INSTITUTE OF TROPICAL MEDICINE
NAGASAKI UNIVERSITY

SEPTEMBER 2000

MISSION STATEMENT

Institute of Tropical Medicine, Nagasaki University

The tropics, the most ecologically diverse region on the Earth, presents an ongoing complexity of tropical diseases and other health problems. In view of the remarkable advances made in the field of international exchange in recent years, it is imperative that these problems be addressed from a global perspective.

Based on this understanding, the Institute of Tropical Medicine, Nagasaki University, aims to overcome tropical diseases, particularly infectious diseases, and the various health problems associated with them, in cooperation with related institutions, to strive for excellence in the following areas :

1. Spear-head research in tropical medicine and international health
2. Global contribution through disease control and health promotion in the tropics by applying the fruits of the research
3. Cultivation of the researchers and specialists in the above fields

General view of the Institute

Preface

The Institute of Tropical Medicine, Nagasaki University, established in 1942, is a unique government-supported institution for the research on tropical medicine, both in the basic and applied fields. Its reorganization led to the first collaborative institute in medical science in Japan in 1989, and designation as one of the Centers of Excellence in 1995. Present organization of the institute is composed of 3 major research fields (11 departments, 1 domestic visiting department, 1 overseas visiting department), 2 centers, and 1 clinical unit.

In November 1996, the 14th International Congress for Tropical Medicine and Malaria was held in Nagasaki, presided by Prof. Emeritus Keizo Matsumoto, with active participation by the staffs of the institute, resulting in the globalization of the institute and its staffs. On this occasion, a memorandum of collaborative research was signed between the institute and the National Institute of Allergy and Infectious Diseases/National Institute of Health. the US.

According to the first external review in 1996, the institute worked out its Mission Statement as shown on a separate page. In 1998, the Reference Center of the institute was reorganized into Information and Reference Center for Tropical Diseases, which is responsible to provide various information on tropical medicine, in addition to its previous activities. During the Education and Culture Week in 1997, special exhibition of the Center was carried out in order to improve the understanding on the institute and tropical medicine by the societies.

Follow-up of the participants in the tropical medicine training course was carried out on its 20th Anniversary in 1997. Since a similar course operated at the Institute of Medical Science, the University of Tokyo was closed in 1999, the course in our institute became the sole training course on tropical medicine in Japan, operating with 15 participants in 2000. The number of applicant has been in excess to the number of admitted participants during the past several years. Many of them have already been to some tropical areas, and were motivated for further studies through their own experiences.

Another group training course "Research on Tropical Medicine" sponsored by JICA was significantly strengthened in 1997, by extending its period to 12 months, inviting participants nearly from 10 countries. For such activities contributing to the friendship with foreign countries, the institute was officially commended by the Minister of Foreign Affairs of Japan in July 1998. The title of the certificate endowed to the participants in the group training course was changed from previous "Certificate" to "Diploma".

In the year 2000, the exchange program under the core university system by JSPS was newly established utilizing our institute and National Institute of Hygiene and Epidemiology as the core university in Japan and Vietnam, respectively. This project has drawn much attention by the external scientists as an example of future project type research scheme in which researchers from multiple departments can participate regardless of their different speciality.

Memorandom of academic exchange program was signed between Nagasaki university and Mahidol university, Bangkok, Thailand.

In the year 1999, JICA newly established "Developmental Partner Project", and our Malaria Control Project was among subjects approved by the JICA. This would be another overseas research project of the institute. Besides, International Program of Parasitic Diseases. so-called Hashimoto Initiatives, has been participated by a number of investigators of this institute.

According to the current reformation policy of Japanese government, all national university in Japan are scheduled to be independent organizations. This future outlook should be accepted as de facto, followed by appropriate responses. The Institute of Tropical Medicine, Nagasaki University, is also not an exception, and is required to effectively concentrate its resources to appropriate subjects along the line shown in its Mission Statement, towards international contribution in the field of tropical medicine and international health.

Kind and generous support to the institute is highly appreciated.

11 August 2000
Akira Igarashi, MD, PhD
Professor and Dean
Institute of Tropical Medicine
Nagasaki University

Contents

Historical Review

The Institute of Tropical Medicine, Nagasaki University was originally founded in March 1942, as the East Asian Research Institute of Endemics, in order to perform basic and applied studies on endemic diseases in East Asia. At the beginning, most of its research activities were field studies in mainland China, performed by several department such as Pathology, Bacteriology, Internal Medicine and Dermatology of Nagasaki College of Medicine. Unfortunately, all the facilities and research materials were completely destroyed instantaneously along with the Medical School by the atomic bomb which exploded on August 9th, 1945. As a result, development of the institute and its research activities were severely inhibited.

In April 1946, the institute was named as the Research Institute of Endemics attached to Nagasaki College of Medicine, and moved to Isahaya City in May in order to resume its research activities. In accordance with the Act on the Foundation of National Schools in May 1949, the institute was renamed as the Research Institute of Endemics, Nagasaki University. Becauce of the severe flood in Isahaya City, the construction of the new building in Sakamotomachi, Nagasaki City was started in 1960, and the institute moved to new building in April, 1961. At that time, there were only two departments, Pathology and Clinics, however, since 1964, new departments were established every Year, such as Epidemiology, Parasitology, Virology and at the end of 1966, the first extension of the building was completed.

In June 1967, according to the partial alteration of the Act on the Foundation of National Schools, the name of the institute was changed to the present one, in order to perform basic as well as applied studies on tropical medicine. At the same time, the Department of Internal Medicine of the institute with 20 bed facilities was opened in the University Hospital. In 1974, Department of Bacteriology and Reference Center as an attached facility were opened. In 1978, the Department of Preventive Medicine suppoeted by visiting staff and the Training Course of Tropical Medicine were started. In 1979, Ward of Infectious animals became Animal Research Center. In March 1980, the 2nd extension of the main building was concluded. In September 1983, the Training Course in Research for Tropical Medicine by JICA was opened. In 1984,Department of Protozoology was established. In July 1985, the 3rd extension of the building was completed. In 1987, Department of Medical Entomology was established. In 1989, the institute was reorganized to a collaboration research institute. In 1991, Department of Biochemistry was added. In March 1994, the 4th extension of the building was completed, and in April, 1994, the institute was reorganized to 3 research fields, Tropical Microbiology, Pathogenesis and Clinical Sciences, and Environmental Medicine, with addition of 2 new research departments, Thermal Adaptation and Social Environment, and the institute has 12 research departments at present. In 1995, the Institute was designated as one of the "Centers of Excellence" in the forefront of scientific research. In 1996, a new research department, Molecular Epidemiology, was established under the Research Field of Microbiology to invite an overseas visiting professor. In 1997, the Reference Center was abolished and in its place the Information and Reference Center of Tropical Medicine was established, symbolizing continuous consolidation and re-organization of the Institute.

Animal Research Center

The 3rd and 4th extension building including Information and Reference Center of Tropical Medicine, The Institute of Tropical Medicine, Nagasaki University

Successive Deans of the Institute

(East Asian Research Institute of Endemics)

Susumu Tsunoo	May. 4, 1942-Aug. 22, 1945
Kohei Koyano	Dec. 22, 1945-Jan. 23, 1948
Kiyoshi Takase	Jan. 24, 1948-Aug. 31, 1948
Noboru Tokura	Sept. 1, 1948-May. 30, 1949

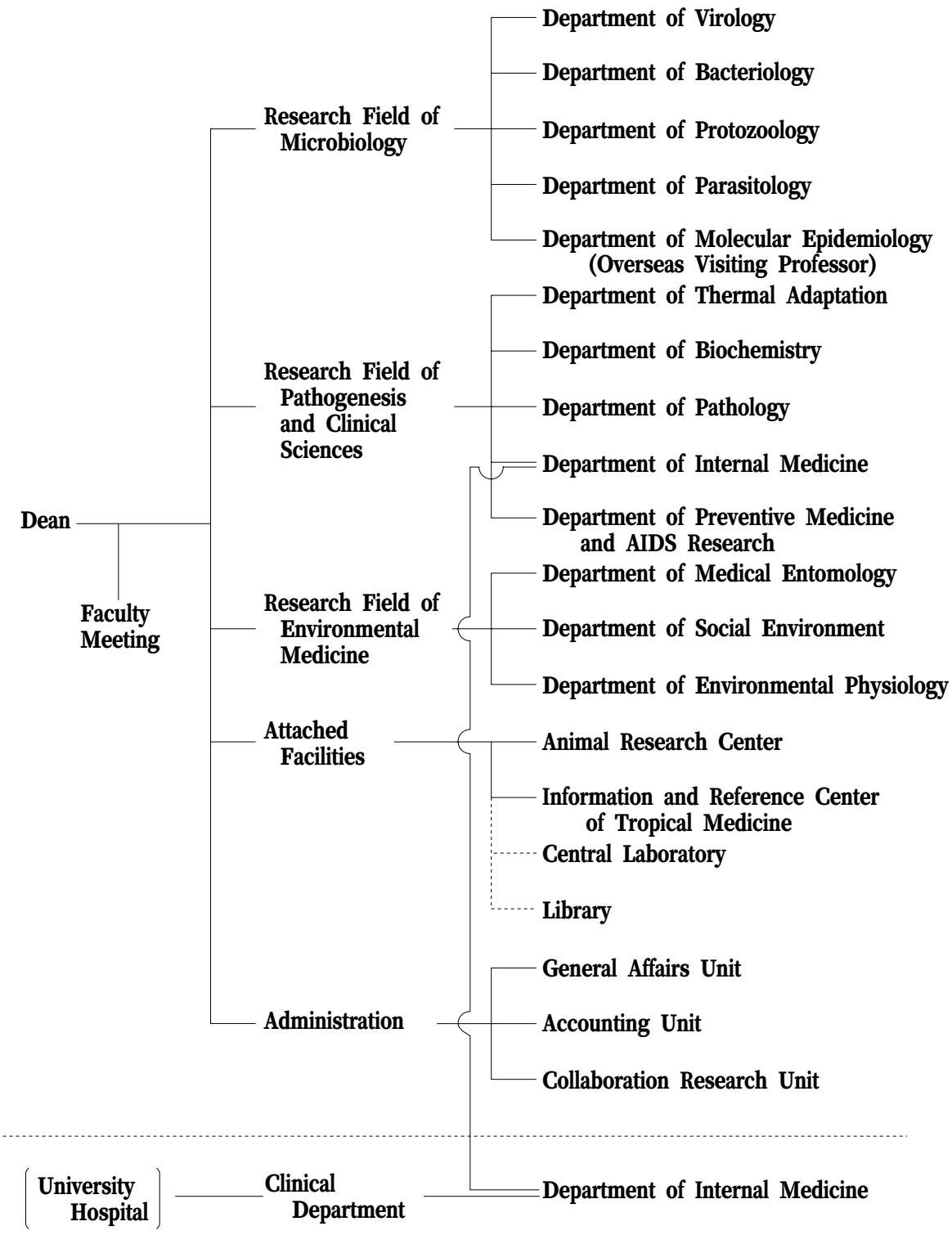
(Research Institute of Endemics)

Noboru Tokura	May. 31, 1949-Aug. 31, 1958
Nanzaburo Omori	Sept. 1, 1958-Nov. 30, 1963
Hideo Fukumi	Dec. 1, 1963-May. 31, 1967

(Institute of Tropical Medicine)

Hideo Fukumi	June. 1, 1967-Nov. 30, 1969
Daisuke Katamine	Dec. 1, 1969-Nov. 30, 1973
Kaoru Hayashi	Dec. 1, 1973-Nov. 30, 1977
Tatsuro Naito	Dec. 1, 1977-Nov. 30, 1979
Daisuke Katamine	Dec. 1, 1979-Apr. 1, 1981
Keizo Matsumoto	Apr. 2, 1981-Apr. 1, 1991
Hideo Itakura	Apr. 2, 1991-Apr. 1, 1993
Mitsuo Kosaka	Apr. 2, 1993-Apr. 1, 1997
Akira Igarashi	Apr. 2, 1997-Up to the present

Organizational Chart



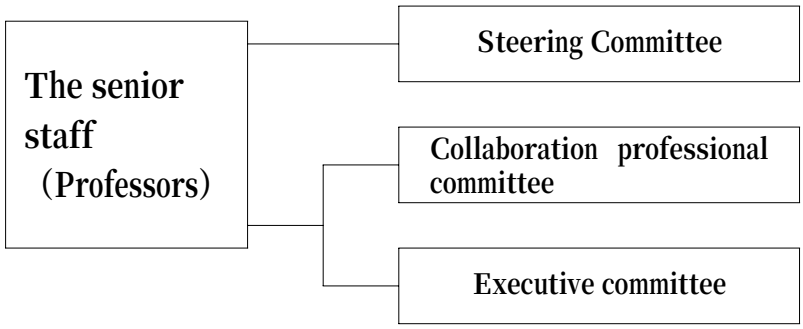
Collaboration research

The institute has conducted research in the field of tropical medicine for the past 60 years since its establishment in 1942. The institute was reorganized to make extensive collaboration with other universities and institute in the field of interdisciplinary tropical medicine with molecular biology, entomology, anthropology, social medicine, etc.

