2010 Hokkaido University Graduate School of Medicine

Application Guidelines (Doctoral Program)

Hokkaido University Graduate School of Medicine

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Application Guidelines
(Doctoral Program)

These guidelines consist of the following sections: “Qualification of applicants”, “Application procedure”, “Entrance examination”, and “The table showing the organization of the Graduate School of Medicine and main research contents of each laboratory”.

1. Qualification of applicants

(1) Those who have graduated from Medical, Dental or Veterinary School with a six-year program, or are expected to graduate from such a program by March 2010.

(2) Those designated by the Minister of Education, Culture, Sports, Science and Technology (see Notes 1 and 2).

(3) Those who have completed a program in Medical, Dental, or Veterinary School for four years or longer in Japan, or have completed a 16-year program of school education outside Japan (only when Medicine, Dental or Veterinary Course is included), as well as those who are judged by the Hokkaido University Graduate School of Medicine to have obtained the specified credits demonstrating outstanding academic performance (see. Note 2).

(4) Those who have completed an 18-year program of school education outside Japan (with a final program in Medical, Dental or Veterinary Course), or are expected to complete such a program by March 2010.

(5) Those who have taken correspondence courses based in Japan from a foreign country, or by doing so have completed an 18-year academic program (with a final program in Medical, Dental or Veterinary Course), or who are expected to complete such a program by March 2010.

(6) Those who are judged to have academic capabilities equal to or higher than a person having graduated from Medical, Dental or Veterinary School with a six-year program in an individual admissions qualification screening by the Hokkaido University Graduate School of Medicine, and who will be 24 years of age or older by March 31, 2010 (see Note 2).

Note 1: Those designated by the Minister of Education, Culture, Sports, Science and Technology (see Report No. 39, Ministry of Education, 1955).

A) Those who have completed a Master's Program or are expected to graduate from such a program by March 2010 in Japan.

B) Those who have graduated from or completed one of the programs listed below, and have conducted research for two or more years at a university or other research institute, and who are judged by the Hokkaido University Graduate School of Medicine to have academic capabilities equal to or greater than a person having graduated from Medical, Dental or Veterinary School with a six-year program, based on the outcome of their research activities.

① Those who have graduated from university (other than programs in Medicine, Dental or Veterinary Medicine).

② Those who have completed a 16-year program of school education outside Japan.

③ Those who have taken courses in Japan through distance education conducted by a school in a country other than Japan, and by doing so have completed an 16-year program of school education.

C) Omitted (not applicable to international students)

D) Omitted (not applicable to international students)

E) Those who have graduated from Medical, Dental or Veterinary School in a foreign country where less than 18-year education is enough for completion of a program are required to fulfill the following. Those who will be 24 years of age or older by March 31, 2010, and have been engaged in research for a certain period of time (one year or more, in general), and are judged by the Hokkaido University Graduate School to have academic capabilities equal to or greater than a person having graduated from Medical, Dental or Veterinary School with a six-year program in Japan. (see Ministry of Education Notice No. 213; 1971)

Note 2: Those who wish to apply based on Application Qualification (2), Notes 1 (B) or (E), or Application Qualification (3) or (6), must apply for an Application Qualification Screening conducted approximately one month prior to the regular application deadline. Please inquire about the exact schedule and necessary documents for screening at the registration office.

2. Application procedure

(1) Important notice for application

Applicants must contact and discuss well with their future academic advisors before submitting their applications. The applications without such pre-discussions are not accepted.

When applicants search his/her preferred laboratory, please refer to the table showing the organization of the Graduate School of Medicine and main research contents of each laboratory.

(2) Application period

The 1st examination: from July 28 (Tuesday) to August 3 (Monday)
The 2nd examination: from December 1 (Tuesday) to December 7 (Monday)

The reception desk will be open from 8:30 to 17:00.

