The Pasteur Institute of Algeria

Mission

The tasks performed by the Pasteur Institute of Algeria are broken down into four main categories:

- National Reference
- Training
- Epidemiological and applied research
- Distribution of vaccines in the prevention of sanitary

The national reference

- Develop and propose draft national standards for the prevention, diagnosis and treatment of infectious, parasitic and immune diseases with professionals working in the field, the submission for approval by the supervisory authority, organize and monitor their implementation on behalf of the supervisory authority;
- Participate in the development and improvement of methods, techniques and tools for prevention, diagnosis and treatment of infectious, parasitic and immune diseases;
- Participate in the definition of national biological reference criteria, discuss with professionals working in the field, the submit for the approval of the supervisory authority, organize and monitor their implementation on behalf of the supervisory authority;
- Proceed on behalf of the supervisory authority, empowerment and control centers Laboratory diagnosis erected following reference centers of conventions established for this purpose and approved by the regulatory authority;
- Carry on behalf of the governing body, the biological control of due to or associated with infectious, parasitic and immune diseases, collect information and provide treatment and analysis on a periodic basis;
- Establish, develop and manage the culture collection, the cell bank and national serum bank under the constitution and the preservation of the national scientific heritage and make them available to professionals;

Training

- Ensure, in collaboration with institutes and universities concerned, practical training related to post-graduate education in the areas of its statutory purpose and contribute to the enrichment of university education programs and specialized training;
  - Contribute by welcoming internships in its laboratories, training, development and retraining of laboratory diagnostic laboratory staff of public institutions as part of agreed programs.

The epidemiological and applied research

- Develop scientific research programs related to prevention, diagnosis by modern techniques and treatment of infectious, parasitic and immune and implement them;
- Develop, develop and improve products and services related to the subject Institute and the corresponding methods and techniques

Distribution of vaccines as part of health prevention

- Storage, preservation and renewal of a strategic quota of vaccines to ensure health coverage of some diseases. The IPA has a monopoly on the production and marketing of human vaccines.
Service / Laboratory

Medical Bacteriology

- Study of biological properties of Brucella responsible for animal brucellosis and distribution in Algeria
- Implementation of molecular diagnostic approaches, characterization and antibiotic susceptibility of strains of genetic typing Nesseria meningitidis isolated in Algeria (project CMEP TASSILI)
- Surveillance of diphtheria (RIIPDIPHT) / ACIP Project

Parasite Biology

- Project andrs Young Researcher: Epidemiology of toxoplasmosis in eastern Algeria and prevention of congenital toxoplasmosis.
- Project andrs Young Researcher: Epidemiology of leishmaniasis in eastern Algeria
- Project PICS ecological status, demographic, genetic and health of loot (Macacasyvanus) in Algeria limiting conditions: interest in sustainable management of biodiversity

Bacteriological quality control of food and water

- The establishment of Enterobactersakazakii research technique in milk powder for infants.
- The establishment of rapid diagnosis of pathogens (Salmonella, Listeria and Campylobacter jejuni) by rapid enzyme immunoassay technique (VIDAS) for obvious reasons of introduction on the grounds
- Search Leptospira in by molecular biology techniques

Eco-epidemiology and population genetics

- Emerging Diseases in a changing European Environment
- Eco-epidemiological exploration of cutaneous leishmaniasis outbreaks Leishmania killicki Tunisia and Algeria
- The Maghreb region, an emerging area? Example of the transmission of arboviruses by Culexpipiens. (Project ACIP)
- Study of genetic exchange Involving Leishmania parasites Transmitted in the MENA Region.

Helicobacter Pylori

- ACIP 2008: Resistance to levofloxacin chloramythromycine and Helicobacter pylori strains isolated in five countries: Algeria, Cambodia, Greece, New Caledonia, Senegal

Immunology

- Immunogenetics and immunopathological aspects of celiac disease in Algeria / Project CMEP MDU 811
- Molecular and genetic basis of primitive deficits complement components
- Establishment of reference medians for the α FP, hCG, PAPP-A and serum hCG for pregnant women to the risk assessment of trisomy 21
- Study of the frequency of anti-CCP antibodies and the association of HLA class II antigens with rheumatoid arthritis
- Study of the molecular basis of primary immunodeficiency by gammaglobulinémie in a highly inbred population Maghreb / ACIP project A-07-2011
- Study of susceptibility genes for celiac disease in adults
- Study immunogenetics of musculoskeletal tuberculosis (TOA) in the Algerian population
- Food allergies in the Algiers region
Development of a basophil activation test for exploration allergies to β-lactam antibiotics.