These activities of the institute are expected to contribute to remarkable progress of tropical medicine.

The senior staff composed of professors of the institute and the executive committee make plans for research work. The steering committee and the collaboration professional committee composed of experienced scientists coordinate the various collaboration researchs.

Collaboration Research Sytem



Institute of Tropical Medicine Steering Committee

The University of Tokyo	Professor Emeritus	Manabu Sassa
National Institute of Infectious Diseases	Honorary Post	Akira Oya
Nagasaki University	Professor Emeritus	Keizo Matsumoto
The Institute of Medical Science The University of Tokyo	Director	Ken-ichi Arai
Research Institute for Microbial Diseases Osaka University	Director	Yoshitake Nishimune
The International Medical Center	President	Yoshio Yazaki
National Institute of Infectious Diseases	Director	Yoshifumi Takeda
Japan International Cooporation of Welfare Services	Senior Medical Adviser	Takashi Wagatsuma
Kobe University	Professor	Shigeaki Sato
Nagasaki University		
Faculty of Economics	Professor	Keiji Ide
School of Medicine	Dean	Hiroshi Saitou
Institute of Tropical Medicine	Dean	◎Akira Igarashi
〃	Professor	Toshiya Hirayama
〃	Professor	Hiroji Kanbara
〃	Professor	Yoshiki Aoki
〃	Professor	Michio Nakamura
〃	Professor	Hideyo Itakura
〃	Professor	Tsuyoshi Nagatake
〃	Professor	Naoki Yamamoto
〃	Professor	Masahiro Takagi
〃	Professor	Tsutomu Mizota
〃	Professor	Masaki Shimada

◎：Chairman

Institute of Tropical Medicine Collaboration Professoional Committee

Gunma University	Professor	Mamoru Suzuki
Kyusyu University	Professor Emeritus	Isao Tada
Kobe University	Professor	Haku Hotta
Kumamoto University	Professor	Hiroshi Maeda
University of the Ryukyus	Professor	Shigeo Nonaka
Oita Medical College	Professor	Kumato Mifune
Miyazaki Medical College	Professor	Youichi Minamishima
University of Occupational and Environmental Health	Professor	Takekiyo Yoshimura
Osaka International University	Professor	Yuji Yamamoto
Keio University	Professor	Yoshiyasu Takefuji
Nagasaki University		
School of Medicine	Professor	Taiichirou Takemoto
〃	Professor	Shigeru Katamine
School of Pharmaceutical Sciences	Professor	Nobuyuki Kobayashi
Institute of Tropical Medicine	Professor	◎Hideyo Itakura
〃	Professor	Akira Igarashi
〃	Professor	Toshiya Hirayama
〃	Professor	Hiroji Kanbara
〃	Professor	Yoshiki Aoki
〃	Professor	Michio Nakamura
〃	Professor	Tsuyoshi Nagatake
〃	Professor	Naoki Yamamoto
〃	Professor	Masahiro Takagi
〃	Professor	Tsutomu Mizota
〃	Professor	Masaaki Shimada
〃	Assistant Professor	Nobu Oowatari

◎：Chairman

Scope of Activity

Based upon the mission statement issued in 1999, in the Institute of Tropical Medicine, basic and applied studies on tropical medicine are being undertaken. These studies aim at developing knowledge for diagnosis, treatment and prevention of tropical diseases focusing on infectious ones.

The research activities consists of three major fields ; research on pathogens such as viruses, bacteria, protozoa and helminthes, research on human pathology and research on natural and social environment. Research subjects are of wide range from the bench to the latrine, from molecular biology to field surveys at grassroot level. Collaborative studies with World Health Organization, Ministry of Foreign Affairs of Japan, Japan International Cooperation Agency, foreign universities and institutions are on going.

The achievements attained through these activities have been published in journals inside and outside Japan as well as in the "Tropical Medicine", an official journal of the institute.

Adomission ceremony in 1999

Postgraduate School

The Docter Course in the Institute belongs to the Postgraduate School of Medical Science in Nagasaki University. Students who want to study in the Course must pass the entrance examinatoin of the School and thereafter can select the special subject listed by each professor in the Institute. The number of the student in 2000 is 31 (including foreign students).

Three-month Course on Tropical Medicine and Related Studies

The course aims to provide participating persons with a better understanding of the health problems in tropics, to increase their ability to cope with them, and to give a fuller knowledge of the cultures and the life of the people in tropics.

Physicians and professionally qualified persons working in health and related fields may apply for admission to the course. Fifteen candidates are accepted to the course in a year. The course consists of 13 weeks (June-August) of instruction and examination. Teaching is undertaken by the full-time staff and guest lecturers.

The course provids lectures and laboratory and field practices in virology, bacteriology, protozoology, parasitology, medical entomology, environmental physiology, biochemistry, pathology, internal medicine, and geography and culture in tropics. Candidates who completed successfully the course are awarded the Diploma in Tropical Medicine.

Training Course in Research of Tropical Medicine

Arrangements for conducting the course in this Institute are administered by Japan International Cooperation Agency, commissioned by the Government of Japan to execute Technical Cooperation Programs from 1983.

This course is conducted by the Government of Japan as a part of its Technical Cooperation Programs for developing countries with a view of contributing to upgrading their standards in tropical medicine and to promoting friendly relations to the countries.

The purpose of this course is to help the control of endemic and epidemic diseases infesting the Torrid Zone. Through the guidance of the staff of the Institute, the participants will enrich their fundamental knowledge and practical techniques for various medical problems in the tropics.

Individual participants will study on a selected subject in the responsible department for a year. Capacity of each department is normally limited to one person.

Adomission ceremony in 1999

Public Lectures at the Institute

The Institute of Tropical Medicine has public lectures for citizens annually. The lectures address issues pertaining to travellers on tropical diseases. It is intended to prepare the public to maintain good health abroad. The other aim is to open our intellect and knowledge to the public.

Publications

Tropical Medicine

This is the quarterly journal that publishes the original articles from this institute. The journal was first published in March, 1959 as " Endemic Diseases Bulletin of Nagasaki University ". In 1967, the name was changed to " Tropical Medicine ".

Institute of Tropical Medicine, Nagasaki University

The first English guide for foreign visitors was printed in 1971. The revised adition is published every year.

Department of Virology

This Department has been conducting basic and applied research on mosquito-borne flaviviral diseases such as Japanese encephalitis (JE), dengue fever (DF) /dengue hemorrhagic fever (DHF), as well as hepatitis C.

Outbreak investigations on mosquito-borne flaviviral diseases

Requested by Japan International Cooperation Agency (JICA), outbreak investigation was conducted on the acute encephalitis which was caused by Nipah virus in Malaysia from September 1998 to March 1999. Another investigation was carried out, requested by the Ministry of Health and Welfare, on the West Nile virus encephalitis occurred in New York during the summer in 1999.

Analysis on the structure and function of JE and dengue viral genome

Nucleotide sequence analysis and molecular expression of JE and dengue viral genome have been carried out together with long PCR techniques in order to study molecular epidemiology, epitope analysis, biological activity of nonstructural proteins, and virulent viral gene responsible for viral pathogenesis.

Development of rapid diagnosis on flaviviral diseases

Viral genome detection and identification by PCR, preparation of diagnostic antigen
from infected cell culture fluid, and simplification of IgM antibody detection have been carried out.

Activities as a WHO Collaborating Centre

By the letter from Dr. San Tae Han, fromer Director of WHO Regional Office for the Western Pacific (WPRO) dated 23 November 1993, the Department of Virology, Institute of Tropical Medicine, Nagasaki University was designated as WHO Collaborating Centre for Reference and Research on Tropical Viral Diseases. On 9 August 1994, Inauguration Ceremony was held at Pompe Hall by the presence of Dr. Han and approximately 120 guests, which was followed by the WHO Workshop" Epidemiology and Control on DF/DHF and JE ". The Department has received WHO fellows from Vietnam. Fiji, and the Philippines, dispatching WHO short-term consultants on the subjects relevant to its terms of reference. Dr.Kouich Morita was appointed as the Regional Advisor on Infectious Diseases, WHO-WPRO, from 16 May 1995 to 15 May 1998. According to the letter from Dr. Shigeru Omi, present Director of WHO-WPRO, the designation of Virology Department as the WHO Collaborating Centre was extended to 23 September 2003.

Professor	Akira Igarashi
Assistant professor	Kouichi Morita
Research Associate	Futoshi Hasebe
Postdoctoral Fellow (COE)	Maria del Carmen Parquet
Senior Research Assistant	Toshiko Ueno
Senior Research Assistant	Mutsumi Nagata
Technician	Kazumi Jodai
Postgraduate student	Afjal Hossain Khan
Postgraduate student	Shu Ko-ha
Postgraduate student	Edward Gitau Mathenge
Rompaku Fellow	Paresh Sumatilal Shah

Laboratory of recombinant DNA experiments
(P 2 -level)

WHO Workshop

Department of Bacteriology

Our major research interest is to elucidate the etiologic agents isolated from pathogenic bacteria related to the worldwide emerging and re-emerging diseases.

Studies on the cellular and molecular mechanisms of diarrhea induced by bacterial enterotoxins :

Aeromonas sobria hemolysin is important in the pathogenesis of diarrhea caused by this enteropathogenic bacterium. By immunoprecipitation analysis using hemolysin and anti-hemolysin antibody, a 66-kDa protein (p66) was identified as a receptor for *A. sobria* hemolysin on Intestine 407 cells. The p66 was found to be a glycosylphosphatidylinositol-anchored glycoprotein expressed on the surface of Intestine 407 cells. (Ref. Microb. Pathog. (1999) 27 : 215)

Focusing on the molecular mechanisms of the diarrhea induced by heat-stable enterotoxins (STd) of enteropathogenic bacteria, we are also studying 1) interaction of *Escherichia coli* heat-stable enterotoxin with its receptor and 2) activation of guanylate cyclase (GC-C) by STa.(Ref. Eur. J. Biochem. (1999) 263 : 338)

Studies on the pathogenesis of *Helicobacter pylori* :

To investigate a potential mechanism of how H. pylori establishes infection, we investigates the host-parasite relationships of *H. pylori*, focusing on vacuolating cytotoxin A (VacA) and Cag pathogenicity island (Cag PAI).