(3) Documents to be submitted and examination fees

Admission application form	Specified form
Documentation of academic achievements	From graduated university. Those who have completed (or are expecting to complete) their Graduate School Master's Program should also submit documentation of achievements in the Master's Program in question. Those who have graduated (or are expecting to graduate) from the Hokkaido University School of Medicine need not submit this documentation.
Documentation of (expected) graduation or completion	From graduated university. Those who have completed (or are expecting to complete) their Graduate School Master's Program should also submit documentation of completion of the Master's Program in question. Persons who have graduated (or are expecting to graduate) from the Hokkaido University School of Medicine need not submit this documentation.
Examination card / Photo card	Specified form Attach photo (full-face photograph with applicant's name printed on back) to photo card.
Self-addressed envelope	Standard envelope (23.5cm×12cm), with name, address, and postal code printed clearly, and a 350 yen stamp attached. For purposes of receiving your examination card.
Address card	Specified form. Enter address. For purposes of admission notification.
Entry examination fee	30,000 yen (Use a regular postal money order, and leave both the front and back sides blank. Entry examination fees that have been paid cannot be returned under any circumstances.) 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) need not submit this documentation. They are exempted from this fee, but must include a statement to this effect when submitting the application.
Certificate of alien registration	Foreigners living in Japan shall submit documentation clearly indicating their visa status.
For any questions, please refer to the Graduate School of Medicine. (Fax 011-717-5286)	

(4) Where to submit

All of the documents requested for application must be sent by registered mail to the following address and arrived in time.

<Address>

Student Affairs, Graduate School of Medicine Hokkaido University
Kita 15 Nishi 7, Kita-ku, Sapporo, 060-8638 JAPAN
Tel（011）706-5018

3. Entrance examination

(1) How to judge successful applicants

Successful applicants will be judged during the course of school meeting held at the Graduate School of Medicine. The purpose of this meeting is to consider the results of the entrance examination, the academic record transcript and the other relevant documents submitted.

(2) Subjects of examination

1) Specialized subject related to the main research contents of the applicant's preferred laboratory
2) English language

(3) How to conduct examination

Specialized subject: oral or written examination
English language: written examination

※ 1. Applicants will not be allowed to use any dictionary on English language examination.

※ 2 When writing the second preferred laboratory, the applicant should take 2 specialized subject examinations conducted by 2 preferred laboratories.

(4) Date, time, and place of examination

Date	Time	subject	place
The 1st examination September 2 (Wed.) in 2009 The 2nd examination January 20 (Wed.) in 2010	※ 12：50～13：00	Precautions	The location will be announced at the time examination card is sent.
	13：00～15：00	English language	
	15：20～	Specialized subject	According to the instructions given at that day

※Applicants should meet by 12:40.

(5) Notification of the results of entrance examination

1) Date and time of notification

The 1st examination: 10:00 AM on September 18 (Fri.) in 2009

The 2nd examination : 10:00 AM on February 5 (Fri.) in 2010

2) How to notify

The examinee's number of successful applicants will be displayed on the official business board in the front entrance lobby of the Graduate School of Medicine.

In addition the notification to each successful applicant will be sent by mail.

Inquires about the results of the examination by phone will not be answered.

4. Organization of the Graduate School of Medicine and main research contents

Department	Laboratory	Academic advisor		Research contents
Biochemistry	Molecular Biology	Professor	SABE Hisataka (starting from July 1,2009)	1. Fundamental mechanisms governing epithelial tissue formation and maintenance 2. Intracellular vesicle traffic and cell motility/polarity 3. Molecular machinery specific to cancer invasion and metastasis 4. Epigenetics in cancer invasion and metastasis
	Medical Chemistry	Professor	HATAKEYAMA Shigetsugu	1. Protein degradation system and diseases 2. Intracellular signal in cancer and immune system 3. Analysis of abnormal proteins in neurodegenerative diseases 4. Analysis of functional molecules by genetic engineering
Anatomy	Anatomy and Embryology	Professor	WATANABE Masahiko	1. Visualization of expression and localization of neural signaling molecules 2. Glial roles in neural development and function 3. Molecular mechanisms for synaptic circuit development
	Histology and Cytology	Professor	IWANAGA Toshihiko	1. Functional morphology of gastrointestinal and genital tracts 2. Histochemistry of transporters for nutrients 3. Regulatory mechanism of cell growth, adhesion, and signaling by lectins 4. Molecular biology of exocytosis
Physiology	Chronophysiology	Professor Professor	HONMA Ken-ichi HONMA Sato	1. Central nervous mechanisms of the biological clock 2. Mechanisms of sleep-wakefulness 3. Regulation of neuroendocrine system 4. Real-time monitoring of gene expression using a bioluminescent reporter
	Sensorimotor and Cognitive Research	Professor	FUKUSHIMA Kikuro	1. Motor systems 2. Sensory motor transformation 3. Neural basis of motor learning 4. Vestibular and eye movement systems 5. Computational neuroscience
Pharmacology	Neuropharmacology	Professor	YOSHIOKA Mitsuhiro	1. Neuropharmacological studies of releasing mechanism of neurotransmitters in the brain 2. Neuropharmacological studies of higher brain functions 3. Neuropharmacological studies of brain development and dysfunction
	Cellular and Molecular Pharmacology	Professor	MIWA Soichi	1. Molecular pharmacology of cardiovascular system 2. Regulatary mechanism for G protein-coupled receptions 3. Protein-S-nitrosylation in bacterial infection
Pathology	Pathology	Professor	KASAHARA Masanori	1. Major histocompatibility complex and natural killer receptors 2. Genetic dissection of disease susceptibility 3. Pathogenesis of autoimmune diseases 4. Tumor immunology 5. Development of novel diagnostic antibodies based on leucine-rich repeat modules 6. Human pathology and surgical pathology
	Pathophysilogy and Signal Transduction	Professor	KAWAGUCHI Hideaki	1. Mechanism of signal transduction in response to the extracellular milieus 2. Identification of specific signaling pathways in intractable diseases including cancers 3. Development and application of bioimaging techniques
	Cancer Pathology	Professor	TANAKA Shinya	1. Translational pathology 2. Mechanism of tumorgenesis 3. Signal transduction for cancer 4. Animal model and drug screening 5. Brain tumor research 6. Research for surgical pathology basics
	Molecular and Diagnostic Pathology	Professor	MATSUNO Yoshihiro	1. Diagnostic surgical pathology (including cytopathology) 2. Development and application of novel tools and techniques in diagnostic pathology 3. Promotion of quality control and standardization of diagnostic pathology 4. Clinicopathologic analysis of malignancy in various organs 5. Clinicopathologic analysis of organ transplantation

