



Department of Medical Science, Graduate School, Chungnam National University



History and Goals

Graduate School of medical Science at Chungnam National University, which was approved by the Ministry of Education in October 2008 as College of Medicine for the graduate course, has been providing master's and doctoral courses for 20 and 15 students respectively since the first spring semester of 2009

Department of Medical Science, Chungnam National University aims to foster professional medical personnel who can lead the medical science industry to promote human health and enhance the quality of life.

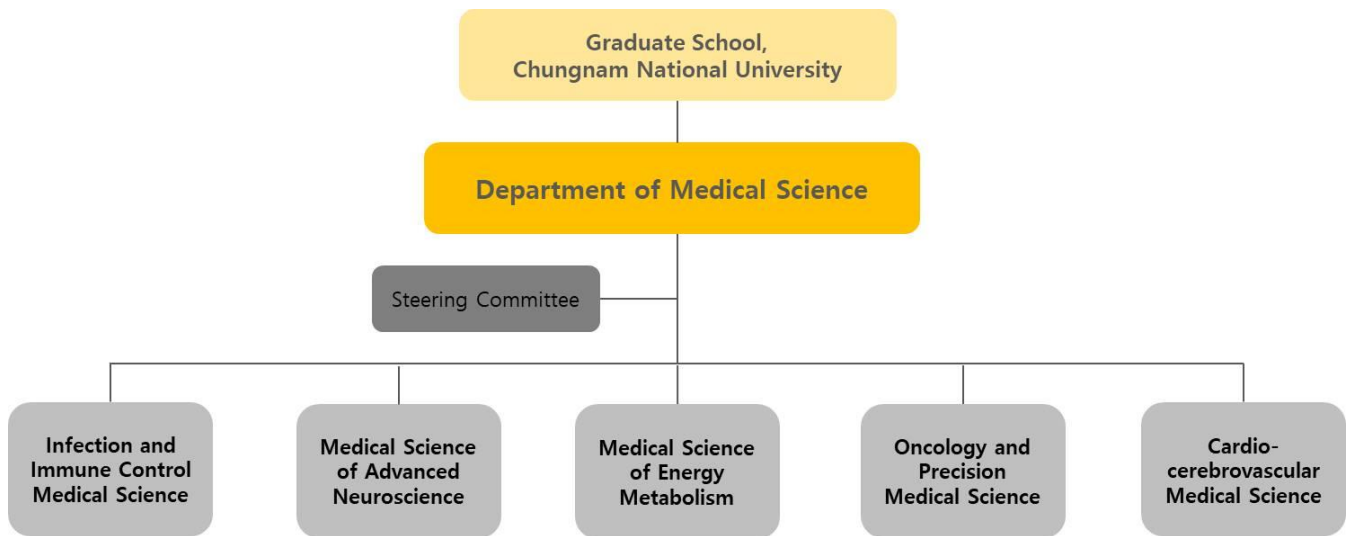
The medical department is a single major in medical science and consists of five programs, including Infectious and Immune control, Advanced Neuroscience, Energy Metabolism, Oncology and Precision, and Cardiocerebrovascular Medical Science programs. Professors in each field are educating students and conducting innovative scientific research.

All students who completed our degree programs at the College of Medicine are employed at medical science research institutions in Korea and overseas, and they also foster the next generation by working as research professors at universities.

We are there for you by nurturing professional personnel in medical science with international competitiveness.

Dong Woon Kim,
Dean of the Graduate School of medical Science,
Chungnam National University

Organizational structure



Curriculum Overview

○ Academic curriculum

- Required course: basic elective subjects (2) with one-year cycle, advanced elective subjects(4) with a two-year cycle
- Newly established eight subjects from five programs with a four-year cycle
- Team teaching with more than two under specifying head/associate professors who are in charge of
- Flexible program operating according to research trends under head professors' guide
- Convergence science research methodology with competitive medical scientists: Seminars on the fourth industry-related topics

Curriculum

1. Curriculum

Category	Subject	Director	Vice-director	Participating faculty members
Basic major elective	Structure and Function of Human Body	Byeong Hwa Jeon	Sung-Tae Hong	Byeong Hwa Jeon Sung-Tae Hong
	Introduction of Pathophysiology of Human Disease	Dean of the Graduate School of medical Science		Director of the program
Advanced major elective	Research methodology on Biomedical Science	Chang-Hwa Song	Dong Woon Kim	Chang-Hwa Song Jae-Min Yuk Sung-Tae Hong Jin-bong Park Jong-Il Park Gang Min Hur Hyeongseok Kim
	Trends in Medical Statistics	Jongsun Park		In Sun Kwon Jongsun Park Young Ho Lee Sung-Tae Hong Yunseo Ku, Dongheon Lee
	Methodology of Scientific Paper Writing	Chang Deok Kim	Hwa-Jung Kim	Hwa-Jung Kim Byeong Hwa Jeon Chang Deok Kim Yong-Ho Park Young Joo Jeon
	Biomedical Science Capstone Design	Dong Woon Kim	Chul Hee Choi	Jong-Il Park Dong Woon Kim Chul Hee Choi Sang Do Lee Byeong Hwa Jeon Jang Hee Hong
Seminar	Methodology of Merged Medical Science 1~8	Dean of the Graduate School of medical Science		Dong Woon Kim Jongsun Park Chul Hee Choi Cuk-Seong Kim Sang Do Lee
Major programs	Curriculum of each program			

2. Courses for each program

A. Infection and Immune Control Medical Science

Program	Director	Subject Title	Subject Director
Infection and Immune Control Medical Science	Chul Hee Choi	Seminars in Human Disease and Immunology	Chang-Hwa Song
		Topics in Cellular and Molecular Microbiology	Eun Kyeong Jo
		Microbial genetics	Chul Hee Choi
		Immunological mechanism and diseases	Yong Min Kim
		Zoonosis	Guang-Ho Cha
		Fundamental immunology and application	Chul Hee Choi
		Defense mechanism in infectious and related diseases	Jae-Min Yuk
		Recent biological research and modern applications	Chul Hee Choi

B. Medical Science of Advanced Neuroscience

Program	Director	Subject Title	Subject Director
Medical Science of Advanced Neuroscience	Dong Woon Kim	Introduction to neuroscience	Jin-bong Park
		Clinical neuroanatomy	Yong-Ho Park
		Principles of neurophysiology	Hyun Woo Kim
		Biological basis of neurological diseases	Joon Won Kang
		Animal models for the neurological disease	Dong Woon Kim
		Neuroglia	Dong Woon Kim
		Electrophysiology in nervous system	Jin-bong Park
		Development of neuromodulator and fusion medicine	Jun Young Heo

C. Medical Science of Energy Metabolism

Program	Director	Subject Title	Subject Director
Medical Science of Energy Metabolism	Jongsun Park	Human Energy Metabolism (seminar)	Hyon-Seung Yi
		Diabetes and complication	Hyun Jin Kim
		Mitochondria and Human Diseases	Gi Ryang Kweon
		Chronic Kidney Disease	Dae Eun Choi
		Proteomes in Cancer Cell Metabolism	Young Joo Jeon
		Molecular Basis of Metabolic Syndrome	Jongsun Park
		Current Trends in Metabolic Syndrome(Seminar)	Young Joo Jeon
		Understanding of immuno-metabolism	Hyon-Seung Yi

D. Oncology and Precision Medical Science

Program	Director	Subject Title	Subject Director
Oncology and Precision Medical Science	Sang Do Lee	Basic stem cell biology	Chang Deok Kim
		Basic regeneration science	Chang Deok Kim
		Clinical cancer research	Min-Woong Kang
		Recent trends in cancer research	Sang Do Lee
		Signaling alterations in cancer	Gang Min Hur
		Biology of cancer	Gang Min Hur
		Roles of tumor-microenvironment	Sang Do Lee
		Cancer treatment and resistance	Hyo Jin Lee