**Tuberculosis and mycobacteria**

- Contribution of molecular biology in the epidemiology of tuberculosis
- "C" survey (FB, DY)

**Human Virology**

- Enterovirus circulation in the environment
- Determination of HBV genotypes circulating in Algeria and Morocco
- Study of emergence of influenza viruses factors in the environment
- Virological study of patients infected by HIV in Algeria (Sub typing and resistance)
- Genomic Evolution of vaccine-derived poliovirus (OPV)
- Circulation of Non Polio Enterovirus (NPEV) in the Maghreb
- Occult Hepatitis: HBV and HCV

**Department of Immunology**

Head of Service: Nabila ATTAL, Professor of Pharmacy

Organization:

- Laboratory of Neuro-Immunology and Immunochemistry / Nabila ATTAL
- Immunogenetics and Transplantation Laboratory / Habiba Amroun
- Laboratory of Autoimmunity / Salah Sofiane SALAH
- Laboratory of Cellular Immunology / Nadia Kechout
- Biochemistry Laboratory antigens and monoclonal antibodies

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Immunology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National Reference Centre HLA and Immunogenetics</td>
</tr>
<tr>
<td>center manager</td>
<td>Amroun Habiba</td>
</tr>
</tbody>
</table>

Objectives and tasks of the reference laboratory:

- Ensure the determination of antigens tissue belonging to major histocompatibility complex (HLA) in the context of organ transplantation and in the association study of these antigens with certain pathologies.
- Produce specific anti-sera and other reagents necessary to serological techniques.
- Develop, standardize and disseminate the techniques relating thereto and by any means necessary (manuals, posters, website access on...).
- Ensure control of inter-laboratory network quality.

**Department of Bacteriology**

YALA Djamel, Professor of Medicine

Organization:

- Medical bacteriology laboratory and surveillance of antibiotic resistance / Hassiba TALI-MAAMAR
- Laboratory Tuberculosis, Mycobacteria and monitoring of drug resistance / Djamel YALA
- Bacteriology Laboratory for Food, Water and Environment / Fouzya Mouffok
- Laboratory Enterobacteriaceae and other related bacteria / Mounira KAORICHI
Objectives and tasks of the Reference Laboratory:

- Identify and **characterize** the **anaerobic bacteria** transmitted by typing laboratories and produced toxins.
- Determine **antibioticsusceptibility** of anaerobic bacteria including **bacteroiaesfragilis**.
- Contribute in conjunction with the Ministry of Health, Population and Hospital Reform to the investigation of clusters of cases of pseudo-membranous colitis **Clostridiumdifficile** in communities.
- Confirm the diagnosis and **typing** of **botulinum** toxin.
- Produce and diseminate specific antisera for the characterization of toxins.
- Declare to the Ministry of Health, Population and Hospital Reform cases of **botulism**.
- Follow the evolutionary tendencies of **different types of botulism**.
  - Contribute to the detection of emergent phenomena (new modes of transmission, emergence of certain types of botulism).
  - Contribute to the monitoring of botulism in Algeria in connection with the Ministry of Health, Population and Hospital Reform.
  - Work with the relevant national bodies in the field of animal botulism (cattle, breeding birds, wild birds).
- **Collaborate** with relevant international or **Europeannetworks**.

**Virology Department**

**Organization:**

- Laboratory and the **retrovirusHIV** / Salima Bouzeghoub
- Laboratory of **influenza** and other respiratory viruses / Fawzi Derrar
- **Hepatitis** virus laboratory / Aicha BENSALEM
- **Enterovirus** Laboratory / Mohamed SEGHIER
- **Arbovirus** Laboratory and **emerging** virus / Aissam Hachid
- Laboratory **oncogenic** viruses and / Hamid MELLOULI
- Laboratory **herpes, papillomavirus** and other / Dakia MOHAMMEDI

- Laboratory for **Measles Virus, Mumps, Rubella (MMR)**

**Service Title** | **Human Virology**
---|---
Center Title | **WHO Reference Centre for the Flu**
the center manager | Fawzi Derrar
E-mail | fderrar@pasteur.dz
Objectives and tasks of the reference laboratory:

- Coordinate the activities of national influenza surveillance network;
- Identify and sub-typing of influenza strains, possibly with the use of a third party laboratory;
- Identify the strains isolated by antigenic and molecular techniques according to WHO recommendations;
- Ensure the preservation of isolated strains and sera;
- Ensuring virus through epidemiological surveillance include:
  - The study of seroprevalence of circulating viral subtypes.
  - Monitoring the ecology of influenza viruses including bird population
- Participate in the national fight against the pandemic influenza committee;

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Human Virology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>WHO National Reference Centre for surveillance and the eradication of Polio</td>
</tr>
<tr>
<td>center manager</td>
<td>Mohamed SEGHIER</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:mseghier@pasteur.dz">mseghier@pasteur.dz</a></td>
</tr>
</tbody>
</table>

Reference Laboratory objectives:

- Realize the diagnosis of any enterovirus infection for the entire country.
- Identification and typing of strains belonging to the genus enterovirus, poliovirus in particularles - use third laboratory may be necessary -.  
- Identify the wild or vaccine-derived poliovirus strains isolated antigenic and molecular techniques according to WHO recommendations.
- Ensure the preservation of isolated strains and sera.
- Ensuring viral disease surveillance:
  - As part of the polio eradication through surveillance of acute paralysiesflasques (PFA) as a WHO-accredited laboratory.
  - Seroprevalence study of enteroviruses.
  - Monitoring the movement of enteroviruses in the water environment.
- Participation in National Polio Eradication Committee.
- Strengthening the role of warning by reporting to the Ministry of Health, Population and Hospital Reform any identification of poliovirus and any unusual occurrence of enterovirus serotype, any outbreak or presence in an abnormal amount of enteroviruses in water distribution.

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Medical Bacteriology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National Reference Centre for bacteria isolated from bacterial meningitis.</td>
</tr>
<tr>
<td>center manager</td>
<td>Rahal Kheira</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:krahal@pasteur.dz">krahal@pasteur.dz</a></td>
</tr>
</tbody>
</table>
Objectives and tasks of the reference laboratory

- Contribute to the identification of the following bacteria:
  - Neisseria meningitidis
  - Haemophilus influenzae
  - Streptococcus pneumoniae
- Help identify new groups of N. meningitidis and conditions of appearance.
- Contribute to the knowledge of the epidemiology of N. meningitidis.
- Studying antibioticsusceptibility of the three germs and report any changes to their sensibilities.
- Contribute to the epidemiological surveillance of N. meningitidis at national and international level.
- Check all strains of N. meningitidis in the country.
- Alert management Prevention Ministry of Health, Population and Hospital Reform in case of epidemic risk.
- Develop appropriate microbiological techniques which are published.
- Provide training for microbiologists and technicians microbiologists on this subject.

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Mycology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>Centre National de Reference Mycology and antifungals.</td>
</tr>
<tr>
<td>center manager</td>
<td>KellouDahbia</td>
</tr>
<tr>
<td>Function</td>
<td>Pharmacist / Assistant Maitre INESSM</td>
</tr>
</tbody>
</table>

Objectives and tasks of the reference laboratory

1- For fungal infections:

- Provide expertise to medical laboratories to confirm a diagnosis by isolation and identification of fungi and a serological diagnosis of deep fungal infections.
- Having a strain collection.
- Training ground for trainees of different levels.
- Isozymetyping mushrooms.
- Epidemiological surveillance of nosocomial fungal infections by working collaborative work with hospitals.

2- For Fungal:

- Determine the sensitivity or resistance of a strain to conventional and novel antifungal optionally.
- Contribute to the epidemiological surveillance of resistance at national level.

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Eco-epidemiology and population genetics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>Leishmanias the National Reference Center</td>
</tr>
<tr>
<td>the center manager</td>
<td>HarratZoubir</td>
</tr>
</tbody>
</table>
- Provide its expertise to analytical laboratories, biology and medical research centers in the diagnosis of leishmaniasis, identification and typing of Leishmania.
- Detect emerging strains,
- Test the sensitivity of strains antimony derivatives.
- Participate in field surveys outbreak.
- Participate in applied research studies and internal and external quality control
- Collaborate with teams working on human or animal health in national and international projects

### Parasite Biology

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Parasite Biology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National Reference Centre for Toxoplasmosis</td>
</tr>
<tr>
<td>center manager</td>
<td>Fatma BACHI</td>
</tr>
</tbody>
</table>

**Objectives and tasks of the reference laboratory:**

- Confirm a maternalinfection during pregnancy and assess fetal risk by combining several effective techniques.
- Confirm congenital affect delivery and tracking of newborns achieved.
- To network clinical and biological (gynecologists - pediatricians - biologists) for better support mother and child.
- Confirm the diagnosis of toxoplasmosis reactivation in AIDS patients and eye damage.
- To assess the immune status of a donor and a recipient of a graft (bone marrow, kidney, liver, heart, etc ...)
- Isolate and typing of strains of Toxoplasma gondii Algerian.