Department	Laboratory	Academic advisor		Research contents
Microbiology	Microbiology and Immunology	Professor Associate Professor	SEYA Tsukasa MATSUMOTO Misako	1. Molecular mechanism of dendritic cell maturation through Toll-like receptors 2. Molecular mechanism of host antiviral protection by DNA/RNA sensors 3. Development of potential adjuvants for antitumor immunotherapy 4. Phylogeny and evolution of immune responses induced by innate immune receptors 5. Darwinian medicine：functional analyses of genes accumulated in the earth
	Infectious Disease	Professor	ARIKAWA Jiro	1. Studies on the mechanism of pathogenicity of virus infection through molecular biological analysis and animal experimentation 2. Studies on the diagnosis of virus infection 3. Epidemiological study of viral zoonosis, particularly hantavirus infection
Preventive Medicine	Environmental Biology	Professor	FUJITA Hiroyoshi	1. Molecular mechanisms against environmental stress 2. Gene-environment interaction 3. The effects of environmental elements on signaling and cytoskeleton 4. Metabolic syndrome:molecular aspects 5. Cell-engineering 6. Life science of trance elements 7. Molecular biological evaluation of environmental hazards
	Public Health	Professor	KISHI Reiko	1. Studies on healthcare system in Japan and abroad 2. Prospective cohort studies of environments and children's health 3. Experimental studies on interaction between environment and genetic factors 4. Epidemiological study of Sick-House Syndrome 5. Cohort study of work-related diseases especially cardiovascular disease in occupational settings 6. Longitudinal study of age-related neuropsychiatric function among a community-based elderly 7. Risk factors of child abuse/ neglect and preventive measures
	Global Health and Epidemiology	Professor	TAMASHIRO Hidehiko	1. Comprehensive study on measures and systems of healthcare/QOL/welfare for community people 2. Epidemiological study on HIV/AIDS/STI and the other diseases including Zoonosis 3. Study on risk perception/management/communication for infectious diseases 4. Development of e-learning/e-health systems for global health and epidemiology
Forensic Medicine and Medical Informatics	Forensic Medicine	Professor	TERAZAWA Koh-ichi	1. Studies on medico-legal diagnosis of cause of death, post-mortem interval,wounds, asphyxia and identification 2. Studies on the mechanisms of generation concerning exogeneous unusual findings.
	Healthcare Systems Research	Professor	MAEZAWA Masaji	1. Evaluating curriculum of medical education 2. Evaluating effectiveness of comprehensive community care 3. Medical sociology regarding illness behaviors 4. Investigating quality of care after recently emerged municipal merger
Internal Medicine	Respiratory Medicine	Professor	NISHIMURA Masaharu	1. Research on etiology, genetics, pathophysiology, diagnosis and treatment of diffuse inflammatory lung disease/chronic obstructive pulmonary disease 2. Research on molecular mechanisms, pathogenesis, diagnosis, and treatment of lung cancer 3. Translational clinical research on pulmonary circulation 4. Research on genetics and pathophysiology of bronchial asthma 5. Research on pathogenesis and pathophysiology of difficult asthma 6. Basic and clinical research on dysregulated glucose/lipid metabolism
	Clinical Immunology and Metabolism	Professor	KOIKE Takao	1. Basic and clinical research for autoimmune disorders 2. Basic and clinical research for hematology 3. Research for pathophysiology, diagnosis and therapy in diabetes and hyperlipidemia 4. Research for pathophysiology in endocrinology 5. Basic and clinical research for renal disease
	Gastroenterology and Hematology	Professor	ASAKA Masahiro	1. Research for pathophysiology, diagnosis and treatment of digestive diseases 2. Research for pathophysiology, diagnosis and treatment of hematological diseases 3. Research for pathophysiology, diagnosis and treatment of malignant tumors 4. Research for pathophysiology and treatment of inflammatory bowel diseases 5. Research for relation between infection of Helicobacter pylori and gastric diseases 6. Research for pathophysiology and treatment of viral hepatitis 7. Basic and clinical research for bone marrow transplantation 8. Basic research for differentiation of leukemia cells

