



Information



the Research Institute of Tuberculosis,
Japan Anti-tuberculosis Association

WHO Collaborating Center



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Director

Since its foundation in 1939, the mission of the Research Institute of Tuberculosis, Japan Anti-Tuberculosis Association (RIT/JATA) has been to contribute to domestic and global tuberculosis control by conducting various studies in broad fields, including basic science to clinical/epidemiological studies, providing technical support for national and local governments, public health centres, and medical facilities, as well as performing activities for international cooperation and collaboration. In the fields of clinical medicine, epidemiology, and operational research, we analyse national surveillance data and conduct studies as follows: effective control measures for high-risk groups, molecular epidemiologic research, research in collaboration with medical institutions, and investigation of patient-centred support, among others. These studies are necessary for effective TB control under low-incidence situations.

In the field of basic science in which the ultimate goal is to develop innovative technology, we conduct morphological measurement studies to determine the ultrastructure of Mycobacterium, development and validation of new laboratory examinations, and molecular and genome analysis of Mycobacterium tuberculosis. We conduct human genomic analysis on host defence mechanisms of infection, development, and reactivation of the disease, analysis of immune-pathology with clinical and epidemiologic factors, and development of innovative anti-tuberculosis agents.

The outcomes of these studies are published in medical journals, presented in academic meetings, and disclosed on our website. Some are utilised as materials for discussion in meetings by the National Health Council, local governments, and health centres. The information is also distributed at training programmes in RIT, regional training programmes, and community trainings to contribute to progress in medical service and control programmes.

We established collaborations with national governments and research institutes in many countries in Asia, Africa, the Middle East, Europe, and the USA through international collaborative research and investigations, technical support, and exchanges of lecturers in meetings. The participants in the international training programme, which began in 1963, included more than 2300 individuals from 98 countries/areas and contributed to tuberculosis control programmes in the respective countries/areas and the world. We conducted international cooperation programmes funded by the Ministry of Health Welfare and Labour, Japan International Cooperation agency and Christmas Seal Campaign. RIT is designated as a WHO collaborating centre and functions as a supranational reference laboratory to provide technical support for surveys and studies worldwide.

As a global institute representing Japan, RIT will promote the health and peace of the people in Japan and worldwide by researching and controlling tuberculosis in collaboration with the Japanese government, local governments, public health centres, medical facilities, relevant organisations, and international organisations, particularly the WHO.

April 2017

- May.1939 ● Establishment of JATA by special Decree from Her Imperial Majesty the Empress, with Princess Chichibu as Patroness
- Nov.1939 ● Establishment of the Research Institute of Tuberculosis (RIT) in Hoseien
- Nov.1943 ● RIT moved to Kiyose
- Nov.1947 ● Establishment of the RIT-Attached Sanatorium (currently called Fukujuji Hospital)
- Feb.1948 ● First Training Course for TB specialists carried out
- 1953 ● First tuberculosis prevalence survey conducted
- Sep.1954 ● First publication of "Statistics of TB"
- Apr.1958 ● Separation of RIT-Attached Sanatorium (currently called Fukujuji Hospital)
- Jun.1963 ● First International Training Course in Tuberculosis Control for doctors from developing countries carried out
- Sep.1973 ● Hosting the 22nd World TB Congress in Tokyo
- Aug.1982 ● Designation of RIT as WHO Collaborating Center for Tuberculosis Research and Training
- Apr.1988 ● Establishment of Department of International Cooperation
- Apr.1992 ● Establishment of International Tuberculosis Information Center
- Feb.1995 ● First International Training Course on AIDS Prevention and Care in Asia carried out
- Mar.1999 ● Establishment of Department of Program support
- Apr.2003 ● Establishment of Department of Research, and Department of Mycobacterium Reference Center
- Sep.2008 ● Establishment of Department of Epidemiology and Clinical Research, and Department of Mycobacterium Reference and Research
- Apr.2013 ● Establishment of Department of Mycobacterium Reference and Research, Department of Pathophysiology and Host Defense, and Department of Center for International Cooperation and Global TB Information

Department of Epidemiology and Clinical Research

The Department of Epidemiology and Clinical Research conducts a wide range of epidemiological and clinical research and work related to tuberculosis (TB) control and national tuberculosis surveillance in Japan.