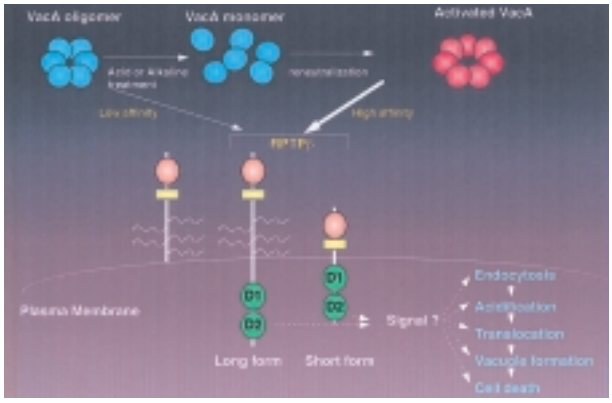
1) VacA exposed to alkaline or acid conditions, with subsequent neutralization, exhibits enhanced vacuolating activity ; the acid or alkali-activated VacA appears to bind a cell surface receptor protein of ~250kDa. N-terminal and internal amino acid sequence is consistent with the hypothesis that p250 is RPTPβ. Phorbolmyristate (PMA, TPA) induces differentiation of the human leukemic cell line HL-60 into cells with macrophage-like characteristics and enhances the susceptibility of HL-60 cells to VacA. PMA induced expression of RPTPβmRNA and protein as determined by RT-PCR and indirect immunofluorescence studies. Vitamin D 3 and IFN-γ, which stimulate defferentiation of HL-60 cells into a monocyte-like cells, also induced VacA sensitivity and expression of RPTPβ mRNA, whereas 1.2% DMSO and retinoic acid, which stimulated the maturation of HL-60 into granulocyte-like cells did not. RPTPβ anti-sense oligonucleotide inhibited induction of VacA sensitivity and expression of RPTPβ. Double immunostaining studies also indicated that newly expressed RPTPβ colocalized with VacA in PMA-treated HL-60 cells. BKN-21 cells transfected with the RPTPβ cDNA acquired VacA sensitivity. All data are consistent with the conclusion that acquisition of VacA sensitivity by PMA-treated HL-60 cells results from induction of RPTPβ, a protein that function as the VacA receptor. (Ref. J. Biol. Chem. (1999) 274 : 36693, J. Biol.Chem. (2000) 275 : 15200)

2) Human β-defensin-2 (hBD-2) is an antimicrobial peptide which belongs to one of the most important host defence system against bacterial infection in several epithelial tissues. We studied the effect of *H. pylori* on the expression of hBD-2 mRNA in MKE45 gastric mucosal cells. *H. pylori*, but not culture filtrate, increased hBD-2 mRNAlevel in MKN45 cells, whereas thus inductive effect of *H. pylori* was not detected when Intestine407 cells were incubated with *H. pylori*. Among the tested strains of *H. pylori*, which lacks Cag PAI, did not induce hBD-2 mRNA in MKN45 cells. These results suggested that cag PAI of *H. pylori* is important for inductive expression of hBD-2 mRNA in MKN45 cells. Exposure of MKN45 cells to *Salmonella* typhimurium, *S. enteritidis*, *S. typhi*, and *S. dublin*, but not *Escherichia coli* ML35, resulted in remarkable induction of hBD-2 mRNA.(Ref. Biochem. Biophys. Res. Commun.(1999)283:770, Infect.Immun. (2000)68:1806)

Studies on the development of cholera vaccine.

The overexpression of fimbriae of *Vibrio cholerae* O1 is uuder study for use in cholera vaccine trial. (Ref. Microbiol. Immunol.(2000) 44:439)

Professor	Toshiya Hirayama
Assistant professor	Yoshio Ichinose
Research Associate	Masahiko Ehara
Research Associate	Akihiro Wada
Technologist	Mamoru Iwami
Technician	Kayo Honda
Postgraduate Student	Takahiro Kimura
Research Associate	Akitoyo Ichinose



Cytotoxicity of VacA toxin through its binding to receptor-protein tyrosine phosphataseβ

Laboratory

Department of Protozoology

Our main purpose is to clarify infection mechanisms of intracellular protozoan parasites.

Study of malaria parasites

1) Specific immune reaction in malaria.
2) Surviving strategies of *Plamodium falciparum* in mammalian hosts.
3) Epidemiology of human malaria.

Study of trypanosomes

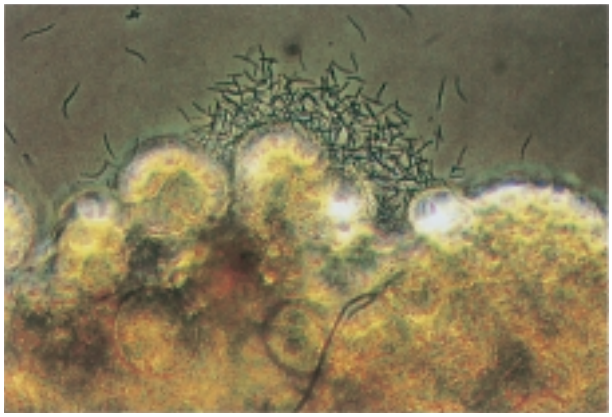
1) Functions and expression mechanism of trans-sialidase.
2) Adaptation mechanisms of *Trypanosoma* species to environments.
3) Modification of infected host-cells by *Trypanosoma cruzi*.
4) Simple diagnostic methods for Chagas' disease in endemic fields.

Other studies

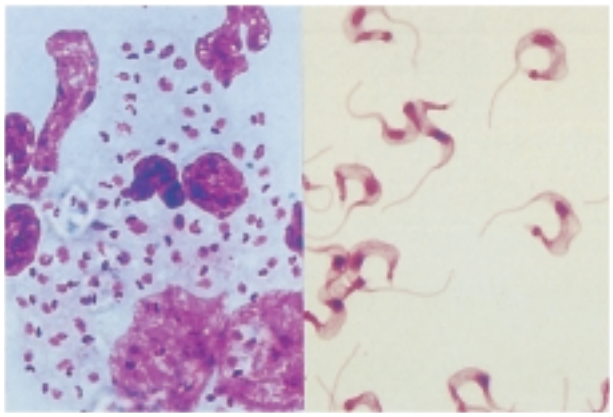
1) Molecular epidemiology of pathogenic strains of *Entamoeba histolytica* in the Philippines.
2) Epidemiology of cryptosporidiosis

Professor	Hiroji Kanbara
Assistant Professor	Haruki Uemura
Research Associate	Tetsuo Yanagi
Research Associate	Shusuke Nakazawa
Technician	Miki Kinoshita
Technician	Kurenai Matsuo
Postgraduate Student	Mie Kato
Postgraduate Student	Katsunori Shinohara
Postgraduate Student	Ton That Ai Long
Postgraduate Student	Chaturong Putaporntip
Postgraduate Student	Mohammed Nasir Shuaibu
Postgraduate Student	Maria Cecilia Huaman
Postgraduate Student	Toshio Miyazaki

Laboratory for culture



Plasmodia sporozoites from ruptured oocysts in Anopheline mosquito



Amastigotes (left) and trypomastigotes (right) of *Trypanosoma cruzi*

Department of Parasitology

The research activities are concentrated on filariasis and schistosomiasis which constitute the major public health problems in the tropics.

Filariasis

Brugia malayi (Cheju strain, periodic form), *B. pahangi* and the vector mosquito, *Aedes aegypti* (Liverpool strain) have been maintained in the laboratory for many years. Highlights of recent studies are as follows.

1) Mode of action of diethylcarbamazine (DEC) :

Recently we reported that DEC is a competitive inhibitor of acetylcholinesterase of filarial worms, DEC inhibits cell proliferation, disrupts the microtubules of LLC-MK2 cells, inhibits polymerization of microtubules and disrupts the pre-formed microtubles in vitro.

2) Development of a simple and sensitive method for determination of serum concentration of ivermectin (IVM) and DEC :

IVM and DEC modified partially in their chemical structure successfully produced the antibody against drugs. Therefore the serum concentration (5 ng/ml) of IVM and DEC can be determined by EIA.

3) Combination of DEC and IVM for the treatment of filariasis :

Several lines of evidence indicate that DEC and IVM interact additively or synergistically against microfilariae and adult worms of *B. pahangi* in vivo and in vitro.

4) Screening of antifilarial drugs from medical plants :

Vernonia amygdalina from Africa, *Neurolaena lobata* from Guatemala and *Cardiospermun* halicacabum from Thailand were effective in vitro on *B. pahangi* adult worms and microfilariae.

5) Epidemiology and control of bancroftian filariasis :

A research project was carried in Kwale, Kenya, in cooperation with Kenya Medical Research Institute (KEMRI) during the period of 1990 and 1996. Transmission potential and morbidity were studied. Mass-chemotherapy with combination of DEC and $NaHCO_3$ was evaluated.

Schistosimoasis

Schistosoma mansoni (Puerto Rican strain and Kenyan strain), *S. haematobium* (Kenyan strain) and some strain of vector snails have been maintained in the laboratory. Highlights of recent studies are as follows.

1) Swimming behavior of miracidia :

cAMP is involved in the control of ciliary beating and chemotaxis of miracidia.

2) Mechanisms of penetration of cercariae into skin :

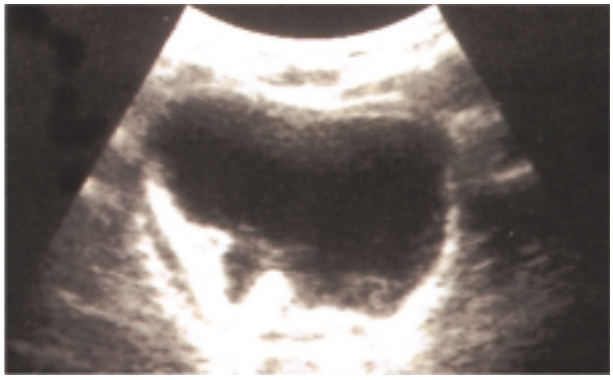
The studies suggest the involvement of protein kinase C in proteolytic enzyme release from cercariae.

3) Epidemiology and control of *S. haematobium* infection :

Since 1981, the research project on Schistosomiasis haematobia was carried out in Kwale, Kenya, in cooperation with KEMRI for 15 years. The highlights of our studies are human water contact study, cercarial concentration in natural water, ecology of *Bulinus globosus*, usefulness of urinary reagent strips, new immunodiagnostic test (urine ELISA, modified COPT), effect of piped water supply, KAP study (knowledge, attitute and practices), health education, morbidity studies using ultrasound and environmental modification for snail control.

Recently high prevalence of bladder cancer and liver fibrosis is reported in the community.

Professor	Yoshiki Aoki
Assistant Professor	Yasunori Fujimaki
Research Associate	Kanji Watanabe
Technologist	Mitsumasa Miura
Technician	Nami Fujii
Postgraduate Student	Tomoharu Ohki
Postgraduate Student	Hidehiko Yamauchi
Postgraduate Student	Hiroshi Matsuyama
Postgraduate Student	Gunawardena Nipul Kithsiri
Postgraduate Student	Teruyo Kusaba



Ultrasonography of the bladder of the patient infected with *S. haematobium*

Medical plant used by traditional healer in Kenya

Department of Thermal Adaptation

Study on the adaptation mechanisms to the hot tropical environment in human beings and animals and its application of tropical medicine are the aims in the Department, which was newly established in 1994. In collaboration with the Department of Environmental Physiology, the following researches are on going.