E. Cardiocerebrovascular Medical Science

Program	Director	Subject Title	Subject Director
Cardiocerebrovascular Medical Science	Cuk-Seong Kim	Hematology	Byeong Hwa Jeon
		Vascular Physiology	Jin-Ok Jeong
		Principle of screening technology for vascular disease and its application	Byeong Hwa Jeon
		Preclinical validity assessment	Cuk-Seong Kim
		Understanding of ischemic vascular disease	Moon Sang Ahn
		Integrative science of vascular system	Shin Kwang Kang
		Prevention of vascular disease	Hae-Sung Nam
		Therapeutic advance in vascular disease	Cuk-Seong Kim

Vision and Strategy

○ Vision: Fostering future medical scientists leading innovative research with differentiated and independent convergence with proven creativity

○ Strategy: Core mission

(Creative, Optimized independent, Readvance in convergence, Enhanced distinction)



1. [Creative] Fostering creative personnel programs

【 A 】 Five convergence medicine research programs and advancement

- Medical science programs
 - Operating five programs such as Infection and Immune Control, Advanced Neuroscience, Energy Metabolism, Oncology and Precision, Cardiocerebrovascular
- On-going eight subjects by program
- Program operating with flexibility according to research trends under head professors' guide
- Developing a 4-year-cycle education program for students with integrated master's and doctorate programs

【 B 】 MMC (Monthly Monday Convergency) Day, offering basic/clinical joint seminars

- Goal: Vitalizing collaboration and convergence activities by sharing mutual findings between primary/primary, clinical/clinical, and primary/clinical research
- When and what: Hosting seminars on last Mondays
- Effect
 - Boosting up convergence research by deducing research tasks for basic/clinical intermediary
 - Providing public announcement opportunities for graduate students of medical science who present excellent academic papers

【 C 】 Educational programs for next-generation experimental techniques

- Goal: Developing adaptability to new research topics through the latest experimental techniques courses
- Providing information to develop cutting-edge experimental skills for independent problem solving
- Program status
 - Hosted programs 3 times in 2016, 6 times in 2017, 8 times in 2018, and 7 times in 2019

【 D 】 Hosting a regular medical science and academic conference

- Goal: Creating a cooperative atmosphere for through sharing research outcomes and having a verbal presentation from graduate students who achieved significant research results
- Status: Hosting yearly since 2016
- Presentation: Promoting collaborated research by applying incentives, verbal presentation, and poster announcement
 - Encouraging research activities by awarding for outstanding presentations
 - Outstanding Biomedical Scientist Award
 - Best Poster Presentation Award

【 E 】 Immersion semester programs

- Offering intensive semesters for the latest medical science by inviting excellent domestic and foreign scientists
 - Giving short-term intensive lectures on the cutting-edge trends and experimental skills during vacation

【 F 】 Creative curriculum development for Sejong Medical Bio-convergence Campus

○ Reorganizing curriculum in preparation for the Sejong Medical Bio-Convergence Campus expansion planned in 2024

- Developing curriculum and reforming courses for Department of Convergence Medicine and Healthcare Convergence Graduate School (Precision Medicine, Medical Devices, Pathogenesis, Digital Healthcare, Biomaterials, Innovation Medical Science Courses)

2. [Optimized Independent] Fostering Self-directed capability, which is optimized independently

【 A 】 Fidelity and continuity of elective courses and advanced courses

○ Cultivating essential knowledge of medical science by developing elective courses

- Selecting one subject among academic curriculum opening yearly

- Structure and Function of Human Body

· Knowledge of Anatomical/Physiological system

· Reinforced practices such as anatomical dissection and physiological functional examination

- Introduction of Pathophysiology of Human Disease

· Head /Assistant processors (Dean of medical school /professors in charge of programs)

· Offering lectures on the latest knowledge of human diseases by a head professor in charge of 5

medical science programs

○ Changing opening cycles of advanced elective courses

- Opening two courses per semester every one year

- 1st semester: Research methodology on Biomedical Science, Methodology of Scientific Paper Writing

- 2nd semester: Trends in Medical Statistics, Biomedical Science Capstone Design

- Effect: Systematic operation of curriculum for graduate students

【 B 】 Research methodology on Biomedical Science (1st semester)

○ Goal: Acquiring fundamental and essential techniques to strengthen research competitiveness based on theoretical background from experts

○ Effect: Cultivating practical, theoretical background for experimental skills through advanced course after completing introductory theory study

○ Handing out textbooks with lecture contents

○ Educational contents

- Basic courses: Cell culture theory and practice, cell function and genetic function analysis theory and practice (MTT test and Apoptosis measurement) PCR theory and practice, Western Blotting theory and practice, Immunochromatic theory and practice, Microscopy and Image Analysis Theory and Practice

- Advanced courses: Flow Cytometry theory and practice, the theory and practice of mitochondrial metabolism, the theory and practice of gene cloning, the theory and practice of virus production, the theory and practice of autophagy, and the theory of genetically modified mice.

【 C 】 Trends in Medical Statistics (2nd semester)

○ Goal: Acquiring statistical significance from experiment through practice and learning how to utilize the extensive public database

○ Educational contents

- Basic courses: Basic statistical theory and SPSS 1, T-test, Paired-test, and related nonparametric tests (Mann-Whitney test, Wilcoxon's signified rank test), ANNOVA/ANCOVA and related nonparametric tests (Kruskal-Wallis test), repeated measured ANOVA related nonparametric tests(Friedman test), correlation and regression analysis theory and practice, categorical data analysis, logistic regression theory and practice, survival analysis and Statistical Practical Evaluation

- Advanced courses: Expaty theory and practice; Motif search theory and practice; TCGA data portal search theory and practice; Genetic DB analysis practical assessment; Bioinformatics, Data Science training

【 D 】 Methodology of Scientific Paper Writing (1st semester)

○ Goal: Offering theoretical foundation for thesis and encouraging the development of writing skills through editing from participating professors

○ Academic contents

- One-on-one intensive personal education by limiting the number of students to less than 10

- Basic courses: English thesis writing overview, making figures, Abstract writing theory and correcting, introduction writing and correcting, Methods, Results writing and editing, Discussion writing and editing

- Advanced courses: Reference Endnote utilization, redundancy check, and thesis submission on the website

【 E 】 Personalized portfolio

○ Goal: Collecting and research achievements and academic efforts of students and graduates at the medical department for future self-development and self-reflection

○ Contents: Offering personalized feedback on the list of courses, graduation qualification, publishing a dissertation in an academic journal, academic conference presentation, industry dispatch experience, patent application/registration, scholarship benefits, awards, short- and long-term training status, and assistant teacher experience

○ When: Guiding new students how to build a portfolio and manage it at the beginning of each semester

○ Recommending excellent graduate students based one portfolio submitted for dean's award

【 F 】 Workshop on experimental animals

○ Improving animal testing skills through workshops on experimental animal techniques

- Hosting regular workshops for new students every semester (April, October)

- A practical-oriented workshop led by AV experimental animal experts at Chungnam National University Medical School's Clinical Experiment Center

○ Academic content: Understanding of experimental animals, correction of experimental animals, blood collection and drug administration, anesthesia and anatomical practice

【 G 】 Joint laboratory workshop

○ Offering diverse training for joint laboratory equipment

- Regular training on high-priced equipment such as Confocal Microscope and Flow Cytometry

- Offering theory education and practice

3. [Readvance in convergence] Advanced Multi-disciplinary Convergence Education Program

【 A 】 Methodology of Merged Medical Science 1~8

○ Goal: Offering regular seminars on the cutting-edge research trends and knowledge in medical science by inviting excellent scientists in Korea and operating them as subjects

Inviting excellent scientists in Korea as instructors and operating regular seminars on the latest research trends and knowledge in medical science-related fields as subjects

- Operating convergence medical science methodology linked with seminars of excellent medical scientists
 - Completing seminars of excellent medical scientists as a required course in the graduate school
 - Designating temporal seminar room # 311 on the 3rd floor of the Library building at the College of Medicine at 11 a.m. every Wednesday

【 B 】 Developing and operating convergence subjects

○ Goal: Fostering pioneering physicians with expertise by organizing disease based convergence curriculum

- Developing subjects consisting of experts from primary, clinical, other majors, and industry sectors
- Developing more than one subject every two years by medical science programs
- Curriculum status
 - Infection and Immune Control: Appointing the director-general, Yoo Seong-sik, of the Central Vaccine Research Institute and the CEO, Ko Jeong-moon of Navi Biotech Co., Ltd. as affiliated professors to participate in the "Trends and Methodology of Immunobiology" curriculum as team teaching.
 - Energy metabolism: Appointing Park Young-chan, CEO of Croen Co., Ltd., as an affiliated professor for team teaching for the "Current Trends in Metabolic Diseases."
 - Oncology and Precision: Appointing Yoo Jin-sang, CEO of PharmAbcine Co., Ltd., as an affiliated professor for team teaching of the "Clinical cancer research"
 - Advanced Neuroscience: Appointing Yoon Ju-seok, CEO of Huen Co., Ltd., as an affiliated professor for team teaching of "Development of neuromodulator and fusion medicine."