Our Mission

Our mission is to conduct research and works which contribute to national and global efforts in fighting TB.

Our Strategy

The Department's three areas of activity are research, development of monitoring tools, and international cooperation.

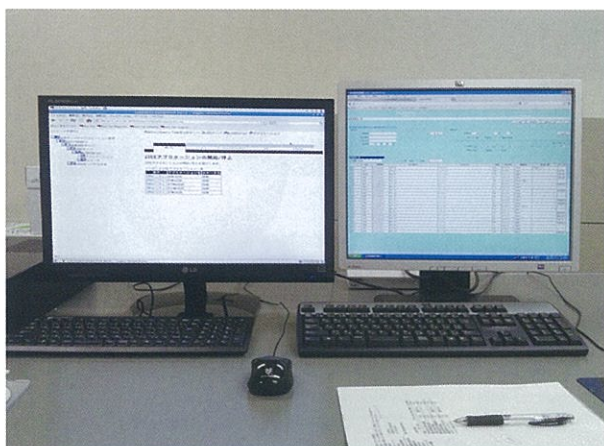
- **Research:** aside from epidemiological research, we also perform operational research, policy studies, and molecular epidemiology studies. Some of our current research topics include smoking and TB, TB among the elderly, TB among the prison population, and TB among foreign-born persons.
- **Development of monitoring tools:** we constantly develop and review various indicators to monitor TB control activities at national, prefectural, and local levels.
- **International cooperation:** some of our staff are also involved in international projects in countries such as the Philippines and Myanmar.

Organizational structure Division of Epidemiological Surveillance

The Division of Epidemiological Surveillance within the Department supports development, improvement and operation of the electronic Japan Tuberculosis Surveillance system (JTBS), by closely working with the Ministry of Health, Labor and Welfare. The Division also conducts series of analyses of the surveillance data – these are fed-back into action through publishing of monthly and annual statistical reports.

Tuberculosis Surveillance Center

The Department also runs the Tuberculosis Surveillance Center, which is responsible for disseminating our works and other related information, and also for answering enquiries regarding the JTBS and TB statistics, which we receive via phones and through our website (<http://www.jata.or.jp/rit/ekigaku/en>).



The left photo shows a system that reproduces an environment of tuberculosis surveillance data entry at health centers. It enables us to verify the system in detail and to properly and quickly handle inquiries from health centers.

Department of Mycobacterium Reference and Research

Department of Mycobacterium Reference and Research (DMRR) conducts studies of mycobacteria and mycobacteriosis. The department is composed of two divisions: Bacteriology and Molecular Epidemiology.

Bacteriological studies and reference laboratory functions

The bacteriology division conducts researches on the development of new diagnostics for mycobacteriosis represented by tuberculosis, analyses phenotypic and genotypic characteristics, and performs clinicoepidemiological investigations based on bacteriological technologies and ultra-micromorphology by electron microscopy. The bacteriology division also performs efficient mycobacterial examinations and quality assurance measures, and is assigned to the Supra-National Reference Laboratory in the Western Pacific Region of World Health Organization. The division is working on establishing an *M. tuberculosis* pathogen surveillance system and maintains a specimen banking system.

Genetic information research

The division of molecular epidemiology and genetic information develops and utilises genotyping methods. This division contributes to the development of molecular surveillance systems and can identify non-tuberculosis mycobacteria, which is increasing in Japan. This division conducts basic bacteriological studies for the prevention, diagnosis, and treatment of mycobacteriosis.

The overall objective of the DMRR is to efficiently contribute to controlling mycobacteriosis, together with other departments in RIT and in collaboration with other organisations.



Department of Pathophysiology and Host Defense

The Department of Pathophysiology and Host Defense includes the divisions of Pathophysiology, Immunology, Animal Experiment, and Senior Researcher section. In the Divisions of Pathophysiology and Immunology, we aim to analyse the infection, development, and recurrence of tuberculosis (TB) and other mycobacterial diseases at the molecular level. We also try to elucidate their pathophysiological mechanisms.