Study on long-term heat acclimatization in tropical inhabitants

Core temperature, skin temperatures, local sweat rates, and metabolic rate during heat load or exercise and Ach sensitivity of the sweat gland are compared between Japanese and tropical inhabitants (Thai and Africans). It has been revealed that in a hot environment, tropical inhabitants can efficiently regulate their body temperature with less amount of sweat compared to Japanese, because of their excellent dry heat loss ability (conduction, convection and radiation) and suppression of ineffective sweating which drips off the skin. Suppressed sweating in tropical residents is attributed to adaptation in both central (upward shift of threshold core temperature for sweating and suppression of the gain) and peripheral (suppression of Ach sensitivity of the sweat gland) sudomotor mechanisms. This stucy is carried out in collaboration with the Department of Physiology, Chiang Mai University, Thailand.

Study on cross-adaptation of physical training to heat

After a short-term physical training, heat tolerance is enhanced by the activated sweat response. On the other hand, the athletes who trained for a long time are tolerant to heat, as their sweat response is suppressed. The roles of central and peripheral mechanisms are being investigated.

Study on cellular and molecular heat-tolerance in temperature sensitive mutant cells

The temperature-sensitive mutant from mouse breast cancer cells, tsFT101, is multinuclei when cultured at 39°C. The induction of thermotolerance and also the induction of heat shock proteins due to pre-heating at 45°C for 30 min are very little in tsFT 101 cells cultured at 39°C.The mechanisms of thermotolerance in cellular and molecular level are under investigation by using this cell line.

Study on cold adaptation in the weak heattolerant animal, pika (Ochotona)

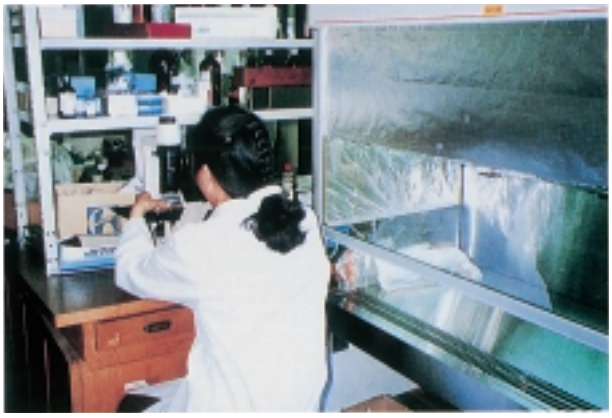
The pika (Ochotona) living in the cold areas or high mountains attracts attentions as an animal model of cold adaptation as well as highaltitude adaptation. Th pika is intolerant to heat for lack of efficient heat loss mechanisms, and does not hibernate in winter. To clarify the cold adaptation mechanisms in pikas, physiological studies on atonomic and behavioral thermoreguration, anatomical studies and the field studies in their natural habitats in China and Mongolia are on going.

Comparison of thermal adaptability among tropical, subtropical and temperate subjects

We compare the natural environmental adaptability through out the effect of environmental temperature and sunlight on functional, morphological, and organic changes in tropical (Thai), subtropical (Nepal) and temperate (Japanese) subjects.

Professor (concurrent)
Research Associate Eiko kaneda

Experiment of thermal sweating in the environmental chamber



Laboratory of cell culture

Departement of Biochemistry

Our research interest is focused on the molecular events ocurring in inflammatory cells for the defense against invading microbes. Reactive oxygen species are essential for killing most of bacteria, fungi, and parasites. We are therefore investigating mechanisms for the expression and activation of superoxide-degenerating NADPH oxidase system.

GATA-3 as the Eosinophil-specific Repressor for the Expression of gp91^{phox}, an Electrontransferring Component in Phagocyte NADPH Oxidase System

In a systematic search for cis-elements regulating gp91^{phox} exression in eosinophil lineage, we identified an inhibitory element containing a GATA consensus site at the proximal promoter and GATA-3 as the specific protein binding to that site. Two-base-pair substitution at the consensus site abolished inhibition of the promoter activity in eosinophil-committed HL60-C15 cells, indicating that the GATA-3 binding to the site is a repressor in the cells. Because eosinophil is the only cell expressing GATA-3 among human phagocytes and B lymphocytes, GATA-3 is an eosinophil lineage-specific repressor of gp91^{phox} gene.

PU.1 but not HAF-1 is a Common Activator for the Expression of gp91^{phox} in Neutrophils, Monocytes and B Lymphocytes

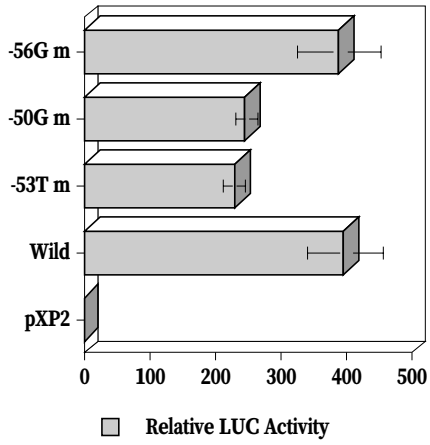


Fig. 1. Reporter gene expression driven by various mutant gp91^{phox} promoters

For the expression of gp91^{phox} in these cells, we previously suggested a common transcriptional activator which requires the position-53 based on an analysis of a novel patient with chronic granulomatous disease. HAF-1 and PU.1 were indentified as candidates for this activator. We, therefore, examined 60 fragments with onebase substitutions neighboring to-53, and found two sequences; one has a mutation at-56 and impairs the binding of HAF-1, and the other mutation at-50 and impairs the binding of PU.1 The-50 mutant promoter but not-56 mutant one exhibited decreased reporter activity, indicating PU.1, but not HAF-1, to be an essential activator for the expression of the gene in those cells (Fig. 1). A discovery of a similar patient with a point mutation at-52 which abolished the binding of PU. 1 confirmed our conclusion.

Our future aim is to apply these findings to in innovation of techniques to control tropical diseases and allergy.

Professor	Michio Nakamura
Assistant Professor	Atsushi Kumatori
Research Associate	Shoichi Suzuki
Technologist	Toshiyuki Moriuchi
Postgraduate Student	Hao Li Jun
Postgraduate Student	MD. Rafiqul Islam
Postgraduate Student	Maki Takata
Postgraduate Student	K. A. Deepa
Visiting Researcher	Yang Tan

Department of Pathology

Research projects are fundamentally geopathological and histopathological investigation of tropical diseases in collaboration with other overseas or domestic institutions.

The pathology department is responsible for postmortem examinations and histological diagnostic pathology of surgical speciments including special research work on liver biopsy at the Nagasaki University Hospital.

In addition to the routine services mentioned above, the department is also responsible for lectures and practice for the undergraduate students at Nagasaki University School of Medicine on pathology of the hematopoietic system, liver, gallbaldder, biliary ducts and pancreas.

The postgraduate course of ordinary pathology, tropical pathology and liver pathology for graduate students of medicine is a four-year program leading to Ph. D.

The five-year professional pathologist program is offered, leading to the qualified pathologist of the Japanese Society of Pathology.

Facilities consist of histology, immunopathology and molecular pathology laboratories, and electron microscopy.

Present research projects are as follows :

1. Pathology of tropical diseases including infections, neoplasms, and other diseases.
2. Liver diseases in the tropics such as viral hepatitis, cirrhosis of the liver, hepatocellular carcinoma, and other endemic diseases.
3. Geopathology, histopathology and molecular pathology of Kaposi's sarcoma
4. Geopathology of tumors and viral oncogenes in East Africa.
5. Geopathology of tumors in South-east Asia.
6. Interdisciplinary study on environmental pathology in the tropics : environmental factors, human ecology and disease manifestations.

Professor	Hideyo Itakura
Associate Professor	Kan Toriyama
Research Associate	Masachika Senba
Research Sssociate	Masachika Iseki
Technician	Akemi Arao

Laboratory of microtome

Histology slide conference

Department of Internal Medicine

Our main studies are described in the followings.

Ⅰ. Comparative study on respiratory infections between Thailand and Japan

Our department has promoted collaboration study on respiratory infections with Chaing Mai University in Thailand. Since then the pathogens of respiratory infections has been recognized. As a result the antimicrobial treatment has been appropriately modified.

Ⅱ. The laboratory and clinical studies on bacterial respiratory infections

Ⅲ. Studies on anti-inflammatory mediator therapy in chronic respiratory infections

Our studies have revealed that the neutrophil activator, IL-8 and neutrophil elastase, play a very important role in chronic respiratory infections. The studies for anti-mediator therapies are undergoing.

Ⅳ. Basic and clinical studies on nosocomial infections by Staphylococcus aureus

Staphylococcal infection is one of the serious problems of nosocomial infections. We established a method for the management of nosocomial infections. Although we could reduce the occurrence of MRSA infections, there are various problems concerning this organisms particularly its pathogenecity.

Ⅴ. Analysis of the normal nasal and oropharyngeal flora in children and pediatric patients with upper respiratory infections

Ⅵ. Rapid diagnonsis by molecular biological technique (PCR)

Using PCR (Polymerase Chain Reaction) technique, it is possible to detect the pathogens rapidly even if a few number of pathogens are present in clinical specimens. We are using the PCR for the diagnosis of mycobacterial infections and obtaining satisfactory results.

Ⅶ. Collaboration study in Uganda on the treatment of AIDS patients with infections (tuberculosis, cryptococcal meningitis and e.t.c)

Since 1990 we have investigated the condition of AIDS in Uganda to save patients complicated with infections. Caollaboration project has been with the School of Medicine, Makerere University, Uganda.

Ⅷ. Basic and clinical studies on influenza

Ⅸ. Chinical study on acute respiratory infections and bacterial meningitis among the children in Bangladesh

Ⅹ. Study on Bacterial adherence of respiratory infection.

Professor	Tsuyoshi Nagatake
Associate Professor	Kazunori Oishi
Research Associate	Hideaki Amano
Research Associate	Kiwao Watanabe
Research Fellow	Kamruddin Ahmed
Postgraduate Student	Kazushi Motomura
Postgraduate Student	Tomoo Ukon
Postgraduate Student	Yuko Yamaguchi
Postgraduate Student	Mariko Saito
Postgraduate Student	Junko Goto

Laboratory

Laboratory

Department of Preventive Medicine and AIDS Research

This department was newly added to the institute in 1978 as a research division open to visiting professors from other universities and institutes. It is run by concurrent research staff for the present. We have planned and started from January of 1997 a series of fundamental research to answer the question how and what mechanisms retroviral infection may lead to several diseases including acquired immunodeficiency syndrome (AIDS) and adult T-cell leukemia (ATL).

Study on the mechanism of transactivation of several cellular genes by HTLV-I-Tax and HIV-Tat

HTLV-I and HIV are known to be causative agents for ATL and AIDS, respectively. HTLV-I-Tax and HIV-Tat are nuclear proteins which transcriptionally *trans* activate not only their own enhancers in the long terminal repeat but also a number of cellular genes. We have previously demonstrated the capacity of the Tax of HTLV-I to modulate the expression of various cellular genes: the cytokine genes for IL-1α, IL-6, IL-8, IL-10, and the cell adhesion molecule gene for ICAM-1. We are now intending to study the mechanisms of transactivation of cellular genes including IL-8, IL-10, ICAM-1, and iNOS by Tax or Tat.