Department	Laboratory	Academic advisor		Research contents
Internal Medicine	Cardiovascular Medicine	Professor	TSUTSUI Hiroyuki	1. Reasearch on pathophysiology, diagnosis, and treatment for ischemic heart disease 2. Molecular biological and clinical reasearch on pathophysiology and treatment for heart failure 3. Reasearch on etiology, diagnosis, and treatment for idiopathic cardiomyopathy 4. Reasearch on molecular and genetic basis, diagnosis, and treatment for hypertension 5. Reasearch on etiology, diagnosis, and treatment for arrhythmia 6. Development of non-invasive technique for diagnosis of heart disease
	Medical Oncology	Professor	AKITA Hirotoshi	1. Research on diagnosis and treatment of malignant tumors 2. Research on molecular pathophysiology, diagnosis and treatment of lung cancers and mediastinal tumors 3. Research on molecular pathophysiology, diagnosis and treatment of tumors of the digestive organs 4. Research on cancer chemotherapy 5. Research on molecular targeting therapy of cancer 6. Research on molecular biological diagnosis and gene therapy
	Hematology and Oncology	Professor Associate Professor	IMAMURA Masahiro TANAKA Jyunji	1. Research on pathophysiology, diagnosis, treatment, and prevention of hematological malignancies and intractable diseases 2. Research on diagnosis, treatment, and prevention of hematological diseases 3. Research on diagnosis, treatment, and prevention of malignancies 4. Research on improvement of efficacy and safety of hematopoietic stem cell transplantation 5. Research on clinical application of cell theapy to malignancies 6. Research on graft-versus-host disease and graft-versus-tumor effect 7. Research on carcinogenesis 8. Reasearch on cell differentiation and proliferation
	Health Care Medicine	Professor	MUSASHI Manabu	1. Impaired health caused by stresses 2. Evidence based medicine in health check-up 3. Hematopoietic disturbance and hepatocellular dysfunction induced by hazardous materials 4. Mechanisms of apoptosis 5. Cell-cycle regulation of cellular proliferation and death
Radiology and Nuclear Medicine	Radiology	Professor	SHIRATO Hiroki	1. Radiotherapy and related treatment for cancer 2. Advanced precise radiotherapy 3. Diagnostic radiology using CT, MRI, and ultrasound 4. Interventional radiology and vascular diagnostic imaging 5. Neuroradiology 6. Radiological information science 7. Medical physics
	Nuclear Medicine	Professor	TAMAKI Nagara	1. Nuclear medicine diagnosis 2. Tracer kinetics of nuclear medicine 3. PET study 4. Synthesis of radiopharmaceuticals 5. Instrumentation of nuclear medicine 6. Radioisotope treatment 7. Molecular imaging
	Radio Biology	Professor	KUGE Yuji	1. In Vivo Analysis of Biological Functions and Etiological Mechanisms with Molecular Imaging Technologies 2. Applied Research of Molecular Imaging Technologies to Drug Development and Analysis of Action Mechanisms of Drugs 3. Development and Applied Research of Radiopharmaceuticals/Molecular Probes for the In Vivo Analysis of Biological Functions and Etiological Mechanisms 4. Discovery Research of Biomarkers/Target Molecules for Molecular Imaging 5. Discovery Research of Target Molecules and Development of Radiopharmaceuticals for Radionuclide Therapy 6. Photo-/Radio-Chemical Research on Bio-Functional Molecules
Surgery	General Surgery	Professor	TODO Satoru	1. Pathophysiology of alimentary tract diseases and their surgical managements 2. Hepato-biliary-pancreatic malignancy and their surgical treatments 3. Liver transplantation and artificial hepatic support 4. Surgical treatment of breast and thyroid cancer 5. Perioperative managements, non-parenteral nutrition and multi-system organ failure 6. Surgical oncology 7. Echinococcosis
	Pediatric Surgery	Professor	SASAKI Fumiaki	1. The diagnosis and treatment of the pediatric child malignant tumor 2. Pathophysiology of a patient of the infant liver and the biliary tract disease 3. Infant digestive organs function