The Division of Animal Experiment supports basic research using experimental animals. The Senior Researcher section is responsible for examining novel anti-TB drugs and combinational chemotherapy and the implementation of pharmacological studies.

Collaborative research projects with developing countries

We have been conducting collaborative studies with Vietnamese institutes through the NCGM-BMH Medical Collaboration Center for more than 15 years. Our research projects include host immunogenetics; host-pathogen interactions and clinical epidemiology of mycobacterial infection, development, and recurrence of the disease. Particularly, latent TB infection and control of multi-drug resistant TB are important targets.

Research of human susceptibility genes and molecular pathogenesis of airway infectious/inflammatory diseases

We have been investigating the functional significance of airway defense genes and their polymorphisms. We have identified novel mucin genes on human chromosome 6 and studied the functional roles of genetic polymorphisms in airway epithelial cells. This will improve the understanding of the pathogenesis of airway infectious/inflammatory diseases.

Unique strategy of intracellular parasitism of *Mycobacterium tuberculosis*

Mycobacterium tuberculosis (Mtb) is an intracellular bacterium that can proliferate within phagocytosed macrophages. Mtb gains this ability by escaping the killing and digesting mechanisms of macrophages. We have examined the unique strategy of its intracellular parasitism by investigating membrane trafficking in infected macrophages.

Novel anti-TB drug development and pharmacological research of new chemotherapy regimens for TB

This project focuses on the development of novel anti-TB drug(s) and next-generation combination regimen(s) to shorten the treatment duration for TB. Recently, we have collaborated with Japanese pharmaceutical companies and TB Alliance (USA) to accelerate GHIT Fund (Global Health and Innovative Technology Fund) projects, as a collaboration partner and screening platform in Japan.



Fig. 1. Presenting the status of collaborative research on tuberculosis in front of representatives in Hanoi Lung Hospital and District TB centers.

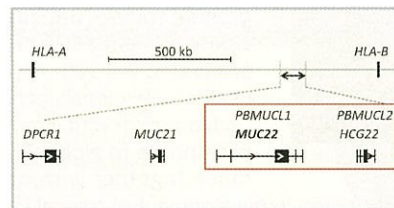


Fig. 2. Novel mucin or mucin-like genes, *PBMUCL1* (*MUC22*) and *PBMUCL2* located in the candidate region for chronic airway diseases. These genetic polymorphisms might affect human airway defense mechanisms



Fig. 3. Inside of the animal facility Biosafety Level Three (BSL3) laboratory for infection study.

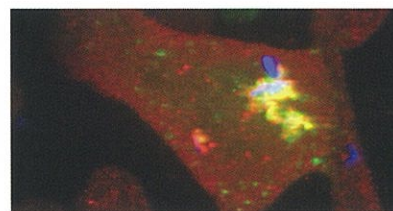


Fig. 4. Autophagosome formation around *Mtb* in macrophages. Coronin-1a is an actin-binding protein in host cells. Knockdown of Coronin-1a leads to autophagosome formation (green and red) around *Mtb* (blue) in macrophages.

Department of Program Support



The role

The role of this department is to provide technical support to the national tuberculosis programmes (NTPs) at city, prefecture, and the national levels in implementing tuberculosis (TB) programme, in terms of training public health officials, health care workers, and administrative officials, providing support for arising issues, such as TB outbreaks, and conducting operational research. To fulfill the requirement, the department has three divisions, Planning and Medical Doctor Training, Public Health Nurses Training, and Radiological Technologists.

The training activities

The RIT has been conducting training for health professionals since its establishment. Currently, we have two courses for medical doctors, one for public health and the other for clinical. For nurses, three types of courses are being held, one for basic training, another for advanced training, and two-day update training. Those courses include topics such as epidemiology of TB, current TB control policy in Japan, diagnosis and

treatment of TB, including TB bacteriology and reading chest X-ray films, contact investigation, and patient support. Radiology technologists can learn in our courses quality assurance of chest X-ray and diagnosis on TB with chest X-ray. We also hold regional TB training meetings for seven regions, and an annual national TB meeting, each for a few days, in which NTP staff at city and prefecture levels can attend and get updated.