【 C 】 Academic advisory system

○ Advising not only faculty in the department but also all the faculty in full service, including faculty from Chungnam National University Hospital, for supervising a dissertation

【 D 】 Dual degree system System (1+1)

○ Goal: Realizing convergence education and internationalization of curriculum by vitalizing dual degree system

- Reorganizing and revitalizing dual degree system for convergence and combined curriculum

and revitalization of multiple degrees to revitalize the convergence and complex curriculum

- Promoting dual degree(Twinning) with overseas universities
- Students studying overseas for their master's and a doctoral degree with one year completing can continue their remaining year at CNU College of Medicine,
- Establishing Twinning degree system with Hai Phong University College of Medicine(February 2019) to attract new students

【 E 】 Curriculum development linked to CNU Institute of Convergence and Development (CIT)

- Goal: Vitalizing major courses linked to CNU Convergence Science Institute
- Contents
 - Encouraging international joint education and strengthening curriculum using Education Platform of the CNU Convergence Science Institute
 - Running a joint curriculum with overseas universities using an internationalized platform
 - Supporting start-ups and employment activities for graduate students' career
- Vitalizing joint value creation for university-to-region and social problem-solving living lab

【 F 】 Open circular training program

- Goal: Fostering convergent expertise by encouraging circular education programs by major for new students
- Overview
 - Selecting a team teaching advisor in medical science programs or convergence majors
 - Consulting with a team-teaching advisor on research topics
 - Submitting reports after lab seminars with a team teaching advisor for a certain periodically
 - Implementing for students studying combined master's and doctoral degree courses

4. [Enhanced distinction] Innovatively Differentiated Educational Program Status and Plan

【 A 】 Biomedical Science Capstone Design

- Goal: Enhancing practice capabilities based on medical science research for students' creativity and comprehensive problem-solving ability
- Curriculum
 - Basic course 1: Seminars on patent strategy and competitions
 - Basic course 2: Enterprise research and exploration
 - Basic course 3: Start-up strategies and student start-up
 - Advanced course: Preparing a research plan and presentation



October. 31th. 2019

November. 7th. 2019

November. 14th. 2019

Field trip to local companies and research institutes



October. 10th. 2019

Patent competition

【 B 】 Patent education (visiting consultation for invention)

- Implementing annual patent education for industry-academic performances
 - Consulting for patent affairs, procedures, patent policy guidance, and individual counseling with an invited patent attorney
 - Encouraging research personnel and graduate students to participate



Visiting consultation for invention

【 C 】 Joint research seminar on industries

- Hosting special lectures on joint research to industry exchanges
 - Seminar with industry experts invited
 - Finding joint research topics for industries

【 D 】 Joint Symposium on research and cooperation technology exchange with national research institutes in the region

- Hosting joint symposium with universities, research institutes, and industries with national research institutes in the region
 - Joint symposium with Korea Institute of Basic Science (KBSI), Korea Institute of Biotechnology (KRIBB),

Korea Institute of Chemistry (KRI), Information and Communication (ETRI), Korea Institute of Stability Evaluation (KIT), and Korea Institute of Standards and Sciences (KRIS).

- Facilitating joint research linked to Chungnam National University Hospital's Biomedical Institute

【 E 】 Start-up education

- Hosting seminars on start-ups to encourage for setting up
 - Providing start-up education to offer know-how on start-ups regularly

【 F 】 Granting credits for dispatched working

- Recognizing credits from research intern system (Revised May 2020)
 - Granting credits for dispatched working and research intern activities
 - After applying to CNU Convergence Graduate School first in 2021, it will be expanded to a general graduate school in 2014.

5. Educational Management Plan

【 A 】 Educational management for freshmen

- Admission session
 - Goal: Distributing public relations materials and holding an admission session for students from local universities
 - Advertising activities like banner ads at websites of College of Medicine and releasing promotional brochures and booklets
 - Visiting overseas universities to attract excellent foreign students
- Boosting up adaptation capability for research environment through orientation for freshmen
 - Holding an orientation for the 1st week of March and September

【 B 】 Educational management for students

- Promoting a joint advisory system for multidisciplinary education
 - Recommending basic/clinical joint supervisor professors
 - Expanding the standard of supervisors to fund professors through revision of the regulation on the selection of supervisors;
- Supporting combined master's and doctoral courses for stable improvement
 - To qualify for a degree, a student in a combined master's and doctoral course must have an overall 4.0 GPA or above during the enrollment term and attain the Ph.D. degree in the 7th semester with a shortened school term.
 - When converting to a combined master's and doctoral course, full tuition support is given to those who converted.

【 C 】 Thesis submission

- Reinforcement of thesis submission qualifying exam
 - Qualification: Once in every semester and students must earn two-thirds of the credits
 - Four test subjects from major courses
 - Being eligible for a pass with a passing score 60 out of 100 in each subject

- Graduation requirements: Academic journal acceptance
 - Doctoral course: One published version of the thesis in (SCI(E) level journal with impact factor 4 or more or two of the thesis in (SCI(E) level international journal
 - Master's course: Presentation of at least one international/domestic conference as a lead author

- Public announcement of dissertation
 - Effect: Creating an atmosphere for research cooperation, enhancing the quality of the thesis, and forming networks among graduates through the public presentation for candidates
 - Informing the date and presentation venue for graduate candidates to all members

- 【 D 】 Supports for fostering medical scientists**
 - Customized curriculum plan
 - Who: Full-time graduate students after graduating or acquiring qualification for medical specialist
 - Students must study required courses in biomedical sciences like Medical Science Experiment Methodology.
 - Establishing education programs to conduct disease-oriented research among medical science subjects
 - Developing programs for medical scientists selected from joint projects for fostering converged and innovative physicians

- 【 E 】 Support for graduate students**
 - Selecting representatives for each grade
 - Selecting representatives for master's and doctoral courses since 2018
 - Securing networking by the representative for each grade
 - Holding a meeting with representatives of each grade to collect students' opinions and feedback

 - Supports for club activities
 - Desirable convergence clubs oriented with two medical science
 - Currently, three clubs are in operation in the medical department.
 - Clubs: New Year's chem, Cnu-Bio, Avengers
 - New Year's Cam (Biochemistry + otolaryngology)
 - CNU-Bio (Physiology + Anatomy)
 - Avengers (Pharmacology + otolaryngology + skin science)

 - Supports for foreign language
 - A TOEIC score of 700 or higher for master's and doctoral courses are required. The scores upgraded from the score of 550 for the master's course and 600 for the doctoral course according to the revision of the guidelines on the graduate thesis of graduate school on February 26, 2018.
 - Students can take English lectures (TOEIC, English conversation) in January and July before each semester

to prevent prolonged degree acquisition.

