

Master's Program, Graduate School of Medicine

■ Medical Science Course

This course aims to produce specialists with a wide range of knowledge who will play active roles in medicine and life science.

In addition to required core subjects, students learn basic medical science research methods that provide the knowledge and skills required for medical research through experiential learning, as well as they study and practice oral and written research presentation skills. Basic general medicine and basic medical research are offered to facilitate the development of specialists with the necessary broadly based knowledge that is expected.

■ Public Health Course (Two-Year Course)

Public Health Course aims to develop human resources who are capable of playing active roles in addressing the challenges of public health with broad knowledge and high skills for the maintenance and improvement of the entire society and people's health, life and security.

At this course, fundamental five disciplines (Epidemiology, Biostatistics, Social and Behavioral Sciences, Health Services Administration and Environmental Health Sciences), which comply with accreditation criteria of the Council on Education for Public Health in the United States, are provided as required subjects. Furthermore, by taking the elective subjects which would suit one's own interest, students acquire the ability required for experts.

■ Public Health Course (One-Year Course)

This course is intended for medical doctors (i.e. licensed physicians), dentists, pharmacist and other professionals with certain amount of practical experience, and aims to train, in one year, highly specialized professionals who play active roles in medical and public health fields.

This course enables completion of the course, which is practically the same as Two-Year Course, in one year. Students should pass the qualifying review and examination of the research achievements of specific assignment to complete.

Doctoral Program, Graduate School of Medicine

■ Basic Medicine Course

For future researchers and educators in medical/life sciences

Students acquire broad expertise required to become independent researchers, learn various research approaches including techniques for designing experiments, and develop their research capabilities. They are also expected to acquire the competence and skills to apply and utilize their expertise to medical and life science fields with interdisciplinary approach.

■ Clinical Medicine Course

For future clinicians who excel in clinical techniques and research competence

Students will gain the research competence by applying methods targeting human rather than traditional methods using model animals or cells. This course provides the Clinical Collaborative Departments, where students can proceed their research in clinical medicine under multiple instructors including dedicated instructors and collaborative leading clinicians at institutions where advanced and specialized diagnoses, examinations and treatments are conducted.

■ Social Medicine Course

For future professionals who undertake the task of improvement of health and safety at the regional and international levels

Students start by learning research methods in social sciences including research ethics, basic and applied statistics, medical informatics and EBM (evidence-based medicine). This course emphasizes social medicine and preventive medicine, rather than biology and life science. Students aim at mastering the research approaches and skills that are necessary for research in public health and preventive medicine.