Study on the mechanism of Tax independent NF-κB activation

HTLV-I-infected cells have been shown to have high levels of active NF-κB and Tax has been demonstrated to active some cellular genes by causing an increase in HF-κB levels. However, in the ATL samples, viral mRAN are not detected. These results indicate that the celluar genes are constitutively overexpressed in the absence of Tax in vivo. These findings imply that there is another mechanism independent of Tax underlying the NF-κB activation in fresh ATL cells. The mechanism of Tax independent NF-κB activation is under investigation by using TL-Oml cells.

Study on mechanism of apotosis induction in HIV or HTVL-I infection

Generally, the length of time between HIV infection and development of AIDS is considered to be 10 years on average. HIV infection is accompanied by the progressive loss of CD4 Tcells. Apoptosis, a form of programmed cell death, has been implicated in pathogenicity related to infection with HIV. HTLV-I Tax also leads to apoptotic cell death. Apoptotic pathway and its mechanism which account for the pathophysiology in HIV or HTLV-I infected individuals are under investigation by using Tcells transfected to constitutively express Tat or Tax.

Visiting Professor	Naoki Yamamoto
Visiting Associate Professor	Takao Masuda
Research Associate	Naoki Mori
Technician	Masako Sasaki

Laboratory for biochemical research

Tissue culture room

Department of Medical Entomology

Main interest in the department is analysis of environmental factors that affect the trasmission of insect-borne diseases, and pursuing better vector control strategy that is harmonious to the environment.

1. Physiology and ecology of malaria vectors

A long-term monitoring on main vectors of malaria has been conducted at several fields in Southeast Asian countries. Spatial and temporal changes in larval habitats, vegetation, and the impact of human activity on the environment are evaluated in relation to abundance of vectors, host preference, and other population parameters. The GIS/RS is introduced as a new tool to analyze the environment. Geographical strains of several *Anopheles* are comparatively studied by morphological, physiological, and genetic approach.

2. Ecology and control of dengue vectors

Epidemiological studies have been conducted at several fields in Southeast Asian countries. Monitoring by oviposition traps and mark-release-recapture experiment are performed to establish more realistic larval indices. In the laboratory *Aedes aegypti* and *Ae. albopictus* are studied on their ecological characters among gegraphical strains. Feeding behavior and population dynamics of these mosquitoes also are studied in the laboratory and fields.

3. Vector control technique related studies

Basic study of copepods as hopeful biological control agent against vector mosquito larvae. Biochemical approach to insecticide registance in vector mosquitoes.

Professor	Masahiro Takagi
Assistant Professor	Yoshio Tsuda
Research Associate	Nobuko Tuno
Technician	Emiko Urakawa
Postgraduate Student	Yukiko Higa
Postgraduate Student	Ronald Enrique Marales
Postgraduate Student	Hamady Dieng
Postgraduate Student	Tomomitsu Sato
Postgraduate Student	Maiko Hasegawa
Roupaku Student	Wannapa Suwonkerd

Stereomicroscopic observation of mosquitoes

Ramp traps for collecting mosquitoes

Department of Social Environment

This Department, started five years ago, covers interdisciplinary field of Environmental and Social Medicine related to health services and social welfare problems in developing countries.

Interdisciplinary approach includes studies in Social Sciences and Humanities. Further, methods and actual means of international cooperation toward developing countries has been sought to utilize in order to promote inter-departmental linkage for information accumulated with specific analysis and professional response to the public particularly in the field infectious diseases control.

Under this context, basic and applied research have been carried out on the following prospective themes from the view point of environmental and social aspects for the purpose of promoting assistance to minimize health problems in tropical areas :

1. Study and analysis on social (incl. life style, political and economical) background which regulates frequency / areas / combination of diseases of the presence of epidemics.
2. Study on the effect of individual and social environment toward endemic and epidemics.
3. Standardization of human security measures in the field of health services from the view points of nutrition and 3 Es ie.economy, environment & education.
4. Study on control of communicable diseases among the regional and international health care programs.
5. Study on quantitative and qualitative values of medical and health services under the ODA ie. Official Development Assistance programs by Japanese government.
6. Feasibility study on comprehensive information filing and network system for the sake of promoting health and social welfare services in developing countries, by epidemics, by regions, by administrative measures.
7. Reformation and coordination of health manpower traning program / system to meet the need of tropical area.
8. Comparative studies on the control of imfectious diseases in tropical Asia.

Specific themes of joint cooperative research and research seminar designated to the Department in FY2000 under the scheme of Research Institute for Nationally Joint-Use are listed below. The Technical and Management Committee recommended that interdisciplinary research collaboration should be realized from the viewpoint of middle and long-term range and managed not only by single department but by the whole Institute as one of the important mandates.

Joint Research projects's themes :

a) Linkage and balance between mass-poverty / environment / culture, and control measures for tropical medicine.
b) Historical study on tropical medicine.
c) Study on HIV / AIDS epidemic in Eastern Africa.

Research Seminar topic :

Study on comparative element and balance between development / environment / culture for control and prevention of tropical diseases.

Professor	Tsutomu Mizota
Research Associate	Taro Yamamoto (on mission)
Research Associate	Susumu Tanimura
Research Assistant	Eiko Tara
Postgraduate Student	Chizuko Suzuki

" Dept. of Social Environmental Medicine often serves as a secretariat for Int'l Symposia. "

" Active chairmanship role creates interdisciplinary cooperative fruits. "

Department of Environmental Physiology

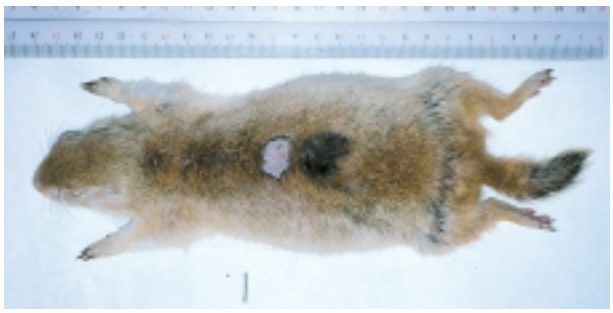
Since 1977, this Department has been studying the interactions between tropical environment and the human beings and animals from the view point of the environmental physiology and aiming to apply the results to tropical medicine. In 1996, the Magnetic Resonance Imaging (MRI) for animal experiment was induced in this Institute. The two environmental chambers in which air temperature and relative humidity are controlled belong to the Department.

Study of effective protect method from ultraviolet rays

Ultraviolet rays (UV) contained by Sun light cause various damage in the living body, and UV is a large quantity and strong power in the Tropical Zone and the mountains in particularly. Therefore, the creatures on earth acquired various protect methods for ultraviolet rays harmful to body in a process of evolution.

We have been promoting the study of protect methods from ultraviolet rays in Yellow mouse inhabiting desert, Pika inhabiting the mountains of 3200m above see level and other several kinds of wild mammals.

In this study, we examine countermeasures for ultraviolet rays in the Tropical Zone and ozone hole in the environmental disruption. For the purpose, we study effective protect mechanisms for ultraviolet rays from wild mammalian animals, which inhabit desert or the mountains for many generations under strong UV conditions.



①Yellow mouse inhabiting desert

②Pika inhabiting the mountains of 3200m

The influence of change in biophylaxis functions induced by ultraviolet radiation to infection of tropical disease

Skin cancer occurs by strong ultraviolet radiation for a long term. The exposure to more little mount of ulrtaviolet rays may be influence biophylaxis function to infection. Ultraviolet rays in the Tropical Zone are strong, and many persons suffer from infectious disease. There are approximately 250 million patients with schistosomiasis in Tropical Zone.

In our experiment on infection of Schistosoma mansoni cercariae to mouse, ultraviolet radiation group by ultraviolet lamp (UV-B) was statistical differencei the number of Schistosoma mansoni cercariae invaded into skin and recovery the adult warms compared with non-irradiation group. We experiment the influence of ultraviolet rays in Sun light on it now.

This study elucidates influence of ultraviolet rays for infectious disease and contributes to the infectious disease control, in particular, it in the Tropical Zone with strong ultraviolet rays.

Study on the mechanisms of heat and cold tolerance in hibernators

Hibernators possess a characteristic ability to tolerate cold. To clarify the mechanisms of cold tolerance, the neural, endocrine and cardiovascular systems and the induction of cold shock protein are being compared between hibernators and non-hibernators (pika, rat and rabbit).

Study on the coordination of extensor and flexor muscles in ballistic action by surface electrode myogram and encephalogram analyzer

During ballistic finger extension, flexor muscles coordinate with extensor muscles. The significance of coordination of flexor and extensor muscles is under investigation in the athletes who trained ballistic actions.

Associate Professor	Nobu Ohwatari
Reserch Associate	Jeong-Beom Lee
Technician	Junko Kawashima
Technician	Junko Hayashima

Environmental controlled chamber and the data acquisition and analysis system

Department of Internal Medicine
(University Hospital)

In December 1974, Prof. Keizo Matsumoto (incumbent Emeritus Prof.) arrived as a professor of the Department of Internal Medicine, from when the Ward of Internal Medicine in the University Hospital started its real activities. Since April 1994, Dr. Tsuyoshi Nagatake has succeeded as a next professor after the retirement of Prof. Keizo Matsumoto. The department is now one of the leading in the field of infectious diseases in the respiratory tract and infectious diseases in the tropical area. Besides lectures and training for medical students we make research on respiratory infections using quantitative culture method with inflammatory cytology of the sputum as well as bronchial secretes taken through bronchofiberscope. Antibiotic concentration in clinical specimens and susceptibility of causative organisms to various drugs are also measured to evaluate efficacy of chemotherapy. Clinical training for a doctor as a trainee is done to make a high quality physician, as not only a specialist for infectious field but a general physician for whole internal medicine.

Professor and Chief	Tsuyoshi Nagatake
Associate Professor	Kazunori Oishi
Assistant Professor	Hiroshi Watanabe
Research Associate	Norichika Aso
Research Associate	Hiroyuki Yoshimine
Research Associate	Shouzaburo Onizuka
Research Fellow	Yoshiko Tsuchihashi
Research Fellow	Hiroaki Mitsushima
Research Fellow	Reiki Kuroki
Research Fellow	Shinichi Kurita
Intern	Naoki Tashiro
Intern	Mayumi Terada

Clinical conference

Animal Research Center

The center makes it the principal aim to ensure the safety of animal experiments which deal with the pathogenic microorganisms and to build up the successful generation of experimental animals, microorganisms and parasites. The building consists of 7 breeding rooms of experimental animals, 2 laboratories, one breeding room of snails, one insectarium, two P3-level biohazard laboratory and breeding room. The air pressure is kept to be always negative to avoid outflow from inside even at entrance to building. Since the building has the most thorough ventilation through HEPA filter, the microorganisms could not leak out to outside of the building. The water used is given chlorination and drained off. The breeding of animals and experiments are done according to the guideline for animal experiment edited by Nagasaki University. The laboratory animals bred in the center are mice, rats, hamsters, rabbits, gerbils, snails and mosquitoes. The center is largely used for the original research by Department of Virology, Bacteriology, Protozoology, Parasitology, Biochemistry, Environmental Physiology and Internal Medicine.