○ Supports for international graduate students

- Providing counseling on difficulties regularly from education research group
- Promoting academic motivation and managing academic grades of international students through Korean language classes linked to CNU Convergence Science Institute

Participating faculty members

Infection and Immune Control Medical Science

Chul Hee Choi	Department of Microbiology	choich@cnu.ac.kr
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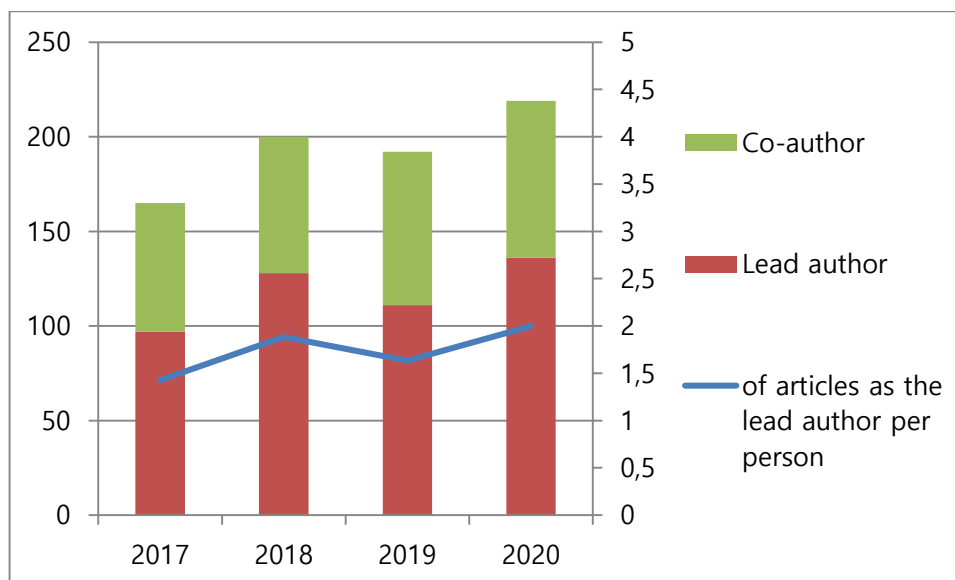
Cardiocerebrovascular Medical Science

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Research accomplishments of participating faculty members

1. Research accomplishments

[Unit: published articles]



<Total number of published articles (duplication removed)>

2. No. of articles based on impact factor (IF)

	2017	2018	2019	2020	Total
IF\geq5	49	56	56	78	239
Lead author	25	29	33	51	138
IF\geq3	110	138	144	156	548
Lead author	66	87	88	105	346

3. No. of articles with five or more impact factors (lead author)

No	Year	Name	Article	Journal Title	IF
1	2017	Woosuk Chung	Sevoflurane Exposure during the Critical Period Affects Synaptic Transmission and Mitochondrial Respiration but Not Long-term Behavior in Mice	ANESTHESIOLOGY	7.892
2	2017	Bon Seok Koo	Inhibitor of DNA binding 2 is a novel therapeutic target for stemness of head and neck squamous cell carcinoma	BRITISH JOURNAL OF CANCER	7.64
3	2017	Hyon-Seung Yi	Growth Differentiation Factor 15 Mediates Systemic Glucose Regulatory Action of T-Helper Type 2 Cytokines	DIABETES	9.461
4	2017	Minho Shong	Growth differentiation factor 15 is a myomitokine governing systemic energy homeostasis	JOURNAL OF CELL BIOLOGY	10.539
5	2017	Eun-Kyeong Jo	PPAR-alpha Activation Mediates Innate Host Defense through Induction of TFEB and Lipid Catabolism	JOURNAL OF IMMUNOLOGY	5.422
6	2017	Minho Shong	Regeneration of thyroid follicles from primordial cells in a murine thyroidectomized model	LABORATORY INVESTIGATION	5.662
7	2017	Hyo Jin Lee	Nivolumab and Ipilimumab in Advanced Melanoma	NEW ENGLAND JOURNAL OF MEDICINE	91.245
8	2017	Kwang Yeon Choi	BAF53b, a Neuron-Specific Nucleosome Remodeling Factor, Is Induced after Learning and Facilitates Long-Term Memory Consolidation	JOURNAL OF NEUROSCIENCE	6.167
9	2017	Eun-Kyeong Jo	Negative regulators and their mechanisms in NLRP3 inflammasome activation and signaling	IMMUNOLOGY AND CELL BIOLOGY	5.126
10	2017	Hwa-Jung Kim	Early detection of the growth of Mycobacterium tuberculosis using magnetophoretic immunoassay in	BIOSENSORS BIOELECTRONICS	10.618

			liquid culture		
11	2017	Young Joo Jeon	Interferon-Stimulated Gene 15 in the Control of Cellular Responses to Genotoxic Stress	Molecules and Cells	5.034
12	2017	Jin Man Kim	Peroxiredoxin 5 overexpression enhances tumorigenicity and correlates with poor prognosis in gastric cancer	INTERNATIONAL JOURNAL OF ONCOLOGY	5.65
13	2017	Bon Seok Koo	Clinical implications of microscopic extrathyroidal extension in patients with papillary thyroid carcinoma	ORAL ONCOLOGY	5.337
14	2017	Byeong Hwa Jeon	APE1/Ref-1 Inhibits Phosphate-Induced Calcification and Osteoblastic Phenotype Changes in Vascular Smooth Muscle Cells	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
15	2017	Dae Eun Choi	High Endogenous Accumulation of omega-3 Polyunsaturated Fatty Acids Protect against Ischemia-Reperfusion Renal Injury through AMPK-Mediated Autophagy in Fat-1 Mice	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
16	2017	Cuk-Seong Kim	CR6-Interacting Factor 1 Deficiency Impairs Vascular Function by Inhibiting the Sirt1-Endothelial Nitric Oxide Synthase Pathway	ANTIOXIDANTS REDOX SIGNALING	8.401
17	2017	Eun-Kyeong Jo	MIR144* inhibits antimicrobial responses against Mycobacterium tuberculosis in human monocytes and macrophages by targeting the autophagy protein DRAM2	AUTOPHAGY	16.016
18	2017	Seong Wook Kang	Interleukin-7 Induces Osteoclast Formation via STAT5, Independent of Receptor Activator of NF-kappaB Ligand	FRONTIERS IN IMMUNOLOGY	7.561
19	2017	Dong Woon Kim	Primary cilia modulate TLR4-mediated inflammatory responses in hippocampal neurons	JOURNAL OF NEUROINFLAMMATION	8.322
20	2017	Minho Shong	VEGFR2 but not VEGFR3 governs integrity and remodeling of thyroid angiofollicular unit in normal state and during goitrogenesis	EMBO MOLECULAR MEDICINE	12.137

21	2017	Young Joo Jeon	Unfolded Protein Response of the Endoplasmic Reticulum in Tumor Progression and Immunogenicity	OXIDATIVE MEDICINE AND CELLULAR LONGEVITY	6.543
22	2017	Chang-Hwa Song	Calreticulin modulates the intracellular survival of mycobacteria by regulating ER-stress-mediated apoptosis	ONCOTARGET	5.168
23	2017	Hwa-Jung Kim	Rv2299c, a novel dendritic cell-activating antigen of Mycobacterium tuberculosis, fused-ESAT-6 subunit vaccine confers improved and durable protection against the hypervirulent strain HN878 in mice	ONCOTARGET	5.168
24	2017	Minho Shong	Upregulation of RSPO2-GPR48/LGR4 signaling in papillary thyroid carcinoma contributes to tumor progression	ONCOTARGET	5.168
25	2017	Hwa-Jung Kim	Mycobacterium abscessus glycopeptidolipids inhibit macrophage apoptosis and bacterial spreading by targeting mitochondrial cyclophilin D	CELL DEATH DISEASE	8.469
26	2018	Gang Min Hur	C-27-carboxylated oleanane triterpenoids up-regulate TRAIL DISC assembly via p38 MAPK and CHOP-mediated DR5 expression in human glioblastoma cells	BIOCHEMICAL PHARMACOLOGY	5.858
27	2018	Bon Jeong Ku	Serum Meteorin-like protein levels decreased in patients newly diagnosed with type 2 diabetes	DIABETES RESEARCH AND CLINICAL PRACTICE	5.602
28	2018	Young Joo Jeon	ISG15 in cancer: Beyond ubiquitin-like protein	CANCER LETTERS	8.679
29	2018	Chang-Hwa Song	TNF- α -mediated ER stress causes elimination of Mycobacterium fortuitum reservoirs by macrophage apoptosis	FASEB JOURNAL	5.191
30	2018	Jong-II Park	Liposomes containing cholesterol and mitochondria-penetrating peptide (MPP) for targeted delivery of antimycin A to A549 cells	COLLOIDS AND SURFACES B-BIOINTERFACES	5.268
31	2018	Sung-Tae Hong	Piscroside C inhibits TNF- α /NF-	PHYTOMEDICINE	5.34