Special Programs on the Doctoral Program

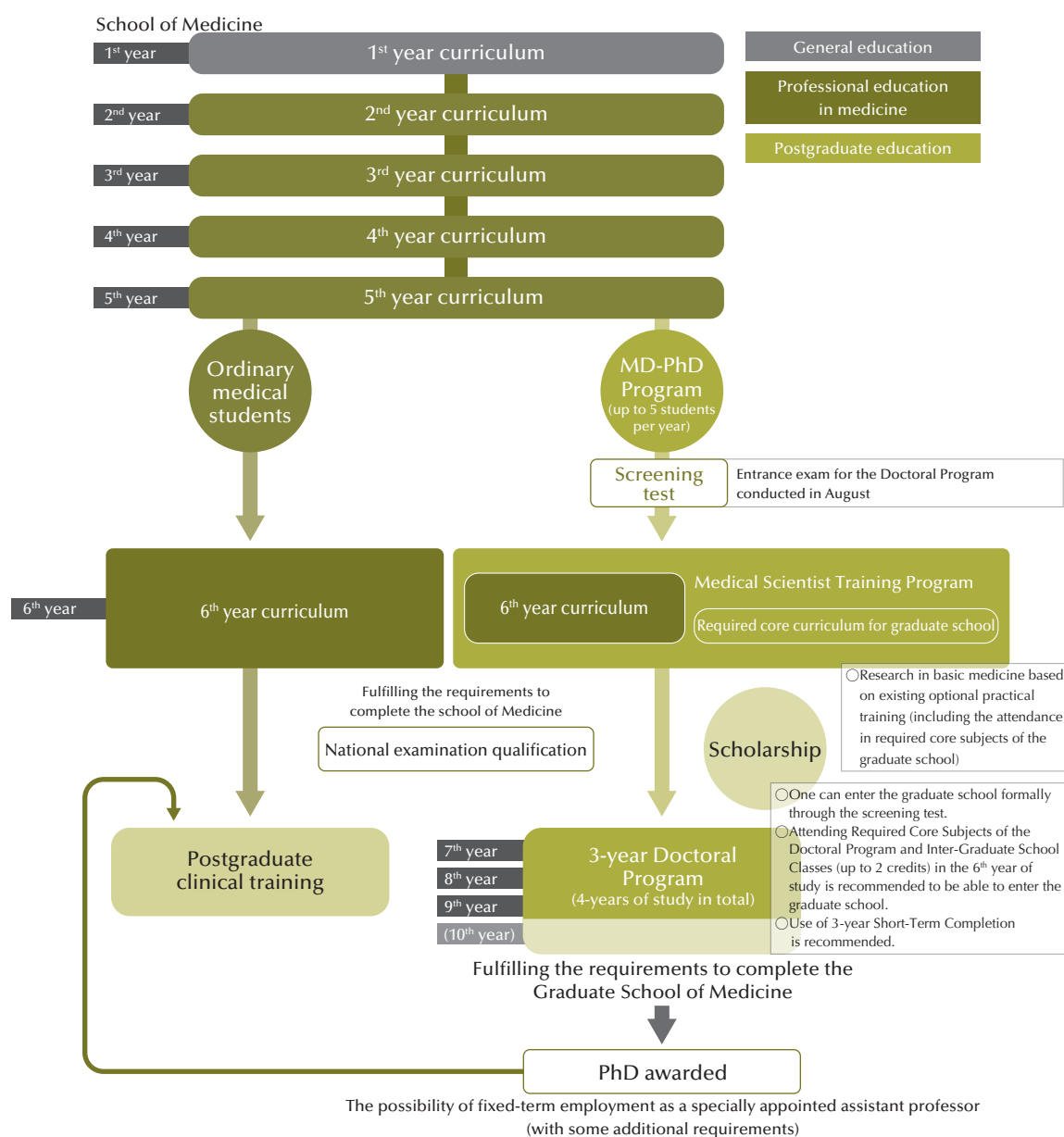
■ Medical Scientist Training Program (MD-PhD Program)

The objective of this program is to develop aspiring researchers in basic medicine who are able to respond to rapid advances in medicine and medical care, and social changes. To this end, the program allows 6th-year students at the School of Medicine, Hokkaido University who wish to become medical researchers to take required subjects (8 credits of Required Core Subjects of the Doctoral Program of the Graduate School) and Inter-Graduate School Classes (up to 2 credits) while enrolled in the study of the curriculum for 6th-year students in the School of Medicine. Students in the 5th and 6th

years of the School of Medicine may take the screening test for this program and, on passing, will receive a non-refundable scholarship (covering the examination fee for the Doctoral Program, admission fee and 3 years' tuition for the graduate school). While the student is in the 6th year, financial support will also be provided to the student's affiliated department aiming to subsidize the expenses to be incurred related to the student. Amount of the support is equivalent to the half years' tuition fee for the Graduate School of Medicine.

Features

- Students can graduate from the School of Medicine in the same year as the students they were originally admitted with (and can take the national examination for medical practitioners).
- Scholarships equivalent to the admission fee and tuition are available.
- After earning the PhD, students may undertake postgraduate clinical training.
- A student who achieved outstanding research performance may be employed as a fixed-term, specially appointed assistant professor. (with some additional requirements)