Professor and Director	Michio Nakamura
Research Associate	Akiyoshi Utsunomiya

Mongolian gerbil (*Meriones unguicalatus*)

Infomation and Reference Center of Tropical Medicine

The Information and Reference Center was established in April 1997. The center provides necessary information and references related to tropical diseases to all the staff, graduate students, researchers and trainees, as well as members of the public who visit the Institute. Currently available at the center are books, maps, periodicals, pamphlets, films, videocassette tapes, photo slides, photographs, charts, exhibition panels, animal specimens as well as pathological tissues specimens. These materials are now being digitized and are provided to the public through cyberspace. The center also gathers scientific, social economic and cultural information related to tropical diseases.

The center carries out eco-epidemiological studies on tropical diseases to project the future of tropical infectious diseases from both local and global perspective. Taxonomy and ecology of vector insects and mites of infectious diseases are also the research subjects of the center.

Professor	Masaaki Shimada
Associate Professor	Hiroshi Suzuki
Research Assistant	Toshihumi Oyama
Research Assistant	Chika Yamaguchi
Technician	Kiyomi Suda
Postgraduate Student	Tomoko Kisu
Postgraduate Student	Yoshiki Hamada

Exhibition room

Central Laboratory

Many up-to-date equipements listed below are ready in use in the laboratory. Electron microscopies (TEM and SEM of Jeol), a Ultramicrotome (Reichert), a flow cytometer (FACScan), a cell sorter (FACSsatar plus), scanning electron microscopies (Bio rad MRC600 and Ueiss LSM), micromanipulation systems (Nikon-Narishige and Zeiss-Shimazu), Bioimage analizers (Hamamatsu Pheotonics, Bio rad GS-250 and Pharmacia Image Master), a peptide synthesizer(Millipore 600E), a peptide sequencer (Shimazu PPSQ-10), DNA sequancers (Perkin-Elmer 373A-70 and Pharmacia AFL), a DNA / RNA extraction system (Perkin-Elmer 341-30), a real-time surface plasmon detector (Fisons IAsys), two P3 rooms, Super centrifugal machine (optima L-90K). Many kinds of experiments for cell biology can be carried out with use of these equipements and others set in individual departments.

Professor and Chief	Toshiya Hirayama
Research Associate	Akitoyo Ichinose

The TEM of electron microscope Laboratory

Library

Although there were systematic changes in Nagasaki University Library, the library in this institute, a branch of Medical Library, has been performing the same activities as beginning in 1949. This library possesses approximately 9840 professional books and 467 periodicals in the various fields of tropical medicine especially related to infectious diseases. Most of them are arranged in the library for free reading by the staff of the Institute and authorized persons.

Professor and Chief	Tsutomu Mizota
Librarian	Kiyoko Baba

New arrivals corner

Book shelf corner

Administration

Shunichiro Nakamura, Head Official

General Affairs Unit

Kou Mihara, Chief
Yoji Hashiguchi, Sub-Chief
Nanami Tsuji, Assistant Staff
Toshiko Ueno, Research Assistant

Accounting Unit

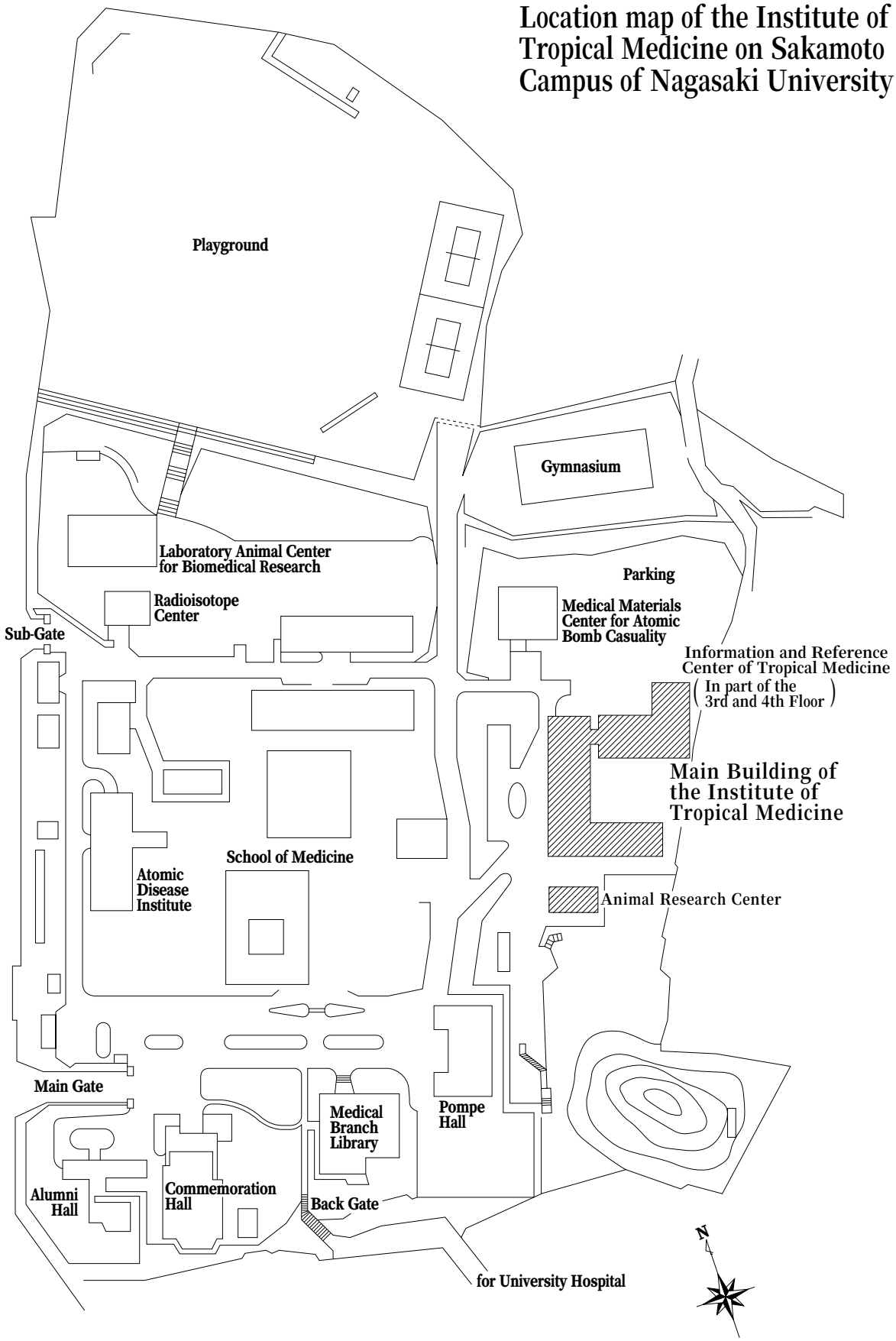
Hisao Ii, Chief
Kouzou Aota, Staff
Kazuki Ikeno, Staff
Yumiko Yamada, Assistant Staff
Asuka Matsuo, Assistant Staff

Collaboration Research Unit

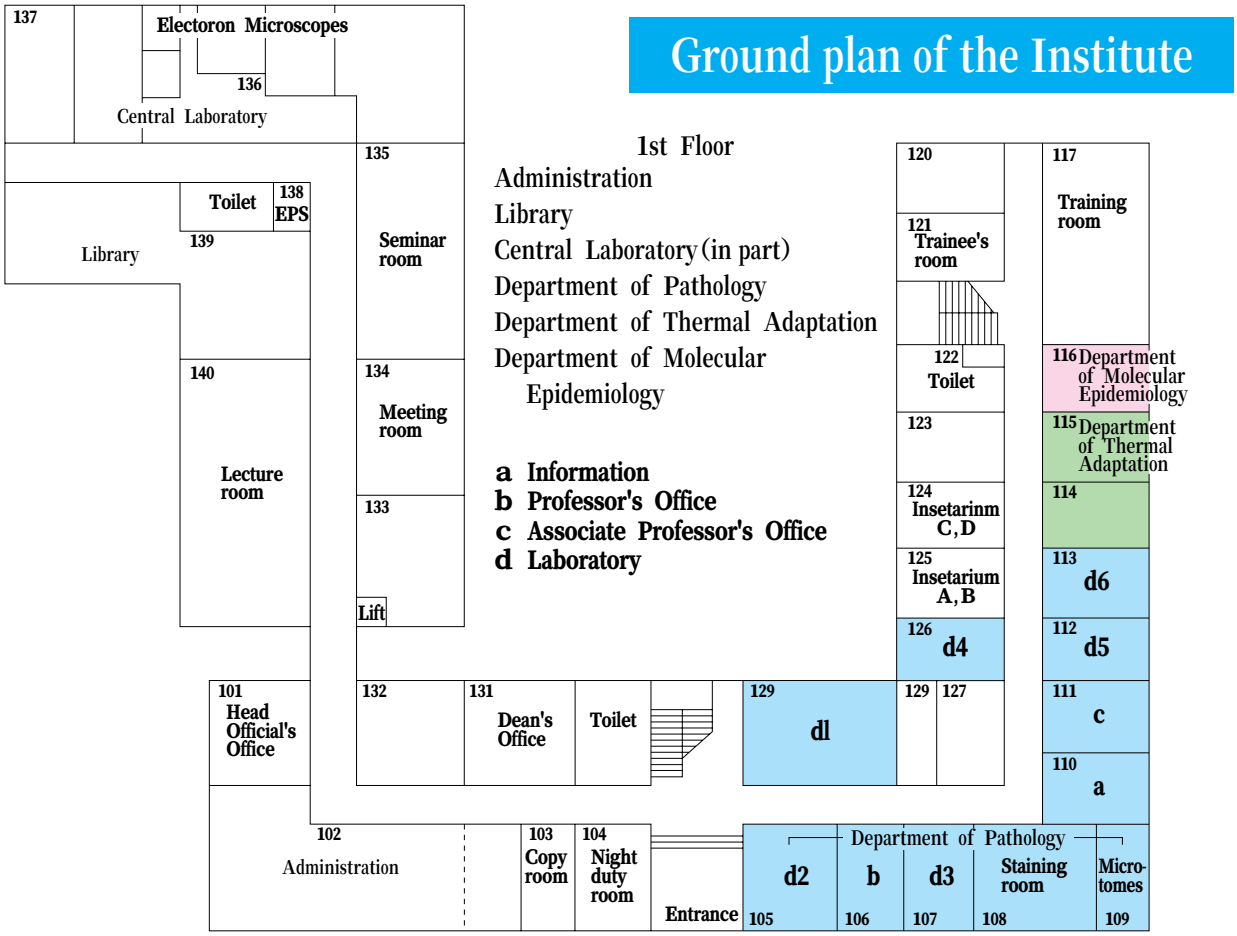
Chikayoshi Aoki, Chief
Narumi Sasaki, Staff
Junko Suenaga, Assistant Staff

Administration office

Location map of the Institute of Tropical Medicine on Sakamoto Campus of Nagasaki University

