

# Alireza Hadizadeh Tasbiti

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## PROFILE

Research scientist with 20 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.

## 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.
- Screening of medicinal plant extracts for their potential antimycobacterial properties. This project was carried out in collaboration with Mycobacteriology Department of Pasteur Institute of Iran and International Center for Chemical Sciences, Research Institute of Chemistry, University of Karachi, Pakistan.

**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 Clinical Parasitology (1998), Isfahan University - Isfahan, Iran.
- PhD in Clinical 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**

## MEMBERSHIP

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

## LANGUAGE

English

## INTERNATIONAL CONGRESS

- *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

- 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.
- 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 A<sup>1</sup>, 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 , Ahmadreza 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 Ahmadreza 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

- T cell cytokine responses in peripheral blood mononuclear cells from patients with multidrug-resistant tuberculosis following stimulation with proteins purified from *Mycobacterium tuberculosis* MDR clinical isolates. Alireza Hadizadeh Tasbiti , Shamsi Yari , Mostafa Ghanei , Seyed Davar Siadat Amir Amanzadeh , Payam Tabarsi , Keyvan Saeedfar , Ahmadreza Bahrmand. *International of Journal of Mycobacteriology*, **2016**, s132-s133.
- Proteome-scale MDR-TB-antibody responses for identification of putative biomarkers for the diagnosis of drug-resistant *Mycobacterium tuberculosis*, Shamsi Yari , Alireza Hadizadeh Tasbiti , Mostafa Ghanei , Seyed Davar Siadat , Fatemeh Yari , A. Bahrmand. *International of Journal of Mycobacteriology*, **2016**, s134-s135.
- 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.
- Differential protein expression in *Mycobacterium tuberculosis* susceptible and multidrug resistant isolates , Hadizadeh Tasbiti AR, Yari Sh1, , Ghanei M, Siadat SD, Niknami , Bahrmand A, **Vaccine research**. Volume 2-Number 5, 6-Aug, Nov **2015**
- Alireza Hadizadeh Tasbiti, Shamsi Yari, Mostafa Ghanei, Mohammad Ali Shokrgozar & Ahmadreza Bahrmand .*MDR-TB Antibody Response (Western Blot) to Fractions of Isoniazid and Rifampicin Resistant Antigens of Mycobacterium tuberculosis* .**Curr Microbiol (2015)** 71:638-642 DOI 10.1007/s00284-015-0891-x
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- Ahmad Reza Bahrmand, Leonid P. Titrov, **Hadizadeh Tasbiti .A.R.**, Shamsi Yari, and Edward A.Graviss. High level Rifampin Resistance Correlates with Multiple Mutations in the rpoB Gene of Pulmonary Tuberculosis Isolates from the Afghanistan Border of Iran. **Journal of Clinical Microbiology** **47** ( 2009) 2744-2750
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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)

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