Department	Laboratory	Academic advisor		Research contents
Surgery	Surgical Oncology	Professor	KONDO Satoshi	1. Clarification of pathogenesis in the malignancy of the respiratory system and development of surgical treatments 2. Clarification of pathogenesis in the malignancy of the digestive system and development of surgical treatments 3. Development of endoscopic surgery and its devices 4. Assessment of biologically malignant nature by genetic analysis 5. Basic research on the mechanism of malignant metastasis 6. Basic research on the gene therapy of malignant diseases 7. Basic research on the immunotherapy of malignant diseases 8. Application of vascular surgical techniques for the digestive surgery
	Renal and Genito-Urinary Surgery	Professor	NONOMURA Katsuya	1. The mechanism of development of detrusor overactivity associated with lower urinary tract obstruction 2. Neural transmitted pathway at the bladder stimulation 3. The development of chronic rejection in transplanted kidney 4. The analysis of immunology in renal transplantation and development of the treatment of immunological regulation 5. The mechanism of carcinogenesis and progression in kidney cancer 6. Basic research of gene therapy against bladder cancer 7. QOL study on the treatment of prostate cancer 8. The development of minimal invasive surgery 9. Basic research on tissue regeneration of urinary tract system
	Cardiovascular Surgery	Professor	MATSUI Yoshiro	1. Innovation of surgical intervention on severe congestive heart failure 2. Basic research on organ preservation and reperfusion injury 3. Basic research on regenerative medicine on cardiomyopathy 4. Research on extracorporeal circuit and circulatory assist device 5. Clinical research on intractive vasculitis 6. Minimal surgery in cardiovascular surgery
Anesthesiology and Critical Care Medicine	Anesthesia and Perioperative Medicine	Professor	MORIMOTO Yuji	1. Cerebral protection and resuscitation 2. Circulatory response to the stress (surgical, etc) 3. Respiratory response to the stress (surgical, etc) 4. Mechanism of general anesthesia 5. Mechanism and treatment of pain 6. Mechanism of respiratory cycle and effect of drugs 7. Patient management system in the operating room and the medical economics
	Acute and Critical Care Medicine	Professor	GANDO Satoshi	1. Body responses to various insults -pathophysiology and their control- 2. Multiple organ dysfunction syndrome -pathophysiology and treatment- 3. Critical care medicine 4. Cardiopulmonary cerebral resuscitation 5. Toxicology 6. Disaster medicine 7. Medical, transportation, and information system for acute medicine 8. Traumatology
Reconstructive Surgery and Rehabilitation Medicine	Orthopedic Surgery	Professor	MINAMI Akio	1. Regeneration research on cartilage, intervertebral disc, ligament, and spinal cord 2. Experimental research on allograft of limb, joint, and neural tissue 3. Genetic analysis of musculoskeletal system 4. Musculoskeletal glycology 5. Development and clinical application of artificial intervertebral disc 6. Biomechanical, histological, and molecular biological research on knee ligament regeneration 7. Molecular biological research on rheumatoid arthritis 8. Biomechanical research on joint and spine 9. Experimental research on artificial joints 10. Research on bone absorption and formation 11. Basic and clinical study of microsurgery
	Sports Medicine and Joint Surgery	Professor	YASUDA Kazunori	1. Research on molecular mechanisms of remodeling of the soft tissue graft materials in ligament reconstruction 2. Development of tissue engineering scaffolds and artificial organs 3. Development of in vivo spontaneous tissue regeneration strategies with clinical applicable biomaterials 4. Development of minimally invasive surgery for the bone and the joint