			kappa B pathway by the suppression of PKC delta activity for TNF-RSC formation in human airway epithelial cells		
32	2018	Minho Shong	Loss-of-function of IFT88 determines metabolic phenotypes in thyroid cancer	ONCOGENE	9.867
33	2018	Minho Shong	The mitochondrial unfolded protein response and mitohormesis: a perspective on metabolic diseases	JOURNAL OF MOLECULAR ENDOCRINOLOGY	5.098
34	2018	Hwa-Jung Kim	Gold-copper nanoshell dot-blot immunoassay for naked-eye sensitivedetection of tuberculosis specific CFP-10 antigen	Biosensors and Bioelectronics	10.618
35	2018	Eun-Kyeong Jo	Pexophagy: Molecular Mechanisms and Implications for Health and Diseases	Molecules and Cells	5.034
36	2018	Bon Seok Koo	Optimal extent of lateral neck dissection for well-differentiated thyroid carcinoma with metastatic lateral neck lymph nodes: A systematic review and meta-analysis	ORAL ONCOLOGY	5.337
37	2018	Eun-Kyeong Jo	AMP-Activated Protein Kinase and Host Defense against Infection	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
38	2018	Byeong Hwa Jeon	Anthocyanin-Rich Extract from Red Chinese Cabbage Alleviates Vascular Inflammation in Endothelial Cells and Apo E-/- Mice	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
39	2018	Young Joo Jeon	Protein Quality Control in the Endoplasmic Reticulum and Cancer	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
40	2018	Jongsun Park	Emerging roles of TRIO and F-actin-binding protein in human diseases	CELL COMMUNICATION AND SIGNALING	5.712
41	2018	Bong Jik Kim	Mutational and phenotypic spectrum of OTOF-related auditory neuropathy in Koreans: eliciting reciprocal interaction between bench and clinics	JOURNAL OF TRANSLATIONAL MEDICINE	5.531
42	2018	Eun-Kyeong Jo	ESRRA (estrogen-related receptor	AUTOPHAGY	16.016

			alpha) is a key coordinator of transcriptional and post-translational activation of autophagy to promote innate host defense		
43	2018	Seong Wook Kang	Decreased Expression of Sphingosine-1-Phosphate Receptor 1 in the Blood Leukocyte of Rheumatoid Arthritis Patients	IMMUNE NETWORK	6.303
44	2018	Sung-Tae Hong	Lignans Isolated From Flower Buds of <i>Magnolia fargesii</i> Attenuate Airway Inflammation Induced by Cigarette Smoke in vitro and in vivo	FRONTIERS IN PHARMACOLOGY	5.81
45	2018	Dong Woon Kim	p38 siRNA-encapsulated PLGA nanoparticles alleviate neuropathic pain behavior in rats by inhibiting microglia activation	NANOMEDICINE	5.307
46	2018	Eun-Kyeong Jo	GABAergic signaling linked to autophagy enhances host protection against intracellular bacterial infections	NATURE COMMUNICATIONS	14.919
47	2018	Minho Shong	Reduced oxidative capacity in macrophages results in systemic insulin resistance	NATURE COMMUNICATIONS	14.919
48	2018	Chang-Hwa Song	Phagocytosis influences the intracellular survival of <i>Mycobacterium smegmatis</i> via the endoplasmic reticulum stress response	CELL AND BIOSCIENCE	7.133
49	2018	Eun-Kyeong Jo	Autophagy: A new strategy for host-directed therapy of tuberculosis	Virulence	5.882
50	2018	Chul Hee Choi	<i>Porphyromonas gingivalis</i> traffics into endoplasmic reticulum-rich autophagosomes for successful survival in human gingival epithelial cells	VIRULENCE	5.882
51	2018	Bon Jeong Ku	Clinical Implications of Using Post-Challenge Plasma Glucose Levels for Early Diagnosis of Type 2 Diabetes Mellitus in Older Individuals	DIABETES METABOLISM JOURNAL	5.376
52	2018	Bon Jeong Ku	Serum R-Spondin 1 Is a New Surrogate Marker for Obesity and	DIABETES METAB J	5.376

			Insulin Resistance		
53	2018	Bon Jeong Ku	Serum Soluble Epidermal Growth Factor Receptor Level Increase in Patients Newly Diagnosed with Type 2 Diabetes Mellitus	DIABETES METABOLISM JOURNAL	5.376
54	2018	Chul Hee Choi	Local Repressor AcrR Regulates AcrAB Efflux Pump Required for Biofilm Formation and Virulence in Acinetobacter nosocomialis	FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY	5.293
55	2019	Bong Jik Kim	Differential disruption of autoinhibition and defect in assembly of cytoskeleton during cell division decide the fate of human DIAPH1-related cytoskeletopathy	JOURNAL OF MEDICAL GENETICS	6.318
56	2019	Jun Young Heo	Non-cell autonomous modulation of tyrosine hydroxylase by HMGB1 released from astrocytes in an acute MPTP-induced Parkinsonian mouse model	LABORATORY INVESTIGATION	5.662
57	2019	Jung-Yeul Kim	Longitudinal Changes in Peripapillary Retinal Nerve Fiber Layer Thickness in High Myopia A Prospective, Observational Study	OPHTHALMOLOGY	12.079
58	2019	Byeong Hwa Jeon	The extracellular role of Ref-1 as anti-inflammatory function in lipopolysaccharide-induced septic mice	FREE RADICAL BIOLOGY AND MEDICINE	7.376
59	2019	Jin-bong Park	Bestrophin1-mediated tonic GABA release from reactive astrocytes prevents the development of seizure-prone network in kainate-injected hippocampi	GLIA	7.452
60	2019	Chang-Hwa Song	RBM47-regulated alternative splicing of TJP1 promotes actin stress fiber assembly during epithelial-to-mesenchymal transition	ONCOGENE	9.867
61	2019	Hyon-Seung Yi	Experimental Applications of in situ Liver Perfusion Machinery for the Study of Liver Disease	MOLECULES AND CELLS	5.034
62	2019	Minho Shong	Loss of Primary Cilia Results in the Development of Cancer in the	MOLECULES AND CELLS	5.034

			Murine Thyroid Gland		
63	2019	Choong Jae Lee	Obtusifolin isolated from the seeds of <i>Cassia obtusifolia</i> regulates the gene expression and production of MUC5AC mucin in airway epithelial cells via affecting NF- κ B pathway	Phytotherapy Research	5.878
64	2019	Eun-Kyeong Jo	Autophagy-activating strategies to promote innate defense against mycobacteria	EXPERIMENTAL AND MOLECULAR MEDICINE	8.718
65	2019	Eun-Kyeong Jo	Interplay between host and pathogen: immune defense and beyond	EXPERIMENTAL AND MOLECULAR MEDICINE	8.718
66	2019	Jongsun Park	A new role for the ginsenoside RG3 in antiaging via mitochondria function in ultraviolet-irradiated human dermal fibroblasts	JOURNAL OF GINSENG RESEARCH	6.06
67	2019	Jin Man Kim	Cationic amino acid transporter PQLC2 is a potential therapeutic target in gastric cancer	CANCER SCIENCE	6.716
68	2019	Yong-Ho Park	Acoustic Trauma Modulates Cochlear Blood Flow and Vasoactive Factors in a Rodent Model of Noise-Induced Hearing Loss	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
69	2019	Byeong Hwa Jeon	ATP Binding Cassette Transporter A1 is Involved in Extracellular Secretion of Acetylated APE1/Ref-1	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
70	2019	Gi Ryang Kweon	Auraptene Mitigates Parkinson's Disease-Like Behavior by Protecting Inhibition of Mitochondrial Respiration and Scavenging Reactive Oxygen Species	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
71	2019	Jang Hee Hong	Correlations between Genetic Polymorphisms in Long Non-Coding RNA PRNCR1 and Gastric Cancer Risk in a Korean Population	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
72	2019	Dong Woon Kim	Evans Blue Reduces Neuropathic Pain Behavior by Inhibiting Spinal ATP Release	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
73	2019	Jun Young Heo	Synergistic Neuroprotective Effect of <i>Schisandra chinensis</i> and <i>Ribes fasciculatum</i> on Neuronal Cell Death	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923