■ CLARC Program

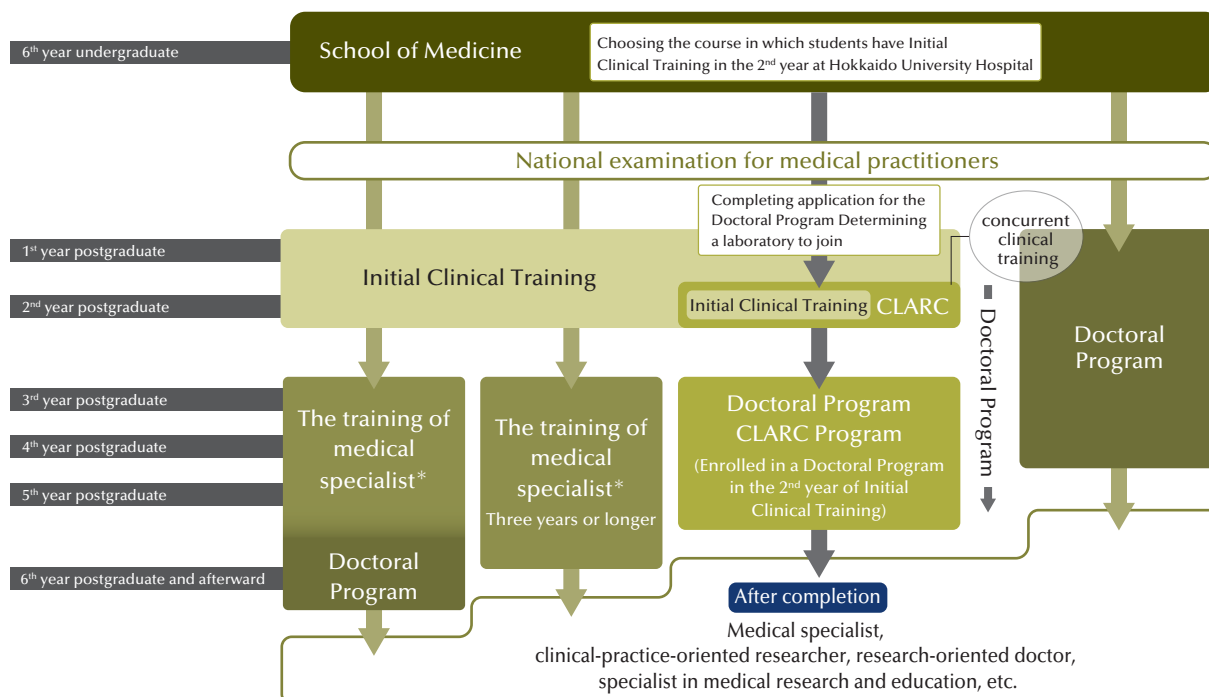
Clinic And Research Combination

The CLARC Program allows students in the 2nd year of Clinical Training to enroll in the graduate school and pursue a doctoral degree while still undergoing clinical training.

The program focuses on providing a thorough clinical training; with lectures and research guidance conducted after 5 p.m. on weekdays. To join this program, students must choose a postgraduate clinical training course that requires clinical training in the student's

2nd year at Hokkaido University Hospital. During the period of training outside the university hospital, students are allowed to delay studies at the graduate school and concentrate on training in regional medical service activities (*Coordination with other sections involved in the training is required.)

Student supervisors may be chosen from among faculty specializing in basic sciences.



*Example of the training of medical specialist under the new medical specialist system (started in April 2018)

The period and details of training vary depending on the training program of medical specialist established for each of the basic fields (19 fields including internal medicine and surgery). Those wishing to be medical specialists are required to complete the training of medical specialist.



