*Enzyme and Microbial Technology.* 156, **2022**, 110003 <https://doi.org/10.1016/j.enzmictec.2022.110003>.
- **Hadizadeh Tasbiti, A.**, Yari, S., Siadat, S. D., Karimipoor, M., Badmasti, F., Masoumi, M., Abdolrahimi, F., Khanipour, S., Hassanzadeh, S. M., Ghalami Nobar, M., & Yari, F. **(2021)**. Comparing mRNA expression and protein abundance in MDR *Mycobacterium tuberculosis*: Novel protein candidates, Rv0443, Rv0379 and Rv0147 as TB potential diagnostic or therapeutic targets. *Biotechnology reports (Amsterdam, Netherlands)*, 30, e00641. <https://doi.org/10.1016/j.btre.2021.e00641>
- **Alireza Hadizadeh Tasbiti**, Shamsi Yari , Sharareh Khanipour , Farid Abdolrahimi , Morteza Masoumi , Ali Noor Nematollahi ,Nayyerh Ebrahimzadeh ,Shahin poorazar ,Morteza Ghazanfari Mehdi Davari , Fatemeh Sakhaee , and Seyed Davar Siadat. Identification of Cytoplasmic and Conserved Hypothetical *Mycobacterium tuberculosis* proteins based on Mass Spectrometry and IEDB analysis resource as potent biomarkers for therapeutic strategies or valuable new TB vaccine. *International Journal of Mycobacteriology*, **2021**, 10 (5). 48 DOI: 10.4103/2212-5531.307098

- Shamsi Yari1, **Alireza Hadizadeh Tasbiti** , Sharareh Khanipour , Farid Abdolrahimi , Morteza Masoumi , Ali Noor Nematollahi , Mehdi Davari , Fatemeh Sakhaee , Seyed Davar Siadat. Prediction of o-glycosylation pathways in Mycobacterial immunogenic proteins: a tool for drug target and antigen discovery. *International Journal of Mycobacteriology*, **2021**, 10 (5). 64 DOI: 10.4103/2212-5531.307116
- Badamchi, Ali, Fariborz Bahrami, **Alireza Hadizadeh Tasbiti**, Shamsi Yari, Morvarid Shafiei, Fereshteh Shahcheraghi, and Seyed Davar Siadat. **2020**. “Immuno-Proteomics Analysis Between OMV of Vaccine and Dominant Wild Type Strains of Bordetella Pertussis in Iran”. *Iranian Journal of Microbiology* 12 (2), 77-88. <https://doi.org/10.18502/ijm.v12i2.2610>
- Amanzadeh, Amir, Heidarnejad Fatemeh, Abdollahpour-Alitappeh M, Molla-Kazemiha V, Yari Sh, **Hadizadeh Tasbiti AR**, Habibi M, Abolhassi M, Shokrgozar M. ‘Development of High-affinity Monoclonal Antibody Using CD44 Overexpressed Cells as a Candidate for Targeted Immunotherapy and Diagnosis of Acute Myeloid Leukemia’. 1 Jan. **2018** : 7 – 15.
- Ali Nour-Neamatollahi, Seyed Davar Siadat, Shamsi Yari, **Alireza Hadizadeh Tasbiti**, Nayereh Ebrahimzadeh, Farzam Vaziri, Abolfazl Fateh, Morteza Ghazanfari, Farid Abdolrahimi, Shahin Pourazar, Ahmadreza Bahrmand, A new diagnostic tool for rapid and accurate detection of Mycobacterium tuberculosis, *Saudi Journal of Biological Sciences*, **2018**, 25 (3) 418-425 <https://doi.org/10.1016/j.sjbs.2016.01.026>.
- Cellular immune response in MDRTB patients to different protein expression of MDR and Susceptible Mycobacterium tuberculosis: Rv0147, a novel MDRTB biomarker. **Hadizadeh Tasbiti A**, Yari Sh. and et al. *Immunologic Research*. **Nov 2017**. 8971-7.
- Sharifi Yazdi MK, Khalifeh-Gholi M, Choobineh H, **Hadizadeh Tasbiti A**, Yazdi SS, et al. (**2017**) Membrane and Secretory Protein Extraction of Mycobacterium Tuberculosis and Mycobacterium Bovis Using One Dimensional Electrophoresis (SDS-PAGE). *J Clin Microbiol Biochem Technol* 3(2): 040-044.
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Maryam Sadeghi, Abolfazl Fateh & Seyed Davar Siadat (2017) A comparative study of various methods for detection of *IL28B* rs12979860 in chronic hepatitis C, Scandinavian Journal of Clinical and Laboratory Investigation, 77:4, 247-252, DOI: [10.1080/00365513.2017.1299207](https://doi.org/10.1080/00365513.2017.1299207)