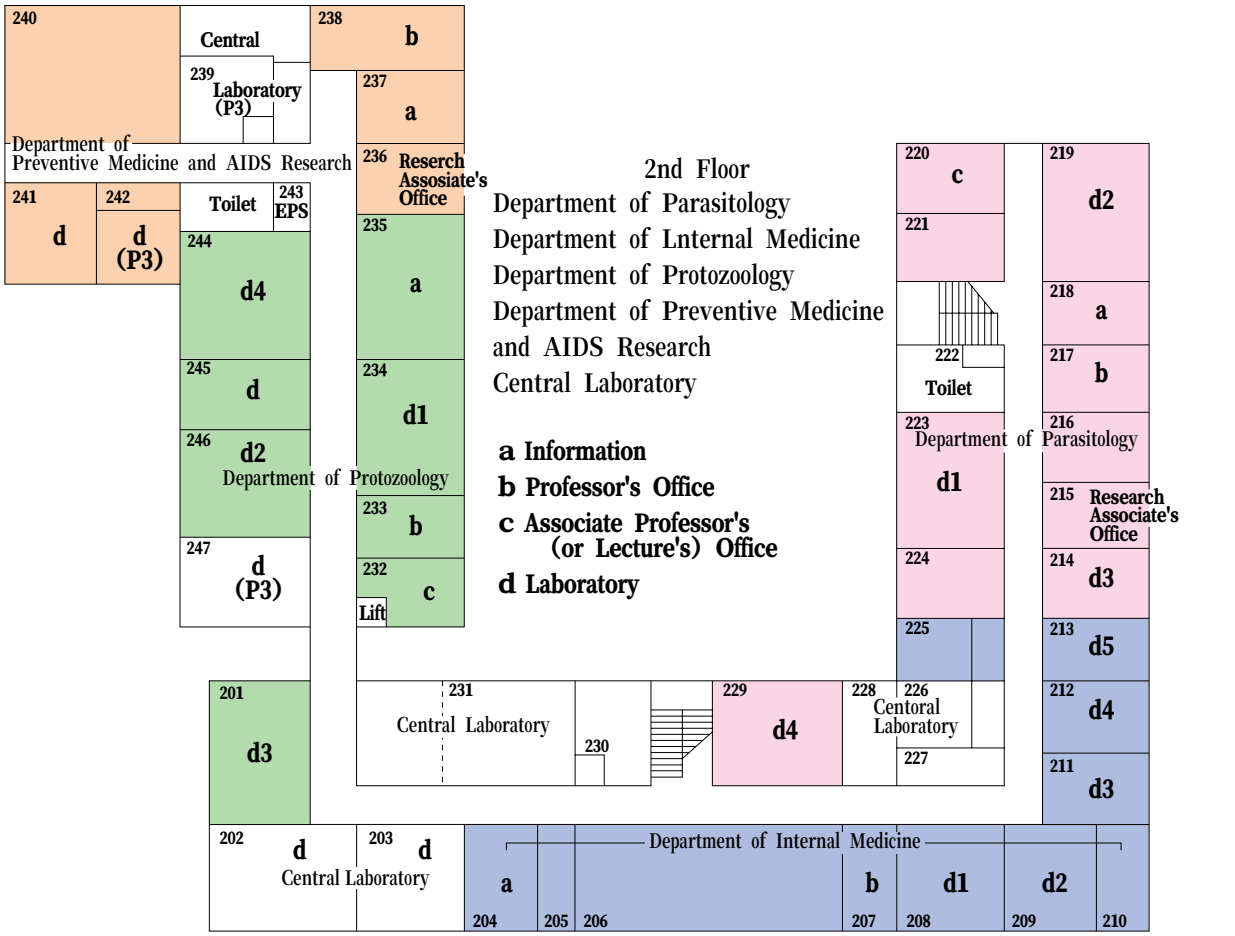


Ground plan of the Institute



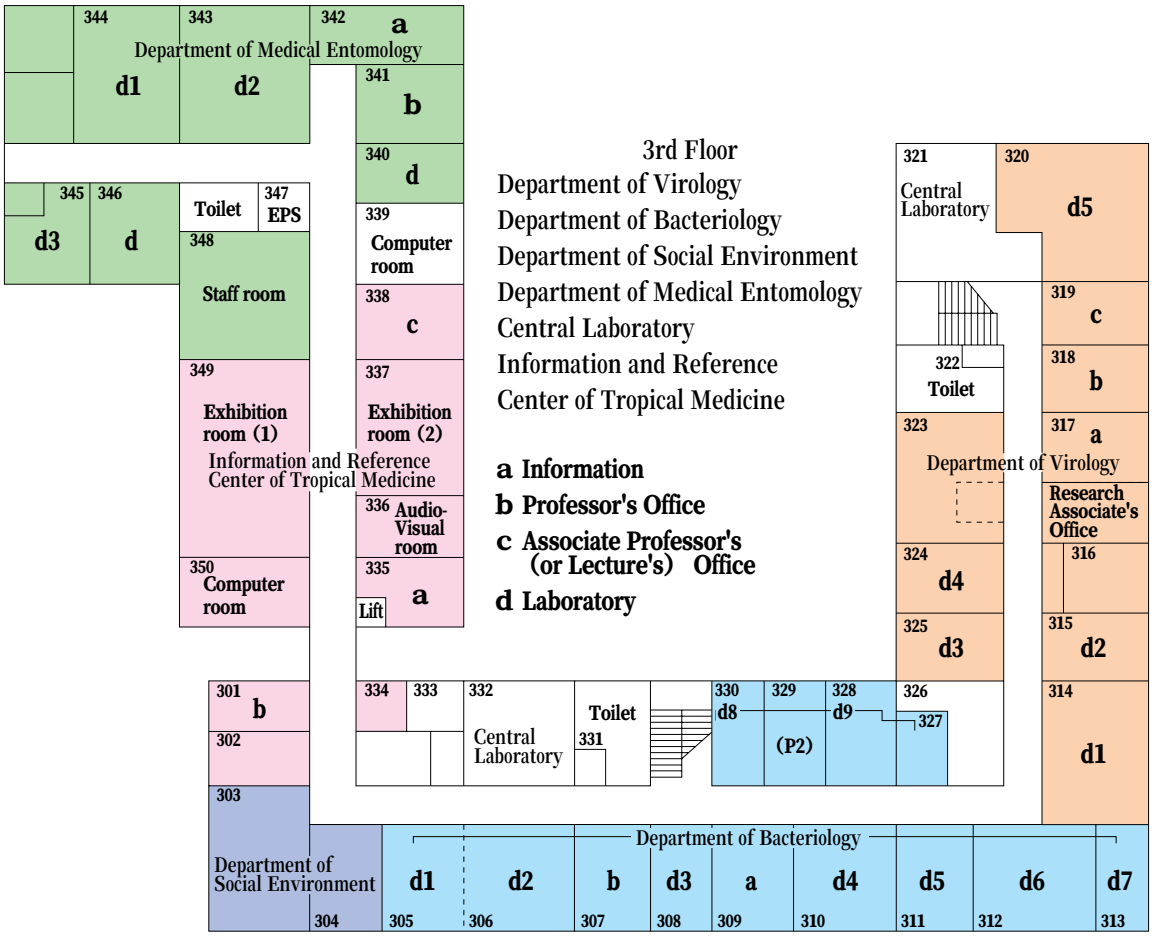
1st Floor
Administration
Library
Central Laboratory (in part)
Department of Pathology
Department of Thermal Adaptation
Department of Molecular Epidemiology

a Information
b Professor's Office
c Associate Professor's Office
d Laboratory



2nd Floor
Department of Parasitology
Department of Lnternal Medicine
Department of Protozoology
Department of Preventive Medicine and AIDS Research
Central Laboratory

a Information
b Professor's Office
c Associate Professor's (or Lecture's) Office
d Laboratory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Department of Medical Entomology
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Exhibition room (1)
Information and Reference Center of Tropical Medicine
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Exhibition room (2)
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Audio-Visual room
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Computer room
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Department of Social Environment
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Central Laboratory
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Department of Bacteriology
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3rd Floor
Department of Virology
Department of Bacteriology
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Department of Medical Entomology
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Information and Reference
Center of Tropical Medicine
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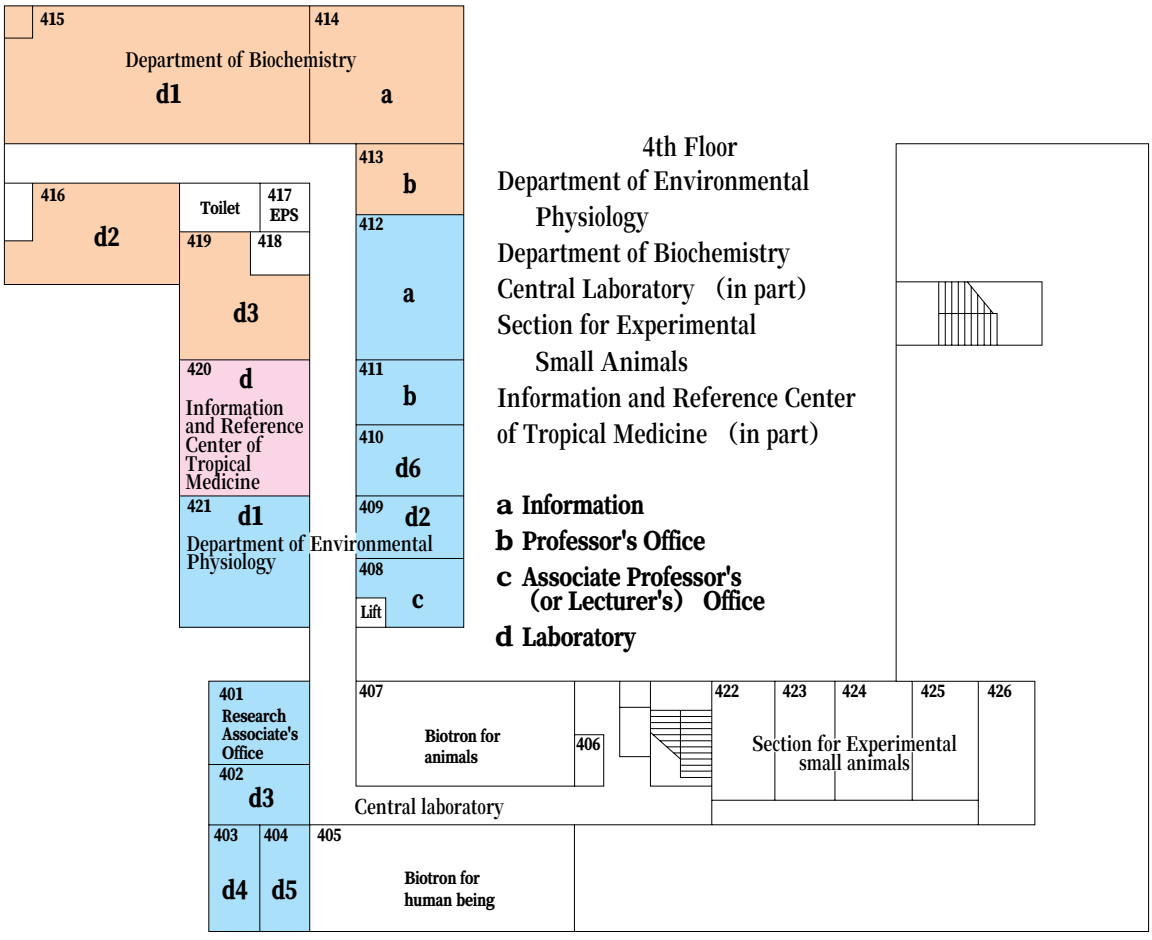
b Professor's Office
c Associate Professor's (or Lecture's) Office
d Laboratory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Department of Environmental Physiology
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Research Associate's Office
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Biotron for human being
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Biotron for animals
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Central laboratory
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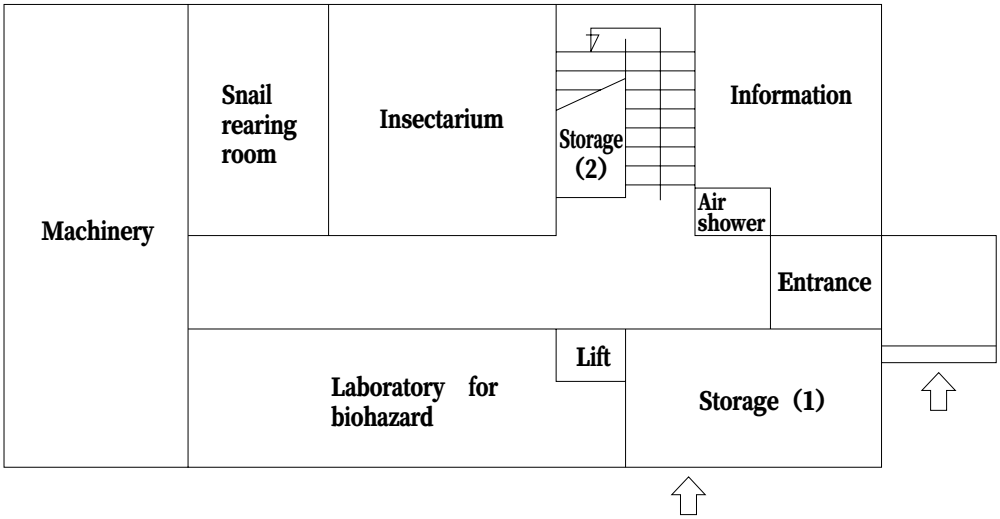
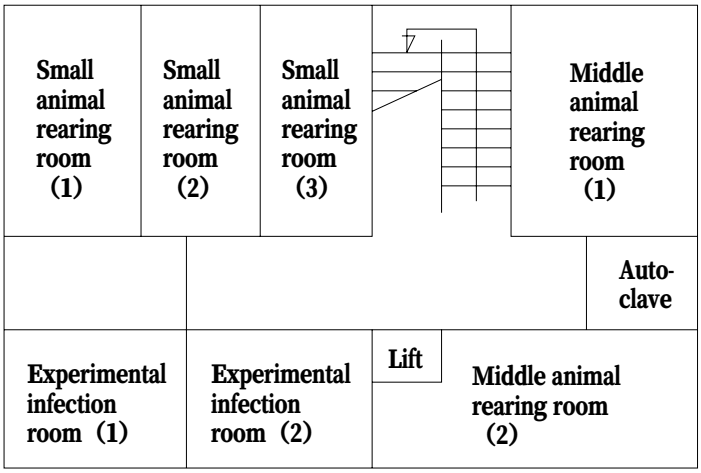
Section for Experimental small animals
4th Floor
Department of Environmental Physiology
Department of Biochemistry
Central Laboratory (in part)
Section for Experimental Small Animals
Information and Reference Center of Tropical Medicine (in part)
a Information
b Professor's Office
c Associate Professor's (or Lecturer's) Office
d Laboratory