			and Scopolamine-Induced Cognitive Impairment in Rats		
74	2019	Dong Woon Kim	Uncoupled Endothelial Nitric Oxide Synthase Enhances p-Tau in Chronic Traumatic Encephalopathy Mouse Model	ANTIOXIDANTS REDOX SIGNALING	8.401
75	2019	Dong Woon Kim	Foxp3 plasmid-encapsulated PLGA nanoparticles attenuate pain behavior in rats with spinal nerve ligation	NANOMEDICINE-NANOTECHNOLOGY BIOLOGY AND MEDICINE	6.458
76	2019	Eun-Kyeong Jo	SIRT3 promotes antimycobacterial defenses by coordinating mitochondrial and autophagic functions	AUTOPHAGY	16.016
77	2019	Eun-Kyeong Jo	AMPK-Targeted Effector Networks in Mycobacterial Infection	FRONTIERS IN MICROBIOLOGY	5.64
78	2019	Gi Ryang Kweon	Chloramphenicol Mitigates Oxidative Stress by Inhibiting Translation of Mitochondrial Complex I in Dopaminergic Neurons of Toxin-Induced Parkinson's Disease Model	OXIDATIVE MEDICINE AND CELLULAR LONGEVITY	6.543
79	2019	Bon Jeong Ku	T-cell senescence contributes to abnormal glucose homeostasis in humans and mice	CELL DEATH DISEASE	8.469
80	2019	Jae-Min Yuk	Omega-3 Polyunsaturated Fatty Acids Prevent Toxoplasma gondii Infection by Inducing Autophagy via AMPK Activation	NUTRIENTS	5.717
81	2019	Minho Shong	Association between Circulating Fibroblast Growth Factor 21 and Aggressiveness in Thyroid Cancer	CANCERS	6.639
82	2019	Young Joo Jeon	Proteostasis in the Endoplasmic Reticulum: Road to Cure	CANCERS	6.639
83	2019	Chang-Hwa Song	Mitofusin 2-Deficiency Suppresses Mycobacterium tuberculosis Survival in Macrophages	CELLS	6.6
84	2019	Eun-Kyeong Jo	Roles of Autophagy-Related Genes in the Pathogenesis of Inflammatory Bowel Disease	CELLS	6.6
85	2019	Hyo Jin Lee	Decursin inhibits tumor growth, migration, and invasion in gastric	AMERICAN JOURNAL OF CANCER RESEARCH	6.166

			cancer by down-regulating CXCR7 expression		
86	2019	Jung-Yeul Kim	Longitudinal Changes in the Peripapillary Retinal Nerve Fiber Layer Thickness of Patients With Type 2 Diabetes	JAMA OPHTHALMOLOGY	7.389
87	2019	Minho Shong	Regulation of Systemic Glucose Homeostasis by T Helper Type 2 Cytokines	DIABETES METABOLISM JOURNAL	5.376
88	2020	Minho Shong	An adipocyte-specific defect in oxidative phosphorylation increases systemic energy expenditure and protects against diet-induced obesity in mouse models.	DIABETOLOGIA	10.122
89	2020	Bon Seok Koo	Brn3a/Pou4f1 Functions as a Tumor Suppressor by Targeting c-MET/STAT3 Signaling in Thyroid Cancer	JOURNAL OF CLINICAL ENDOCRINOLOGY METABOLISM	5.958
90	2020	Jun Young Heo	Increasing the interval between repeated anesthetic exposures reduces long-lasting synaptic changes in late post-natal mice	Journal of neurochemistry	5.372
91	2020	Young Lee	Putative therapeutic mechanisms of simvastatin in the treatment of alopecia areata	Journal of the American Academy of Dermatology	11.527
92	2020	Jun Young Heo	Endothelial-specific Crif1 deletion induces BBB maturation and disruption via the alteration of actin dynamics by impaired mitochondrial respiration	Journal of Cerebral Blood Flow and Metabolism	6.2
93	2020	Cuk-Seong Kim	CR6 interacting factor 1 deficiency induces premature senescence via SIRT3 inhibition in endothelial cells	Free Radical Biology and Medicine	7.376
94	2020	Gang Min Hur	3-O-acetylubianol C (3AR-C) induces RIPK1-dependent programmed cell death by selective inhibition of IKK beta	FASEB JOURNAL	5.191
95	2020	Dae Eun Choi	Fat-1 expression enhance hippocampal memory in scopolamine-induced amnesia	JOURNAL OF NUTRITIONAL BIOCHEMISTRY	6.048
96	2020	Jun Young Heo	Aberrant Tonic Inhibition of	CURRENT BIOLOGY	10.834

			Dopaminergic Neuronal Activity Causes Motor Symptoms in Animal Models of Parkinson's Disease.		
97	2020	Eun-Kyeong Jo	Mitophagy and Innate Immunity in Infection	MOLECULES AND CELLS	5.034
98	2020	Bong Jik Kim	Significant Mendelian genetic contribution to pediatric mild-to-moderate hearing loss and its comprehensive diagnostic approach	GENETICS IN MEDICINE	8.822
99	2020	Young-Ha Lee	Silver Nanoparticle-Induced Apoptosis in ARPE-19 Cells Is Inhibited by Toxoplasma gondii Pre-Infection Through Suppression of NOX4-Dependent ROS Generation	INTERNATIONAL JOURNAL OF NANOMEDICINE	6.4
100	2020	Jae Won Chang	Association between the microbiomes of tonsil and saliva samples isolated from pediatric patients subjected to tonsillectomy for the treatment of tonsillar hyperplasia	EXPERIMENTAL AND MOLECULAR MEDICINE	8.718
101	2020	Bon Jeong Ku	beta-catenin activates TGF-beta-induced epithelial-mesenchymal transition in adenomyosis	EXPERIMENTAL AND MOLECULAR MEDICINE	8.718
102	2020	Jongsun Park	Yin Yang 1 is required for PHD finger protein 20-mediated myogenic differentiation in vitro and in vivo	CELL DEATH AND DIFFERENTIATION	15.828
103	2020	Hyo Jin Lee	Loss of desmoglein-2 promotes gallbladder carcinoma progression and resistance to EGFR-targeted therapy through Src kinase activation	CELL DEATH AND DIFFERENTIATION	15.828
104	2020	Bon Seok Koo	Effect of Urban Particulate Matter on Vocal Fold Fibrosis through the MAPK/NF-kappa B Signaling Pathway	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
105	2020	Young Joo Jeon	Emerging Roles of USP18: From Biology to Pathophysiology	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
106	2020	Yong-Ho Park	Mitochondrial Damage and Necroptosis in Aging Cochlea	INTERNATIONAL JOURNAL OF	5.923