Department	Laboratory	Academic advisor		Research contents
Reconstructive Surgery and Rehabilitation Medicine	Plastic Surgery	Professor	YAMAMOTO Yuhei	1. Translational research in wound healing 2. Translational research in treatment of keloid 3. Development of surgical technique in free tissue transfer 4. Basic research in surgical oncology 5. Translational research of angiogenesis of vascular and lymphatic vessel 6. Regenerative medicine based on tissue engineering method 7. Development of therapeutic technique in cranio-maxillo-facial surgery
	Rehabilitation Medicine	Professor Associate Professor	IKOMA Katsunori TOHYAMA Harukazu	1. Studies on medical rehabilitation 2. Studies on kinesiology and therapeutic exercise 3. Studies on control mechanisms of the sensory system 4. Studies on functional recovery from the damage of the nervous system and plasticity 5. Studies on higher brain function and its rehabilitation 6. Studies on neurophysiological analyses 7. Studies on orthoses and assistive equipments 8. Studies on pain control 9. Studies on therapeutic exercise and cardiopulmonary function and metabolism 10. Experimental studies on mechanisms underlying changes in extracellular matrix in response to mechanical stress 11. Clinical studies on effects of the exercise therapies for the subjects with sport-related injuries 12. Studies on muscular and cardiopulmonary functions in the athletes
	Management of Labor Function	Professor	ABUMI Kuniyoshi	1. Clinical research relating labor function and spinal disorders 2. Clinical study for reconstruction of injured spinal column 3. Study for clinical application of the intervertebral disc 4. Investigation of reconstruction of destructive spinal disorders 5. Investigation of etiology and treatment of ossification of the spinal ligaments 6. Investigation of rheumatoid cervical spine
Reproductive and Developmental Medicine	Pediatrics	Professor	ARIGA Tadashi	1. Molecular genetic research of primary immunodeficient diseases 2. Molecular biological research for viral infectious disease in children 3. Clinical and basic research for malignant diseases in children 4. Clinical and basic research for endocrine diseases in children 5. Clinical and basic research for neuro-muscular diseases in children 6. Clnical and basic research of chromosomal abnormality and dysmorphology 7. Immunopathological research for renal diseases in children 8. Clnical and basic research for cardiovascular diseases in children 9. Clnical and basic research in perinatal medicine 10. Clnical and basic research of inheritant metabolic diseases 11. Clnical and basic research of gene therapy
	Obstetrics	Professor	MINAKAMI Hisanori	1. Studies on the cell biology involved in the cause of spontaneous abortion 2. Basic studies on the physiology of fetus and amnion 3. Clinical studies on the antenatal diagnosis and fetal therapy 4. Studies on the development of new strategy for the management of complicated pregnancies 5. Studies on the prophylaxis of preterm birth 6. Studies on the prophylaxis of osteoporosis 7. Studies on the regulation of osteoclasts 8. Clinical studies on the treatment of infertility
	Reproductive Endocrinology and Oncology	Professor	SAKURAGI Noriaki	1. Intrafollicular physiology 2. Regulatory mechanisim of ovulation 3. Molecular mechanism of genesis and metastasis of uterine cancer 4. Novel treatment strategy for advanced cervical cancer 5. Immunotherapy for ovarian cancer 6. Chemoresistance of female reproductive cancer 7. Molecular research of health maintenance in middle to elderly-aged women 8. Molecular mechanism of placental growth and differentiation