Ground plan of the Animal Research Center

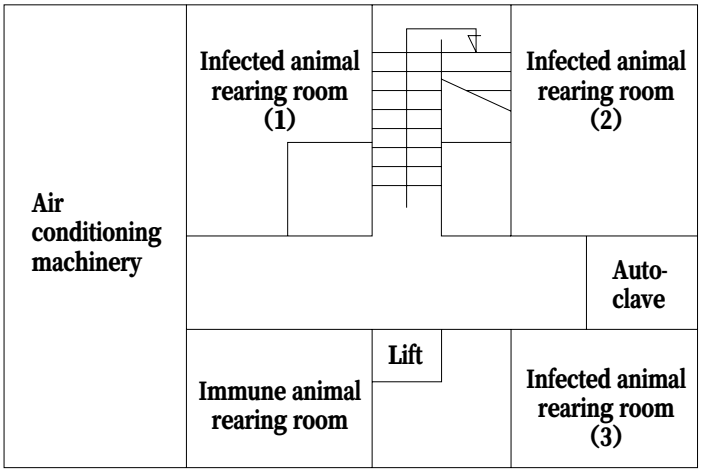
1st Floor



2nd Floor



3rd Floor



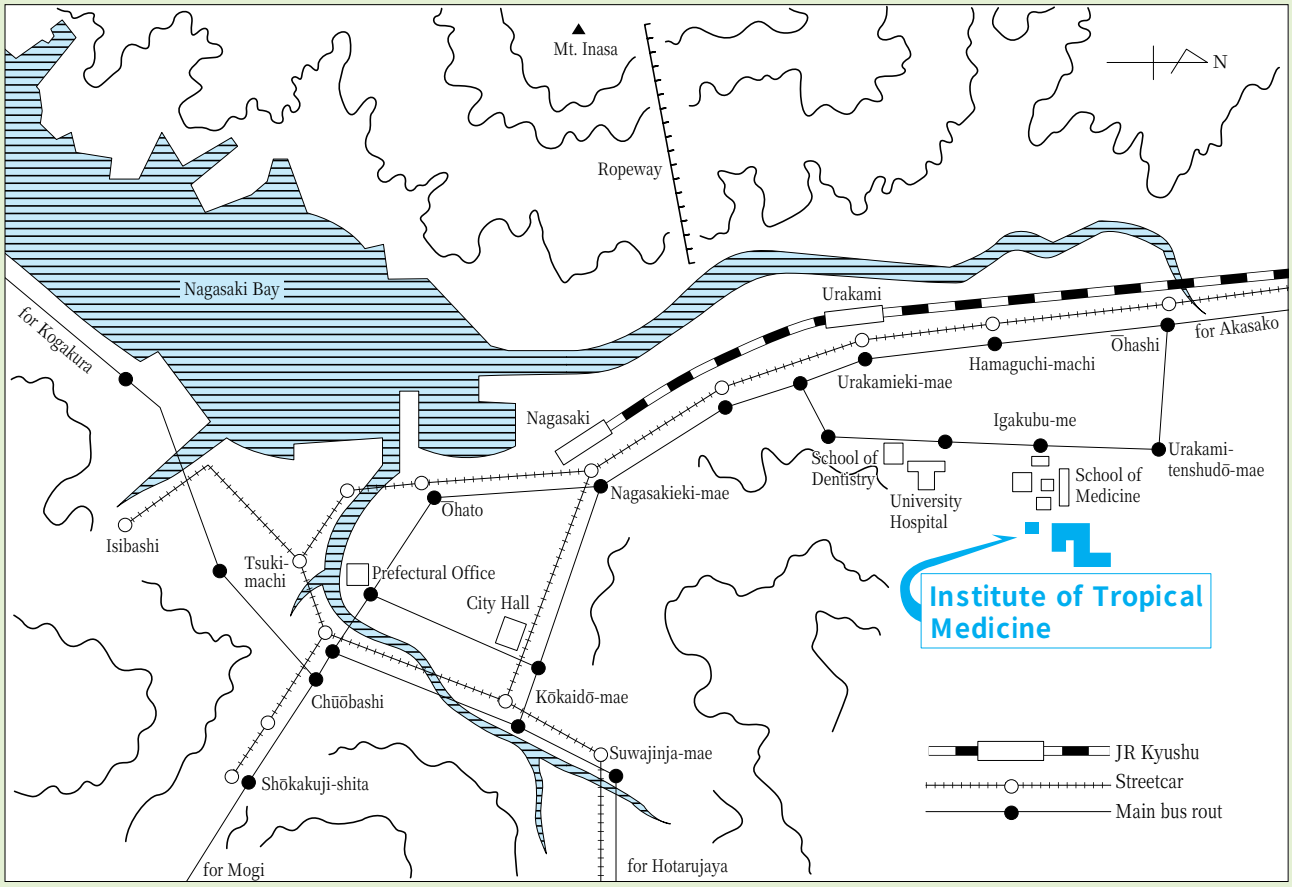
Telephone Number

Institute of Tropical Medicine, Nagasaki University ……095 (849) 7800

	Extensions	
Dean	4700	849-7801
Head of Administrative Office	4701	849-7802
Chief of General Affairs Unit	4702	
General Affairs Unit	4703	849-7803
Facsimile	4705	849-7805
Chief of Accounting Unit	4706	
Accounting Unit	4707	849-7806
Accounting Unit	4708	
Chief of Collaboration Research Unit	4709	
Collaboration Research Unit	4710	849-7807
Meeting Room	4711	
Night Duty Room	4704	849-7804
Department of Virology		
Professor	4733	849-7827
Associate Professor	4734	849-7828
Information	4735	849-7829
Facsimile	4736	849-7830
Department of Bacteriology		
Professor	4737	849-7831
Lab. 9	4738	849-7832
Information	4739	849-7833
Department of Protozoology		
Professor	4741	849-7835
Associate Professor	4742	849-7836
Lab. 3	4743	849-7837
Information	4744	849-7838
Department of Parasitology		
Professor	4728	849-7822
Associate Professor	4729	849-7823
Research Associate	4730	849-7824
Information	4731	849-7825
Department of Molecular Epidemiology		
Professor	4770	849-7860
Department of Thermal Adaptation		
Professor (Concurrent)	4724	849-7818
Department of Biochemistry		
Professor	4754	849-7848
Lab. 1	4755	849-7849
Lab. 2	4756	849-7850
Information	4757	849-7851

	Extensions	
Department of Pathology		
Professor	4719	849-7818
Associate Professor	4720	849-7814
Lab. 2	4721	849-7815
Information	4722	849-7816
Department of Internal Medicine		
Professor	4746	849-7840
Associate Professor	4747	849-7841
Information	4748	849-7842
Facsimile	4749	849-7843
Department of Preventive Medicine and AIDS Research		
Professor	4750	849-7844
Research Associate	4751	849-7845
Information	4752	849-7846
Department of Medical Entomology		
professor	4716	849-7810
Staff room	4717	849-7811
Information	4715	849-7809
Facsimile	4718	849-7812
Department of Social Environment		
Professor	4774	849-7864
Information	4775	849-7865
Information	4776	849-7866
Facsimile	4777	849-7867
Department of Environmental Pyhsiology		
Professor	4724	849-7818
Associate Professor	4725	849-7819
Information	4726	849-7820
Facsimile	4727	849-7821
Animal Research Center		
Information	4762	849-7856
Laboratory	4763	849-7857
Information and Reference Center of Tropical Medicine		
Professor	4760	849-7854
Associate Professor	4759	849-7853
Computer Room(2)	4778	849-7868
Information	4760	849-7854
Facsimile	4779	849-7869
Central Laboratory		
Electron Microscope Room	4765	849-7859
Computer Room	4766	
FACS Room	4767	
Section for Experimental Animals	4769	
Library	4714	849-7808

Location map of the Institute of Tropical Medicine, Nagasaki University in Nagasaki City



How to get the Institute

1. From Nagasaki Station (JR Kyushu)
   - ①Get on a bus (Nagasaki Bus, Line 8) at Nagasakieki-mae and get off at Igakubu-mae. Five minutes walk from the bus stop.
   - ②Get on a streetcar at Nagasakieki-mae (for Akasako, Line 1 or 3), and get off at Hamaguchi-machi. Ten minutes walk from the streetcar stop.
   - ③Ten minutes by taxi from the station.
2. From Urakami Station (JR Kyushu)
   - ①Twenty minutes walk.
   - ②Five minutes taxi.
3. From Nagasaki Airport
   - ①Get on limousine at the airport (for Nagasaki), and get off at Nagasaki-ekimae, and then continue to 1.
   - ②Get on limousine at the airport (for Nagasaki), and get off at Ohashi, and then twenty minutes walk from the bus stop or 5 minutes by taxi.
   - ③About one hour by taxi from the airport.

Location

1-12-4 Sakamoto Nagasaki 852-8523

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