				MOLECULAR SCIENCES	
107	2020	Dong Woon Kim	Preventive Effects of Neuroprotective Agents in a Neonatal Rat of Photothrombotic Stroke Model	INTERNATIONAL JOURNAL OF MOLECULAR SCIENCES	5.923
108	2020	Bong Jik Kim	Otological aspects of NLRP3-related autoinflammatory disorder focusing on the responsiveness to anakinra	Rheumatology	7.58
109	2020	Hyon-Seung Yi	Growth differentiation factor 15 protects against the aging-mediated systemic inflammatory response in humans and mice	Aging Cell	9.304
110	2020	Seong Wook Kang	The effect of nicotinamide adenine dinucleotide phosphate oxidase 4 on migration and invasion of fibroblast-like synoviocytes in rheumatoid arthritis	ARTHRITIS RESEARCH THERAPY	5.156
111	2020	Eun-Kyeong Jo	ESRRA (estrogen related receptor alpha) is a critical regulator of intestinal homeostasis through activation of autophagic flux via gut microbiota	Autophagy	16.016
112	2020	Eun-Kyeong Jo	Host-Pathogen Dialogues in Autophagy, Apoptosis, and Necrosis during Mycobacterial Infection	IMMUNE NETWORK	6.303
113	2020	Jun Young Heo	The mTOR inhibitor rapamycin prevents general anesthesia induced changes in synaptic transmission and mitochondrial respiration in late postnatal mice	Frontiers in Cellular Neuroscience	5.505
114	2020	Jongsun Park	Relationship Between Ginsenoside Rg3 and Metabolic Syndrome	Frontiers in Pharmacology	5.81
115	2020	Eun-Kyeong Jo	An Interplay Between Autophagy and Immunometabolism for Host Defense Against Mycobacterial Infection	FRONTIERS IN IMMUNOLOGY	7.561
116	2020	Chang-Hwa Song	Insights Into the Role of Endoplasmic Reticulum Stress in Infectious Diseases	FRONTIERS IN IMMUNOLOGY	7.561
117	2020	Eun-Kyeong Jo	Mitochondrial Reactive Oxygen Species: Double-Edged Weapon in	FRONTIERS IN IMMUNOLOGY	7.561

			Host Defense and Pathological Inflammation During Infection		
118	2020	Dong Woon Kim	miRNA 146a-5p-loaded poly(d,l-lactic-co-glycolic acid) nanoparticles impair pain behaviors by inhibiting multiple inflammatory pathways in microglia	NANOMEDICINE	5.307
119	2020	Dong Woon Kim	Poly(lactic-co-glycolic acid) nanomaterial-based treatment options for pain management: a review	NANOMEDICINE	5.307
120	2020	Eun-Kyeong Jo	Crosstalks between inflammasome and autophagy in cancer	Journal of hematology & oncology	17.388
121	2020	Dong Woon Kim	Protective Effects of ShcA Protein Silencing for Photothrombotic Cerebral Infarction	translational stroke research	6.829
122	2020	Hyeongseok Kim	Lactation improves pancreatic β cell mass and function through serotonin production	Science Translational Medicine	17.956
123	2020	Jun Young Heo	Schisandra Extract and Ascorbic Acid Synergistically Enhance Cognition in Mice through Modulation of Mitochondrial Respiration	NUTRIENTS	5.717
124	2020	Hwa-Jung Kim	Mycobacterium avium subsp. paratuberculosis MAP1889c Protein Induces Maturation of Dendritic Cells and Drives Th2-Biased Immune Responses	CELLS	6.6
125	2020	Eun-Kyeong Jo	Nuclear Receptors as Autophagy-Based Antimicrobial Therapeutics	CELLS	6.6
126	2020	Eun-Kyeong Jo	The Peroxisome Proliferator-Activated Receptor α - Agonist Gemfibrozil Promotes Defense Against Mycobacterium abscessus Infections	CELLS	6.6
127	2020	Yong Min Kim	Altered Mitochondrial Functions and Morphologies in Epithelial Cells Are Associated With Pathogenesis of Chronic Rhinosinusitis With Nasal Polyps	ALLERGY ASTHMA IMMUNOLOGY RESEARCH	5.764
128	2020	Yong Min Kim	Chloroquine Treatment Suppresses	ALLERGY ASTHMA	5.764

			Mucosal Inflammation in a Mouse Model of Eosinophilic Chronic Rhinosinusitis	IMMUNOLOGY RESEARCH	
129	2020	Eun-Kyeong Jo	Sirtuin 3 is essential for host defense against Mycobacterium abscessus infection through regulation of mitochondrial homeostasis	VIRULENCE	5.882
130	2020	Byeong Hwa Jeon	Plasma APE1/Ref-1 Correlates with Atherosclerotic Inflammation in ApoE(-/-) Mice	BIOMEDICINES	6.081
131	2020	Byeong Hwa Jeon	The Biological Role of Apurinic/Apyrimidinic Endonuclease1/Redox Factor-1 as a Therapeutic Target for Vascular Inflammation and as a Serologic Biomarker	BIOMEDICINES	6.081
132	2020	Minho Shong	The Role of Growth Differentiation Factor 15 in Energy Metabolism	DIABETES METABOLISM JOURNAL	5.376
133	2020	Jongsun Park	Alpha-Methylacyl-CoA Racemase (AMACR), a Potential New Biomarker for Glioblastoma	FRONTIERS IN ONCOLOGY	6.244
134	2020	Young-Ha Lee	VEGF Production Is Regulated by the AKT/ERK1/2 Signaling Pathway and Controls the Proliferation of Toxoplasma gondii in ARPE-19 Cells	FRONTIERS IN CELLULAR AND INFECTION MICROBIOLOGY	5.293
135	2020	Hyuk Soo Eun	Association between new-onset liver cirrhosis and suicide risk in South Korea: A nationwide cohort study	Clinical and Molecular Hepatology	6.074
136	2020	Hyuk Soo Eun	Does limited expression of toll-like receptor 9 actually contribute to T cell activation and liver damage in nonalcoholic steatohepatitis	CLINICAL AND MOLECULAR HEPATOLOGY	6.074
137	2020	Jongsun Park	Current knowledge on the function of a-methyl acyl-CoA racemase in human diseases	Frontiers in molecular biosciences	5.246
138	2020	Hwa-Jung Kim	Colorimetric Detection of Mycobacterium tuberculosis ESX-1 Substrate Protein in Clinical Samples Using Au@Pd Nanoparticle-Based Magnetic Enzyme-Linked	ACS Applied Nano Materials	5.097

Number of graduate students

1. Number of graduate students

- 64 students (30 in Master's, 9 in Master's/PhD Combined, and 25 in PhD programs), as of the 1st semester, 2021

2. Status of admission

- Admission quota: 15 for Master's and ten for PhD programs

School year	Master's	PhD	International students		Total
			Master's	PhD	
2018	31	15	3	8	57
2019	17	17	3	8	45
2020	23	14	1	3	41
2021 (1 st semester)	7	7	1	3	18

3. Status of graduation

School year	Master's	PhD	International students		Total
			Master's	PhD	
2018	19	7	1	1	28
2019	17	10	3	0	30
2020	16	11	2	4	33

3. Status of employment (Total/International students)

School year	Public research institutes		Advancement to a higher degree		Industry		Overseas employment		Not employed	
	Total	Int	Total	Int	Total	Int	Total	Int	Total	Int
2018	6	1	7	1	5	0	1	0	4	0
2019	9	0	5	2	5	0	3	1	3	0
2020	9	3	5	1	3	0	1	1	4	1
Total	24	4	17	4	13	0	5	2	11	1