■ Scholarships available at the Hokkaido University Graduate School of Medicine are shown below

Information on the Honor and Scholarship			Detail	Master's Program	Doctoral Program
Honor	Graduate School of Medicine, Hokkaido University	Best Paper Award	Selected applicants receive a certificate and 100,000 yen.	○	○
		Takakuwa Eimatsu Scholarship	Every year, 4 or 5 outstanding young researchers (including graduate students) are awarded this scholarship (80,000–100,000 yen per awardee as a one-time grant).	○	○
		HIROKO International Academic Exchange Foundation	This fellowship grant was introduced for researchers who study cancer at overseas universities or research laboratories and return to Japan (applicants must be 35 years old or younger when applying). As a general rule, selected applicants receive 1,000,000 yen per person and up to 2 applicants are selected per year.	—	○
	Hokkaido University	Hokkaido University Ohtsuka Award	This award was introduced as a part of a gender equality project to assist outstanding female students who aspire to become researchers. Those eligible for the award are outstanding female students in the final year of the Doctoral Program who will complete the program during the said period (in principle, except for students who repeat a year). Selected applicants receive 300,000 yen.	—	○
Scholarship	Graduate School of Medicine, Hokkaido University	Otowa Hiroji Scholarship Fund	Both Japanese and non-Japanese students are eligible. Every year, up to 10 Japanese students and 10 non-Japanese students receive this scholarship (150,000 yen per awardee as a one-time grant). Selection is based on both academic and personal excellence.	○	○
		Students of the MD-PhD Program	Students will receive a non-refundable scholarship (covering the examination fee for the Doctoral Program, admission fee and 3 years' tuition for graduate school).	—	MD-PhD Program ○
	Hokkaido University	Nitobe College for Graduate Students	The Honors Program offers a scholarship to selected students. Successful applicants will be selected based on a comprehensive assessment that includes the academic achievement in the Foundation Program and their motivation for applying as described in the application form.	○	—
		Hokkaido University Ambitious Doctoral Fellowship (SDGs)	To help outstanding students work to achieve Sustainable Development Goals (SDGs), regardless of their research field, this program provides financial support (amount paid in FY 2022: 150,000 yen per month for support to devote time to research and an annual subsidy of 400,000 yen for research expenses).	—	○
		Hokkaido University DX Doctoral Fellowship	With the aim of developing Japan's science, technology, and innovation, and fostering outstanding doctoral students with the ability to creatively solve important issues and open up the future, this program provides selected applicants with a research incentive grant of 150,000 yen per month and an annual research grant of 400,000 yen (amount paid in FY 2022).	—	○
	Other Scholarships	Scholarships for Prospective Students	Several competitive scholarships of differing amounts are available for students wishing to study at Hokkaido University. Please see the sections below for the scholarships you can apply for prior to leaving your home country. · Japanese Government Scholarships (MEXT) · Hokkaido University Scholarships · Other Scholarships	○	○
		Scholarships for Current Students	There are various scholarships available to self-supported international students, and either applied for through the University, or directly.	○	○

■ The Graduate School of Medicine provides the following support measures to master's/doctoral students

Financial Support to Master's and Doctoral Students		Detail
Master's students	Teaching Assistant (TA) Program (Teaching Assistants in the School of Medicine)	As part of the university education, the TA program was introduced to train able faculty members and specialists with experience in education. Selected applicants are paid an annual salary of approximately 70,000 to 100,000 yen, depending on their work performance.
Students who pursue a doctorate after completing the Master's Program	Exemption of Admission fee, examination fee	Those who are expected to complete the Hokkaido University Master's Program and intend to take examinations for the Hokkaido University Graduate School of Medicine, or government-financed international students (persons receiving MEXT Scholarship grants) are exempted from this fee but must include a statement to this effect when submitting the application.
Doctoral students	Teaching Fellow (TF) Program (Teaching Assistants in the School of Medicine)	As one part of the graduate school education, this program aims to provide students in doctoral programs (who have experience of working as teaching assistants (TA)) with opportunities to be employed as teaching fellows (TF) and be responsible for teaching subjects mainly in the School of Medicine sharing the teaching with members of the faculty. Annual rewards vary depending on the subject they are put in charge of, and an annual stipend of approximately 80,000 to 120,000 yen is paid to such TF depending on their work performance.
	Teaching Assistant (TA) Program (Teaching Assistants in the School of Medicine)	This program aims to strengthen the university education by providing economic support for graduate students and offering training opportunities on the path to become faculty members and researchers. As teaching assistants (TA), students in this program engage in educational assistance work in subjects provided mainly in the School of Medicine. The annual rewards vary depending on the subject a TA is put in charge of, and an annual stipend of approximately 70,000 to 100,000 yen is paid to such TA depending on their work performance.
	Research Assistant (RA) Program (Research Assistants in the Faculty of Medicine)	The RA program was introduced to improve young researchers' research ability as well as to enhance the research environment by encouraging outstanding students in the Doctoral Program to participate in research projects as research assistants at the Faculty of Medicine. Selected applicants receive an annual salary of approximately 500,000 yen based on their work performance.
	Strategic Research Assistant (SRA) Program (Research Assistants in the Faculty of Medicine)	Doctoral students with outstanding research achievements have a chance to be employed as research assistants. Hours of employment depend on their research performance.
Students in the MD-PhD Program	The possibility of fixed-term employment as a specially appointed assistant professor	<p>A student who achieved outstanding research performance may be employed as a fixed-term, specially appointed assistant professor.</p> <ul style="list-style-type: none"> • At least 2 research papers written in English with the student as the first author have been published or accepted for publication by the time of the completion of the MD-PhD Program, and • The total Impact Factor of the journal(s) publishing the 2 research papers is at least 5 (including those with a Total Impact Factor of 5 after rounding off), or • At least 1 research paper written in English with the student as the first author has been published or accepted for publication by a journal having an Impact Factor of at least 10.