- Proteomic analysis of drug-resistant *Mycobacterium tuberculosis* by one-dimensional gel electrophoresis and charge chromatography. Yari S, **Hadizadeh Tasbiti A**, Ghanei M, Shokrgozar MA, Fateh A¹, Mahdian R, Yari F Bahrmand A. *Arch Microbiol*. 2016 Jul 14. [Epub ahead of print]
- Low Level of Extensively Drug-resistant Tuberculosis Among MDR-TB Isolates and its Relationship to Risk Factors: Surveillance in Tehran-Iran, 2006-2014. **Alireza Hadizadeh Tasbiti**, Shamsi Yari, Mostafa Ghanei, Mohammad Ali Shokrgozar , Abolfazl Fateh , Ahmadrza Bahrmand. *Osong Public health Res Prespect* , 2016. [http:// dx.doi.org/10.016/j.phrp.2016.06.00](http://dx.doi.org/10.016/j.phrp.2016.06.00)
- Proteomic Analysis of Sensitive and Multi Drug Resistant *Mycobacterium tuberculosis* Strains. Shamsi Yari, **Alireza Hadizadeh Tasbiti**, Mostafa Ghanei, Mohammad Ali Shokrgozar, Behrouz Vaziri, Reza Mahdian, Fatemeh Yari, and Ahmadrza Bahrmand, *Microbiology*, 2016, Vol. 85, No. 3, pp. 350–358
- Modified TB rapid test by proteinase K for rapid diagnosis of pleural tuberculosis Yari Sh, **Hadizadeh Tasbiti A**, Ghanei M, Shokrgozar MA, Fateh A, Yari F, Bahrmand A. *APMIS* 2016; 124: 201–207.
- Rapid Diagnosis of *Mycobacterium Tuberculosis* with Electrical Impedance Spectroscopy in Suspensions Using Interdigitated Microelectrode. Pourmir A, Bahrmand A, Ettefagh S, **Hadizadeh Tasbiti AR** , Yari Sh. *Journal of Analytical Chemistry* 71(7):676-684 · July 2016. DOI: [10.1134/S1061934816050099](https://doi.org/10.1134/S1061934816050099)
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Angila Ataei-Pirkooh, Seyed H. Monavari, Comparison of Three Different Methods for Detection of IL28 rs12979860 Polymorphisms as a Predictor of Treatment Outcome in Patients with Hepatitis C Virus, *Osong Public Health and Research Perspectives*, **2016**. (2), 83-89

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- Protein profiling and analysis of drug sensitive and multidrug resistant isolates of *Mycobacterium tuberculosis* by native polyacrylamide gel electrophoresis and mass spectrometry. Sh Yari, **AR Hadizadeh Tasbiti**, M Ghanei, MA Shokrgozar, R Mahdian, A Fateh, SD Siadat, F Vaziri, Sh Niknami , A Bahrmand. **Vaccine research Volume 2, Number 4 (5-2015)** 2015, 2(4): 81-85.
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- **Nucleotide sequences** in <http://www.ncbi.nlm.nih.gov/sites/entrez> (EU884643.1, EU884634.1, EU884623.1, EU884618.1, EU884613.1, EU884607.1, EU884598.1, EU884595.1, EU884589.1, EU884585.1, EU884582.1)

References available upon request