Awarded an outstanding graduate student

Year	Name	a degree course	Article
2018	Seungwha Paik	Ph.D	Mycobacterium tuberculosis acyl carrier protein inhibits macrophage apoptotic death by modulating the reactive oxygen species/c-Jun N-terminal kinase pathway
	Yi Sak Kim	Ph.D	GABAergic signaling linked to autophagy enhances host protection against intracellular bacterial infections.
	Quangdon Tran	Ph.D	S6 kinase 1 plays a key role in mitochondrial morphology and cellular energy flow
	Sorim Choung	Ph.D	Epidermal growth factor receptor inhibition attenuates non-alcoholic fatty liver disease in diet-induced obese mice
	Nara Shin	Ph.D	Uncoupled Endothelial Nitric Oxide Synthase Enhances p-Tau in Chronic Traumatic Encephalopathy Mouse Model
	Minhee Kim	Master's	The roles of TRIO and F-actin-binding protein in glioblastoma cells
	Juhee Shin	Master's	p38 siRNA-encapsulated PLGA nanoparticles alleviate neuropathic pain behavior in rats by inhibiting microglia activation
2019	Min Joung Lee	Ph.D	Endothelial-specific Crif1 deletion induces BBB maturation and disruption via the alteration of actin dynamics by impaired mitochondrial respiration
	Quangdon Tran	Ph.D	S6K1 induced mitochondrial fission by targeting RIP1/Drp1 function
	Solbi Kim	Ph.D	Decursin inhibits tumor growth, migration, and invasion in gastric cancer by down-regulating CXCR7 expression
	Sora Lee	Ph.D	PN Sensitizes to TRAIL DISC-mediated Apoptotic Cascade via Accelerated Degradation of cFLIPL
	Yuhua Yin	Ph.D	Analgesic Effect of Toll-like Receptor 4 Antagonistic Peptide 2 on Mechanical Allodynia Induced with Spinal Nerve Ligation in Rats
	Xue Mei Li	Ph.D	KLF4 suppresses the tumor activity of cutaneous squamous cell carcinoma (SCC) cells via the regulation of SMAD signaling and SOX2 expression
2020	Gyeyeong Kong	Ph.D	Alpha-Methylacyl-CoA racemase (AMACR), a potential new biomarker for glioblastoma
	Hyeok Hee Kwon	Ph.D	Vitamin E reduces spasms caused by prenatal stress by lowering calpain expression

Kyung-Il Kim	Ph.D	Sorafenib induces pigmentation via the regulation of β -catenin signalling pathway in melanoma cells
Young Jae Kim	Ph.D	Sirtuin 3 is essential for host defense against Mycobacterium abscessus infection through regulation of mitochondrial homeostasis
Ramesh Sharma	Ph.D	Positive allosteric modulation of GABAA receptors by a novel antiepileptic drug cenobamate
Lihua Liu	Ph.D	The effect of Curcumin on multi-level immune checkpoint blockade and T cell dysfunction in head and neck cancer
Chan Oh	Ph.D	EGR1/GADD45 α activation by ROS of Non-thermal plasma mediates cell death of thyroid carcinoma
Ikjun Lee	Ph.D	CR6-interacting factor 1 deficiency inhibits BH4 production and induces eNOS uncoupling
Lee JaeHyung	Ph.D	Gamma Irradiated Chrysin Attenuates LPS-induced Inflammatory responses in primary murine macrophages
Mi-Ra Choi	Ph.D	Chloroquine treatment suppresses mucosal inflammation in a mouse model of eosinophilic chronic rhinosinusitis

Applications guide and schedule

1. Admission Timeline

• **The below schedule uses Korean dates and time**

Order	Detail & Notes
Admissions Counseling	❖ Office of Admission, Office of International Affairs
On-line Application	❖ Only online application is available. (Sending by post or visiting in person are not accepted.) ❖ CNU admissions web site(http://ipsi.cnu.ac.kr) ❖ Any modification to desired major or cancellation is not allowed after completing the online application.
Submission of Required Documents	❖ After completing the online application, documents should be submitted via courier or in person. ❖ (Zip code) 34134 ; Office of International Affairs (E1-1) in Chungnam National niversity, 99 Daehak-ro, Yuseong-gu, Daejeon, Republic of Korea
Evaluation of Applicants' Academic Proficiency	College of Medicine 4th floor Room no. 409[Bowun Campus]
Announcement of Successful Applicants	❖ Results will be posted on the CNU Admissions Website (http://ipsi.cnu.ac.kr/html/gadm/) ❖ Application number and date of birth will be required for final result notification.
Payment of Tuition Fees	❖ Failure to pay tuition within the specified period of registration may result in cancellation of the admission. ❖ Designated Bank : Hana Bank, Nonghyup, or Woori Bank in Korea.(Details will be Announced later.)

2. Eligibility

1) Qualification Criteria

- ※ Applicants holding both Korean and other foreign citizenship cannot apply to our university
- Both the applicant and his/her parents are not citizens of Korea
- Overseas Korean residents and foreign students who have completed their entire elementary, junior, high school and undergraduate education outside of Korea

2) Academic Qualifications

- Master's Degree Program : Applicants must hold, or expect to hold in prior to entering CNU, a bachelor's degree or its equivalent (or higher) degree from an accredited college or university
- Doctoral Degree Program : Applicants must hold, or expect to hold in prior to entering CNU, a master's degree or its equivalent (or higher) degree from an accredited college or university

- Integrated Master's and Doctoral Degree Program 1 : Applicants must hold, or expect to hold in prior to entering CNU, a bachelor's degree or its equivalent (or higher) degree from an accredited college or university

- Integrated Master's and Doctoral Degree Program 2 : Applicants must satisfy all of the requirements below

- Applicants who are attending second or third semester of master's degree course in the same

major at CNU graduate school(excluding applicants who completed four semesters)

- Applicants who have completed at least 15 credits or are expected to complete 15 credits

Applications

1. Scholarships (Student Affairs Office)

※ Scholarships student will be selected by each department from the second semester (depends on the budget).

a. Grade A scholarships (Waive Tuition and Fees only for first semester)

- Require TOPIK Level 5 or TOEFL(PBT 590, CBT 240, iBT 95), IELTS 6.5, New TEPS 386, TOEIC 800, CEFR C1

b. Grade B scholarships (Waive about 40% of Tuition only for first semester)

- Require TOPIK Level 4 or TOEFL(PBT 530, CBT 197, iBT 71), IELTS 5.5, New TEPS 326, TOEIC 700, CEFR B2

※ This policy may be changed according to the decision of CNU Scholarship Committee.

※ Language certificate must be submitted within the application period.

2. Supports for the presentation of domestic/international academic conferences

a. Subsidy : Upon completing presentations at domestic and international academic conferences, students who are leading authors will get a subsidy.

b. Support criteria

Support criteria			Support Amount
Verbal/poster announcement for academic conferences, Presentation, exhibitions, and performances	Domestic	Domestic conference Registration fee	Actual expense within 100,000 won
	International	International conference Registration fee	Actual expense within 300,000won

※ Including the registration fee for participating in the online conference

3. Support for incentives for publication of outstanding papers

a. Subsidy: Upon completing presentations at domestic and international academic conferences, students who are leading authors will get a subsidy.

b. Support criteria

International/Domestic	Sortation	Support Amount
international journal	international 1 SCIE, SSCI, A&HCI Includes papers from the International Conference for Excellence in Computer Science	400,000 won

	international 2	SCOPUS	200,000 won
Domestic journal	domestic	Registered with the National Research Foundation of Korea	200,000 won

4. Financial support for foreign language competency tests

a. Eligibility: Enrolled graduate students who have obtained a certificate for foreign language competency

a. Areas of support

Certificate		Score	Amount (won)
English	TOEIC	650 points or higher	50,000
	TOEIC SPEAKING	100 points or higher	80,000
	TOEFL(IBT)	85 points or higher	240,000
	OPIC	IL points or higher	80,000
	IELTS	6 points or higher	270,000
	NEW TEPS	296 points or higher	40,000

※ The amount is subject to change based on the budget.

5. Dormitory support

A. Status of dormitories

Name	Room type	Structure	Capacity	Other
<i>Back Hang Sa</i> (including the 2 nd BTL Dormitory)	Two students per room	Apartment unit	88 persons	College of Medicine Dormitory (Munhwa-dong campus)
	Two students per room	One-room studio	110 persons	
	One student per room	One-room studio	40 persons	
Total			238 persons	

b. Applicant eligibility

- Students enrolled in the Graduate School of medical Science.

BK21 supporting project

1. Support for participation in international academic conferences

- Application: Participating graduate students presenting as the first author
- Support: airfare + expenses / 1.1 million won to 2 million won

2. Support for the long-term training participation

- Airfare and expenses will be given to graduate students who participate in long-term training at MOU-established institutions as BK21 participants.
- Support: airfare + expenses / 1.1 million won to 2 million won