Department	Laboratory	Academic advisor		Research contents
Sensory Organ Medicine	Dermatology	Professor	SHIMIZU Hiroshi	1. Molecular biological research of epidermis 2. Research on pathophysiology, diagnosis and treatment of genetic skin disorders 3. Research on pathophysiology, diagnosis and treatment of autoimmune skin diseases 4. Research on pathophysiology, diagnosis and treatment of malignant skin tumors 5. Research on pathophysiology, diagnosis and treatment of atopic dermatitis 6. Research on tissue engineering and wound healing 7. Research on hair regeneration, and treatment of alopecia 8. Research on novel therapeutic modalities for genetic skin disorders
	Otolaryngology-Head and Neck Surgery	Professor	FUKUDA Satoshi	1. Basic research and clinical analysis for pathogenesis of sensorineural hearing loss 2. Basic research and clinical analysis of sensorineural hearing loss by viral infection 3. Basic research and clinical analysis of nasal allergy 4. Electrophysiological diagnosis of lesion in infantile patient of hearing loss 5. Basic research and clinical analysis of Wegener's granulomatosis 6. Immunological approach for head and neck cancer 7. Basic research and clinical analysis of facial nerve palsy by viral infection 8. Basic research and clinical analysis of chemotherapy for head and neck cancer 9. Molecular pathological studies on head and neck cancer
	Ophthalmology	Professor	ISHIDA Susumu	1. Retinal cell biology 2. Pathophysiology and treatment of uveitis 3. Molecular genetic 4. Pathophysiology and treatment of corneal and conjunctival disease 5. Ocular circulation 6. Neuroprotection for glaucoma
Neurological Disordor	Psychiatry	Professor	KOYAMA Tsukasa	1. Psychopathology of psychiatric diseases 2. Development of new psychotherapy techniques 3. Development of new diagnostic techniques and new treatment of epilepsy 4. Molecular genetic study of psychiatric diseases 5. Development of animal models of psychiatric diseases and neuroscience 6. Development of new psychotropic drugs and psychopharmacology 7. Neuroimaging in psychiatric diseases 8. Neurophysiological and neuropsychological study of psychiatric diseases
	Neurosurgery	Associate Professor	HIDA Kazutoshi	1. Basic and clinical studies on malignant glioma 2. Basic and clinical research on cerebrovascular disorders 3. Basic and clinical studies on spinal cord disorders 4. Translational research on CNS regeneration 5. Surgical anatomy of skull base surgery 6. Molecular research on cerebrovascular disorders 7. Cerebral hemodynamics and metabolism 8. Clinical research on pediatric neurosurgery
	Neurology	Professor	SASAKI Hidenao	1. Clinical neurosymptomatology 2. Clinical neuroelectrophysiology 3. Immunohistochemistry of muscles and peripheral nerves 4. Molecular biology and genetics for neurological disorders 5. Basic studies for the disease mechanism and therapeutic approach in neuro-immunological disorders
Advanced Medical Sciences	Neurobiology	Professor	KAMIYA Haruyuki	1. Molecular mechanism of synaptic plasticity 2. Mechanism of synaptic modulation in the central nervous system 3. Function of glutamate and GABA receptor 4. Regulatory mechanism of neurotransmitter release
	Cellular Informatics	Professor	UEDA Tetsuo	1. Cell functioning in terms of dissipative structure 2. Informatics on cell shape and size 3. Intracellular algorithm of computation in the true slime mold Physarum polycephalum 4. Molecular mechanism for the generation of cellular rhythm and memory

Department	Laboratory	Academic advisor		Research contents
Immunology	Molecular Virology	Professor	SHIDA Hisatoshi	1. Molecular mechanism of interaction between HIV/HTLV-1 and their hosts 2. Immunotherapy of AIDS 3. Vaccine development for HIV infection 4. Virotherapy for ATL 5. Development of rat models for HIV/HTLV-1 infection
	Immunobiology	Associate Professor	IWABUCHI Kazuya	1. Differentiation and function of T and NKT cells 2. Induction and maintenance of homeostasis of immune system 3. Experimental therapeutics for hematological, metabolic, and malignant diseases by bone marrow transplantation 4. Development and therapeutic intervention of murine models for antigen-induced autoimmune disease 5. Studies of the immunity with genetically engineered mice 6. Signals and mechanism of enhanced immune responses against infection and malignacy by macrophages and dendritic cells 7. Investigation of immune responses to zoonotic pathogens
	Immnoregulation	Professor	NISHIMURA Takashi	1. The molecular and cellular mechanisms on the regulation of immune balance 2.The development of tumor immunotherapy and Th1 cell-therapy 3. The control of immune balance and its application to allergy and autoimmunediseases 4. DC-based tumor vaccine therapy 5. The cross-talk among immune,nerved endocrine systems 6. Regulation of signaling cascads in T cell-development,proliferation, and activation 7. Application of gene-modified mice to evaluate immunoregulation mechanisms
	Molecular Immunology	Professor	UEDE Toshimitsu	1. The sysytem of apoptotic signal transduction in immune diseases and tumors 2. The function and structure of osteopontin 3. Search of novel apoptosis related molecules and analysis of their functions 4. The regulation of immune responses by cytokines and costimulatory molecules 5. Development of novel therapy for immune diseases and tumors using experimental mouse model 6. The role of extracellular matrix proteins and their integrin receptors in the development of immune diseases
Pathological Oncology	Cancer Biology	Professor	NOGUCHI Masayuki	To study and characterize the intracellular signal transduction cascade that controls the balance between the cell death and proliferation.
	Tumor Virology	Professor	TAKADA Kenzo	1. Study on virus-associated human cancers 2. Molecular mechanism of viruses induced oncogenesis 3. Studies on control of induced oncogenesis 4. Studies of gene therapy for cancer using virus vectors
	Cancer-Related Genes	Professor Associate Professor	MORIUCHI Tetsuya HAMADA Jun-ichi	1. A study of metastasis from the viewpoint of dysregulated positional information (HOX code) of tumor cells 2. Analyses of expressions of metastasis-related genes and their functions 3. Roles of tumor-stroma interactions in invasion and metastasis 4. Analysis of cancer-related-genes by yeast functional assay 5. Studies of structural and functional abnomality of RNA in human diseases