Outline of School of Medicine Courses

From Enrollment to Graduation

The 6-year period from enrollment in the school of medicine till graduation is divided into following four courses. Studies at the school of medicine start from acquiring a general wide view and converge to improving expertise. The details of each course are as follows.

1. Liberal Education Course for Medical Students

Medicine is a part of the natural sciences. However, physicians need a broad knowledge of their fellow human beings and a positive understanding attitude to interact with patients and their families who may have different ideas and values. This is why it is stated that “medicine is a part of the liberal arts field.”

In the 1st year of the study at the school of medicine, students are assigned to take courses in the general educational department. This is an important period where students cultivate and develop a broad outlook, build strong and deep human relationship, and lay the foundations for the study as medical student and for the all life study in general arts with students of other science faculties of the university.

The study of liberal arts and scientific subjects other than medicine may seem unrelated to the study of medicine; however they serve as a driving force enriching the imagination and creativity encouraging the development of the broad understanding of the world that is necessary to conduct research and provide medical care.

2. Basic Medicine Course

Illness is the state where the normal functioning of the body has changed and the understanding of illness is undergirded by an understanding of the normal state.

This course lasts 1 and a half years from the 1st semester of the 2nd year to the 1st semester of the 3rd year. Here the study starts from the normal structure and functions of the human body (anatomy, histology, imaging anatomy, physiology), and enables an understanding of biological phenomena from the molecular and gene level (biochemistry, pharmacology). Next, students are acquainted with the basic processes in which humans change from the normally functioning state to illness and diseases (microbiology, immunology, pathology, basic application of oncology).

Students also learn subjects classified in the category of social medicine that approaches the health and illness of humans from the viewpoints of interactions among groups of human, environmentally induced problems, societal structures, and prevention (hygieneology, public health study, forensic medicine).

All of the medically oriented specialty subjects that are introduced from the start of the Basic Medicine Course are required subjects and the syllabus is very concentrated.

3. Clinical Medicine Course

The Clinical Medicine Course offers study of the particulars of a variety of illnesses and diseases. Students study illnesses and diseases multi-dimensionally and learn the foundations of clinical medicine including internal medicine, surgery, and specialized medicine. Students acquire the basic skills necessary to understand disease conditions, laboratory findings, diagnosis, and medical treatment with a thorough understanding of patients as human

beings with emotions. This understanding is very important for the next step in the study, the Clinical Clerkship Course, where students will face actual patients.

The Clinical Medicine Course includes a 1-month medical research practicum, which functions as the introductory task for medical research. Here, students are assigned to work in a laboratory, to be researchers of basic medicine and research physicians learning experimental methods and ways of thinking.