The technical assistance activities

Our team also receive about 700 consultations from all over Japan by fax, email, and telephone, mainly from local NTP staff and provide them with support and advice. The RIT website provides information on research, educational materials, and policy documents on TB control, TB in high risk groups, contact investigation and outbreak investigations.



Centre for International Cooperation and Global Tuberculosis Information

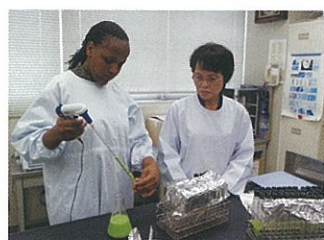
The Department of International Cooperation was established in 1998 and in 2013 was integrated with the International Tuberculosis Information Centre to establish the Centre for International Cooperation and Global Tuberculosis Information to facilitate comprehensive international cooperation activities. This Centre consists of two divisions (Human Resource Development and Project development). We support international cooperation activities mainly for tuberculosis control in developing countries in cooperation with other departments of the Institute and with the Department of International Programme of Japan Anti-Tuberculosis Association (JATA) headquarters. Our main activities include technical assistance, human resource development, and research for tuberculosis control in developing countries. We also engage in functions of the Tuberculosis information center and collaboration with other international organizations.

Technical assistance and research for improving TB control, understanding epidemiology of tuberculosis, and measuring impacts of TB control

The Centre provides technical assistance for improving TB control in developing countries by dispatching TB control experts and providing technical advice. Technical assistance covers a wide range of areas including planning TB control programs and evaluating their impacts. On the country level, we have been providing technical assistance for different types of projects, such as JICA (Japan International Cooperation Agency), JATA, and USAID supporting projects. Among our various areas of technical assistance and research activities, we currently give priority to technical assistance and research of measuring tuberculosis problems and impacts of TB control programs to contribute to establishing evidence-based TB control programs as well as assessing TB control achievements. As the Global TB Information Centre, we collect and analyze information on TB epidemiology and control programs mainly in Asian countries and publish a newsletter regularly.



chest X-ray reading in TB prevalence survey in Cambodia



laboratory practice in TB international training course

Human Resource Development

Since 1963, we have conducted international training courses for health professionals in developing countries. Currently we conduct two kinds of JICA group-training courses every year; one for TB control program managers and the other for staff of TB laboratories. Other training courses are conducted on request. We also provide training for Japanese who want to engage in international cooperation in the field of tuberculosis control. We celebrated the 50th Anniversary of international training courses in 2012. More than 2300 health professionals from 98 countries have studied at the Institute.

Collaboration with international organizations

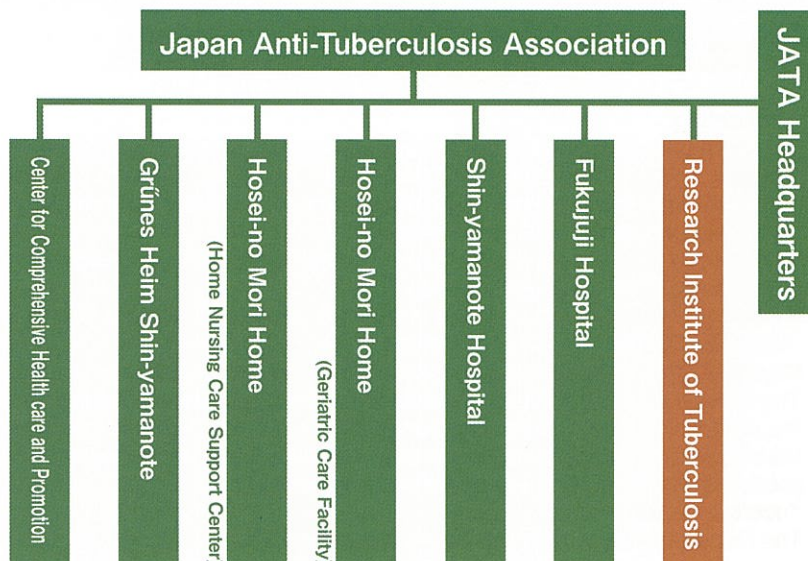
In response to global TB problems, RIT participates in global networks for technical assistance together with other international organizations such as WHO and The Union (IUATLD). We have participated in development of several international guidelines, technical assistance to other countries, and various research activities with other partners. RIT was designated a WHO Collaborating Centre for Reference, Research, and Training on Tuberculosis in 1982.