平成22年度　北海道大学大学院医学研究科博士課程
2010 Doctral Course of the Graduate School of Medicine Hokkaido University

※ 一般入学 Regular admission / 社会人入学 Working student admission

入　学　願　書
Application Form for Admission

※印は，いずれかを○で囲む。
Please write in block letters.
For items marked with a [※], circle only one.

Please leave blank

(記入不要) 受験番号	

志願者	ふりがな		性別
	氏　名 Name	Family Name , Given Name ,Middle Name	※男 Male ・ 女 Female
	生年月日 Date of birth	昭和　年(Year)　月 (Month)　日(Day)生	
出願資格(1),(2),(4),(5)による場合 Academic Qualification When applying on qualifications (1)(2)(4) or (5), fill in the columns	Highest academic qualification	大学 (University/College)　学部 (School/Faculty)　学科 (6年制)	
	大学大学院 (Graduate School)　研究科 (School/Faculty)　課程 (Course)　専攻 (major field)		
	※ 平成 昭和　年(Year)　月 (Month)　日(Day)	※ 卒　業・修了 卒業見込・修了見込	
出願資格(3),(6)による場合 When applying on qualifications (3)or (6), fill in the columns	Highest academic qualification (name of institution, course)		
	※ 平成 昭和　年(Year)　月 (Month)　日(Day)	※ 卒業 (　)年在学中 卒業見込 Expect to graduate	
本　人 現　住　所 (出願時の住所) Current address	〒　－ ＴＥＬ (　　) － Mobile phone (optional)携帯電話がある場合　ＴＥＬ (　　) －		
入学に関する通知を受ける住所 Address for receiving notification of admission	〒　－ ＴＥＬ (　　) －		

志望分野	志望区分	講　座　名 Department	分　野　名 Laboratory
	第一志望 First preference	講座	分野
	第二志望 Second preference	講座	分野

医師国家試験 Japanese National Board Registration (if applicable)	合格年月日Date registered	医籍登録番号Registration No.
	※ 平成 昭和　年 (Year)　月 (Month)　日 (day)	第　号

入学後の主な研究希望内容（簡潔に箇条書きにすること。）
Preferred area(s) of research after admission (Itemize concisely.)

注　志望分野について，第二志望まで記入した者は，第一志望及び第二志望の２つの分野の専門科目試験を受験することになります。

履　歴　書
Personal Record

研修医の期間は、職歴欄に記入のこと。
Enter term of internship in “Work History” column.

学歴（高等学校卒業から記入すること。）Academic history (starting from High School graduation)

年 (Year)	月 (Month)	日 (Day)	区分	学　校　・　大　学　名　　等
On	・	・	卒業	高等学校卒業 Graduated High school
自 From	・	・	入学	
至 To	・	・		
自 From	・	・	入学	
至 To	・	・		
自 From	・	・	入学	
至 To	・	・		
自 From	・	・	入学	
至 To	・	・		

職歴Professional history etc.

年 (Year)	月 (Month)	日 (Day)	勤　務　先　・　部　署　等
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	
自 From	・	・	
至 To	・	・	

資格Qualifications

年 (Year)	月 (Month)	日 (Day)	取　得　資　格　の　名　称
	・	・	
	・	・	

賞罰Awards / penalties

年 (Year)	月 (Month)	日 (Day)	名　称　・　内　容　　等
	・	・	
	・	・	

上記のとおり相違ありません。

平成　　年 (Year)　　月 (Month)　　日 (Day)　　出願者署名： Signature