At the end of the Clinical Medicine Course students have to take common achievement tests, CBT (computer based testing), which measures the knowledge and degree of comprehension, and Pre-CC OSCE (pre-clinical clerkship objective structured clinical examination), which measures skills in medical interviews (clinical history recording) and consultation. Students must pass these tests before they can proceed to the Clinical Clerkship Course.

4. Clinical Clerkship Course

This course is where the clinical clerkship starts.

In the second semester of the fourth year, students are assigned to different clinical departments in Hokkaido University Hospital and acquire practical skills based on the study that they have been exposed to in each of the previous courses while interacting with patients and medical staff in the clinical setting, the hospital. Along with this practical training, students review problems and questions they have become aware of through their training in united clinical lectures, and learn the basics of general practice skills. Training in social medicine is also conducted at this time.

For the 6 months of the 2nd semester of the 5th year, students must participate in 6 four-week clinical clerkship programs in core clinical departments at Hokkaido University Hospital and at outside medical institutions.

In the 1st semester of the 6th year, students must participate in 3 clinical attachments (4 weeks per clinical department or per field).

Before finishing the Clinical Clerkship Course, students must attend lectures in clinical pathology and interprofessional/simulation trainings. Through this training students acquire practical skills that will be useful after graduation.

At the end of this course, the Post-Clinical Clerkship Objective Structured Clinical Examination (Post-CC OSCE) is conducted as part of the graduation examination to evaluate clinical skills and attitudes. Students must then take the National Examination for Medical Practitioners, and will become registered physicians after they have passed this examination.

All the subjects of the specialized education of the school of medicine are required subjects. This is a clear difference from the requirements in other fields and faculties. The reasons for this requirement are the social demands on physicians, who are responsible for the lives of patients. Therefore, students are required to study all the subjects and basics that are required of a physician during the 6 years of the education in the faculty. This makes for a concentrated course.

Cooperative Projects between Industry and Academia

The Faculty of Medicine is actively promoting cooperative projects between industry and academia.

A total of 149 joint research and consigned research programs were under way at the faculty of medicine in academic 2021.

■ Center to Support Industry-academia cooperative projects

The Research Center “Frate” was established to promote translational-research projects, from basic life science to clinical research, and to contribute to medical science, medical care, and the preservation of health. Currently, four research projects are in progress. The research activities of industry-academia cooperative projects and translational-research projects are also conducted here.

■ Number of Grants from Outside the University

Category	Fiscal Year									
	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Joint Research	22	25	25	34	41	30	48	40	34	41
Consigned Research	40	54	93	124	115	98	105	88	113	108
TOTAL	62	79	118	158	156	128	153	128	147	149

■ Patents Owned by Juridical Persons, Etc. (Data as of April 1, 2022)

Patents Numbers based on lead inventor affiliation

Department	Patent Possession	
	Domestic	Overseas
Faculty of Medicine	18 (12)	25 (17)

(Breakdown of Overseas Patents)

Country/Region		Patent Possession
Asia	China	1 (1)
	Korea	1 (0)
Europe	France	4 (3)
	Germany	5 (4)
	Switzerland	1 (0)
	United Kingdom	5 (4)
North America	Canada	1 (1)
	U.S.A.	7 (4)
TOTAL		25 (17)

The number of joint applications indicated in parentheses ().

■ Employment/Hosting of Students and Postdoctoral Fellows (Fiscal Year 2022)

Category	Position	Number of Researchers
Research Fellowship for Young Scientists (JSPS)	DC1	1
	DC2	3
	PD	1
TOTAL		5



Education and Research Programs (Amount granted: more than 10 million yen) Data as of July 1, 2022

MEXT: Ministry of Education, Culture, Sports, Science and Technology
METI: Ministry of Economy, Trade and Industry
JST: Japan Science and Technology Agency
AMED: Japan Agency for Medical Research and Development

■ Industry-Academia Joint Project of Human Resources Development for the Acceleration of AI Research Development in the Field of Healthcare (MEXT)