Organization



Japan Anti-Tuberculosis Association

Japan Anti-Tuberculosis Association (JATA) is a public corporation which was established in May of 1939 by the Cabinet Council, after the then Prime Minister received an official message from Her Imperial Majesty the Empress (currently H.I.M Empress Dowager). JATA had its mission to make every effort to fight against tuberculosis. JATA has been honored with the patronage of H.I.H Princess Kiko Akishino since 1994. Under her honorable guidance and support, JATA has made great efforts to eliminate tuberculosis by conducting activities such as advocacy communication, fund raising, clinical services, research, surveillance, training, and international cooperation. In recent years, JATA has been expanding its activities by conducting theoretical and clinical research on lung cancer and other respiratory diseases. RIT, as one of the facilities under JATA, conducts research, surveillance, training courses, and international cooperation in tuberculosis control.



Your donations can make a difference! The Double Barred Cross Seal

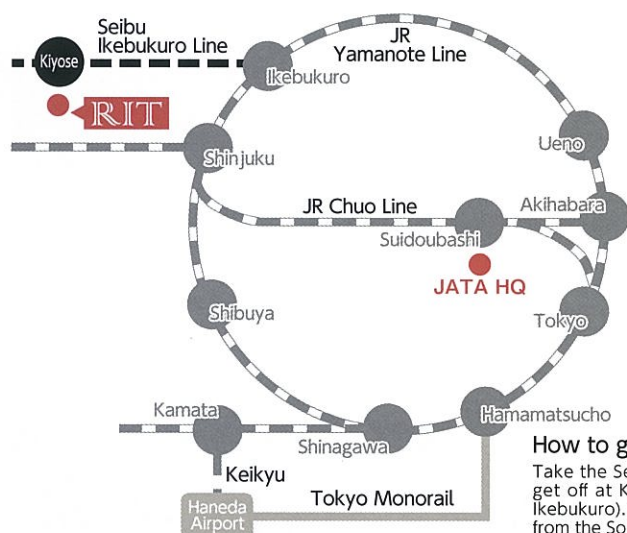


Tuberculosis is no longer "a disease of the past." The Double Barred Cross Seal that has helped raise money to eliminate tuberculosis and lung disease is given to those who make a donation to the Japan Anti-TB Association (JATA). JATA is a non-profit organization and has been given tax-exempt status. Those individuals who donate more than 500,000 yen and corporations that donate more than one million yen will be acknowledged by Princess Akishino, Patroness of JATA.

Contact us

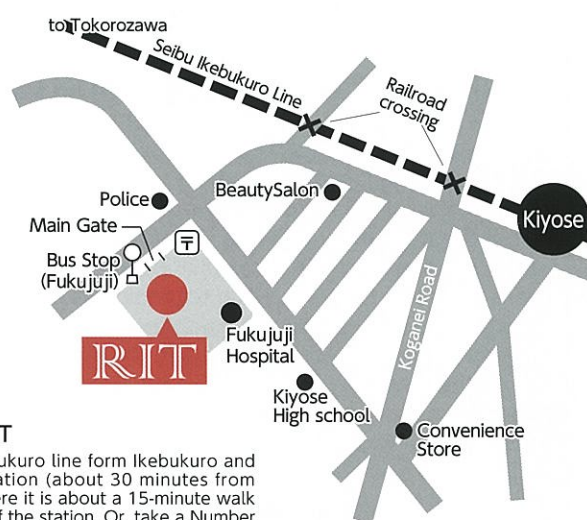
Fundraising Division
Japan Anti-TB association
Telephone: +81-3-3292-9287
<http://www.jatahq.org/headquarters/index1.html>

Map of the Research Institute of Tuberculosis (RIT)



How to get to RIT

Take the Seibu Ikebukuro line from Ikebukuro and get off at Kiyose station (about 30 minutes from Ikebukuro). From there it is about a 15-minute walk from the South exit of the station. Or, take a Number 2 bus from the same South exit and get off at the 3rd stop "Fukujiji Byouin".



RIT
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