### Medical Bacteriology

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Medical Bacteriology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National Reference Centre of antibiotic resistance mechanisms.</td>
</tr>
<tr>
<td>center manager</td>
<td>Rahal Kheira</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:khrahal@pasteur.dz">khrahal@pasteur.dz</a></td>
</tr>
</tbody>
</table>

**Objectives and tasks of the reference laboratory:**

- Contribute to the detection of new antibiotics resistance phenotypes in humans and animals.
- Contribute to the knowledge of the epidemiology of resistance mechanisms: emergence, selection, movement of resistance.
- Assessing risks of selection of bacterial resistance to antibiotics advise a use strategy.
- Study the conditions of appearance of the emergence of bacterial resistance to antibiotics.
- Contribute to the epidemiological surveillance of resistance at national and international level.
- Control antibiotic-resistant strains sent by the public and private laboratories.
<table>
<thead>
<tr>
<th>Service Title</th>
<th>Bacteriological quality control of food and water</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National Reference Centre for Listeria</td>
</tr>
</tbody>
</table>

**Objectives and tasks of the reference laboratory:**

- Ensuring diagnosis (research and biochemical identification) of listeria from suspicious local food and/or imported.
- Ensure the diagnosis of listeria from human pathological samples or animals submitted to it especially in cases of abortions or premature deliveries.
- Ensure the biochemical confirmation of Listeria strains that are addressed to him.
- Provide training missions, information and advocacy.
- Participate in all epidemiological studies submitted to it.
- Alert the Ministry of Health, Population and Hospital Reform for anything unusual.
- Studying antibiotic susceptibility of isolates.
- Type isolates whatever their origin.
- Contribute with the Ministry of Health, Population and Hospital Reform in the development of epidemiological surveillance systems.
- Contribute to different research projects related to the diagnosis of listeriosis listeria so.

<table>
<thead>
<tr>
<th>Service Title</th>
<th>Tuberculosis and mycobacteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Center Title</td>
<td>National TB Reference Centre</td>
</tr>
<tr>
<td>the center manager</td>
<td>Boulahbal Fadéla</td>
</tr>
</tbody>
</table>

**Reference Laboratory Objectives**

- Making the diagnosis of mycobacterial infection by microscopic examination and culture.
- Typing of strains of M. tuberculosis and other mycobacteria addressed by laboratories.
- To study the sensitivity of strains of M. tuberculosis to tuberculosis drugs, including those not usually used by developing kits needed for their study.
- Ensuring quality control of microscopic examinations, culture and sensitivity tests performed by microbiology laboratories.
- Provide methodological support for clinical and bacteriology by providing the necessary support for the establishment and implementation of treatment protocol.
- Provide the necessary support to health services in the development of laboratory techniques for the diagnosis of TB by microscopy and/or culture and/or the study of antibiotic susceptibility (training technicians, standard list equipment, supervision, counseling).
- Develop and evaluate new diagnostic techniques of infection and TB disease.
- Contribute to the study of mycobacterial antibiotic resistance mechanisms.
- Carry identification and molecular typing of M. tuberculosis strains under investigation or clustered cases of epidemics or applied research.
- Conducting epidemiological studies on the prevalence and incidence of primary resistance and secondary resistance to antituberculosis drugs.
- Participate with the health services concerned with North Africans or Euro surveillance systems - Mediterranean.
Establish an alert procedure for reporting to the Ministry of Health, Population and Hospital Reform, towards preventing any unusual increase grouped cases, any change in clinical forms (distribution, modification of their expression, unusual shapes), any change in resistance patterns and the occurrence of unusual strains.

Department of Veterinary Pathology and Microbiology

Head of Service  Yasmine BENALI

Organization:
- Laboratory of Veterinary Bacteriology / Assia ABOUN
- Veterinary Parasitology Laboratory
- Laboratory of Veterinary Virology / Elbia BELKAID
- Laboratory of pathological anatomy and cytology veterinary / Yasmine BENALI