Funding Period	Partner Organizations	Project	Research Director
2020-2024	Tohoku University Hokkaido University Okayama University	Human Resources Development Program "Cutting Edge AI Research Development for the Solution of Global × Local Medical Problems"	KUDO Kohsuke, M.D., Ph.D. Professor, Department of Diagnostic Imaging

■ Strategic Basic Technology Upgrading Support Project (METI Hokkaido)

Funding Period	Project	Leader/R&D Chief
2020-2022	Development of automated stem cell culturing machine system for regenerative medicine against cerebral infarction	KAWABORI Masahito, M.D., Ph.D. Assistant Professor, Department of Neurosurgery

■ Grant-in-Aid for University Reform (MEXT)

Funding Period	Project	Leader/R&D Chief
2021-2022	Project to train medical personnel who can respond to new medical care in the With Corona era	TAKAHASHI Makoto, M.D., Ph.D. Professor, Center for Medical Education and International Relations

■ Activity in International Standardization in the Governmental Strategic Field (METI)

Funding Period	Project	Leader/R&D Chief
2020-2022	International Standardization Relating to the Data for the Prediction About Prognosis After Radiotherapy	SHIRATO Hiroki, M.D., Ph.D. Director, Global Center for Biomedical Science and Engineering

■ JST PRESTO

Funding Period	Program	Research Director
2021-2023	Inter-cell Interactions Responsible for Sleep and Hibernation	NORIMOTO Hiroaki, Ph.D. Associate Professor, Department of Cellular and Molecular Pharmacology

■ Advanced Research & Development Programs for Medical Innovation (AMED)

Funding Period	Program	Research Representative
2021-2026	Study of host cell membrane and ion dynamics during virus infection	OHBA Yusuke, M.D., Ph.D. Professor, Department of Cell Physiology

■ Practical Research Project for Rare/Intractable Diseases (AMED)

Funding Period	Program	Research Representative
2020-2022	Early MRI Diagnosis of Amyotrophic Lateral Sclerosis using Stable Isotope of Oxygen-17	KUDO Kohsuke, M.D., Ph.D. Professor, Department of Diagnostic Imaging
2020-2022	Elucidation of the Pathogenesis and Risk Factors of Bullous Pemphigoid	UJIE Hideyuki, M.D., Ph.D. Professor, Department of Dermatology
2021-2023	An Investigator-initiated Clinical Trial of Spinocerebellar Ataxia Type 1 (SCA1) Gene Therapy Based on Molecular Mechanisms	YABE Ichiro, M.D., Ph.D. Professor, Department of Neurology

■ Practical Research for Innovative Cancer Control (AMED)

Funding Period	Program	Research Representative
2020-2022	Establishment of Standard Therapy for Acute Lymphoblastic Leukemia in Children	MANABE Atsushi, M.D., Ph.D. Professor, Department of Pediatrics
2020-2022	The Development of New Treatment of Superselective Intra-Arterial Infusion of Cisplatin and Concomitant Radiotherapy for Patients with Locally Advanced Maxillary Sinus Cancer	HOMMA Akihiro, M.D., Ph.D. Professor, Department of Otolaryngology Head and Neck Surgery
2022-2024	A multi-institutional randomized phase III trial to confirm the superiority of pelvic and para-aortic lymphadenectomy over pelvic lymphadenectomy for endometrial cancer at risk of lymph node metastasis	WATARI Hidemichi, M.D., Ph.D. Professor, Department of Obstetrics and Gynecology

■ Research Program on Hepatitis / Program for Basic and Clinical Research on Hepatitis (AMED)

Funding Period	Program	Research Representative
2020-2022	Screening of Prognostic Biomarker by Comprehensive Serum and Liver Tissue Glycomics	SAKAMOTO Naoya, M.D., Ph.D. Professor, Department of Gastroenterology and Hepatology

■ Research Program on Hepatitis / Program on the Innovative Development and Application of New Drugs for Hepatitis B (AMED)

Funding Period	Program	Research Representative
2022-2024	High-throughput screening of antiviral seed compounds by using HBV cell culture and antiviral response reporter models	SAKAMOTO Naoya, M.D., Ph.D. Professor, Department of Gastroenterology and Hepatology
2022-2024	Development of genome-editing drugs of adenovirus vector expressing eight multiplex guide RNAs using models of HBV replication in humanized mice and of HBV carcinomas	FUKUHARA Takasuke, M.D., Ph.D. Professor, Department of Microbiology and Immunology
2022-2024	Study of the clinical significance of previous infection with HBV in HCC and the molecular mechanism of hepatocarcinogenesis in HBc antibody positive patients	TAKETOMI Akinobu, M.D., Ph.D. Professor, Department of Gastroenterological Surgery I

■ Project for Promotion of Cancer Research and Therapeutic Evolution (P-PROMOTE) (AMED)

Funding Period	Program	Research Representative
2022-2023	Development of hydrogel-based regulation of tumor heterogeneity for basis of novel cancer diagnosis and therapy	TANAKA Shinya, M.D., Ph.D. Professor, Department of Cancer Pathology

■ Japan Program for Infectious Diseases Research and Infrastructure (AMED)

Funding Period	Program	Research Representative
2020-2022	Elucidation of Properties and Evolutionary Mechanisms of Virome Involved in Progression of Pathogenesis	FUKUHARA Takasuke, M.D., Ph.D. Professor, Department of Microbiology and Immunology

■ Research Project for Practical Applications of Regenerative Medicine (AMED)

Funding Period	Program	Research Representative
2021-2023	Research for intracerebral transplantation of advanced interventional regenerative product made of bone marrow mesenchymal stem cells and recombinant scaffold against patient with chronic cerebral hemorrhage (RAINBOW-HX)	FUJIMURA Miki, M.D., Ph.D. Professor, Department of Neurosurgery
2022-2024	Exploratory clinical trial on the safety and capability of REC/dMD-001 in lumbar canal stenosis	SUDO Hideki, M.D., Ph.D. Specially Appointed Professor, Department of Advanced Medicine for Spine and Spinal Cord Disorders

■ Translational Research Program (AMED)

Funding Period	Program	Research Representative
2022-2023	Development of endoscopic novel sheet made of bioabsorbable material and hydrogel	ONO Masayoshi, M.D., Ph.D. Assistant Professor, Department of Gastroenterology and Hepatology

■ Medical Device Research and Development Programs Focused on Technology Transfers (AMED)

Funding Period	Program	Research Representative
2022-2024	Study of the development for new medical device program supporting automated diagnosis of frailty in elderly patients with heart failure	NAGAI Toshiyuki, M.D., Ph.D. Associate Professor, Department of Cardiovascular Medicine

■ Special Expenditures (MEXT)

Funding Period	Faculties	Project	Leader
2021-2025	Faculty of Medicine	Project for the Promotion of Cause of Death Investigation and Comprehensive Human Resources Development through Multi-disciplinary Collaboration	HATAKEYAMA Shigetsugu, M.D., Ph.D. Dean



Autopsy Numbers

Data as of April 1, 2022

■ Systematic Autopsy

Classification	Year													
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Cadavers Used (Medicine)	40	65	40	40	43	45	43	41	38	38	37	37	33	37
Cadavers Used (Dentistry)	15	17	13	16	15	17	16	17	17	14	14	17	12	12
Cadaveric Anatomy and Surgical Training	-	-	-	-	-	-	-	-	3	10	16	14	10	10

■ Pathological Autopsy

Classification	Year													
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Pathological Autopsies	54	43	50	36	45	34	24	36	34	23	30	19	15	13

■ Medico-legal Autopsy

Classification	Year													
	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Forensic Autopsies	129	119	135	193	152	132	351	282	300	419	368	299	369	377

Record of Postmortem imaging

Data as of April 1, 2022

Category		Fiscal Year				
		2017	2018	2019	2020	2021
Number of CT scans	Unnatural death under forensic medicine	762	951	965	845	1,137
	Cases of natural death in hospitals	18	12	12	9	10
TOTAL		780	963	977	854	1,147

