

Day 2– November 15, 2025

8:30 – 9:00

Morning Seminar (Co-hosted by SBI Pharma)

Drosophila models of human disease: a versatile platform for elucidating molecular pathogenesis and drug development

Speaker: Kanae Ando (Department of Biological Sciences, Graduate School of Science, Tokyo Metropolitan University)

9:00 – 9:50

Oral Session 3

2 Genetic Variants & Pathogenesis & Drug Discovery & Therapeutic Strategies

Chairs:

- Yukiko Yatsuka (Diagnostics and Therapeutics of Intractable Diseases, Juntendo University)
- Tatsuo Matsunaga (National Institute of Sensory Organs/Medical Genetics Center, National Hospital Organization Tokyo Medical Center)

O-11 Structural rearrangements in the ATAD3 gene cluster identified by genome and RNA sequencing

Yoshihito Kishita

Department of Life Science, Kindai University

O-12 Tissue-Specific Heteroplasmy Distribution of mtDNA Variants in a Japanese Patient Cohort: Clinical Implications

Atsuko Okazaki

Department of Diagnostics and Therapeutics of Intractable Diseases, Juntendo University

O-13 Clinical Risks and Unproven Efficacy of PI Polyamides Targeting Mutant Mitochondrial DNA (A3243G) in MELAS and Cancer Models

Takamitsu Yano

Triplex Therapeutics Inc.

O-14 Lubiprostone Mitigates Renal Decline in Chronic Kidney Disease by Modulating the Gut-Polyamine-Mitochondria Axis: Insights from a Phase 2 Randomized Controlled Trial

Shun Watanabe

Department of Clinical Biology and Hormonal Regulation, Tohoku University Graduate School of Medicine

10:00 – 11:15

Oral Session 4

2 Basic Metabolism & Regulation & Disease Mechanisms & Experimental Models

Chairs:

- Shun Nagashima (Tokyo University of Pharmacy and Life Sciences)
- Yuichi Matsushima (Department of Biological Sciences, Osaka University)

O-15 The regulatory mechanism of mitochondrial proteostasis by processing peptidase MIPEP

Mamiko Ishimatsu

Laboratory of Molecular Pathology and Metabolic Disease, Tokyo University of Science

O-16 Direct visualization of the GTP-dependent interaction between mitochondrial fission factor Drp1 and phospholipid bilayer

Yuhei Arais

Dept. of Clin. Lab. Sci. Kanazawa Univ.

O-17 Peroxisomes from Mitochondria – How and Why?

Ayumu Sugiura

Graduate school of medicine, Juntendo University

O-18 The effect of mitophagy on muscle atrophy of soleus mainly-composed of slow-twitch fibers with complex II electron transport defects-overproduced ROS.

Rikuto Toda

Department of Life Science and Technology, Tokai University School of Science and Technology



O-19 Targeting Mitochondrial Vulnerability in Human Lung Adenocarcinoma: A Novel Therapeutic Strategy Targeting Mitochondrial Dysfunction

Aya Shiba

Diagnostic Pathology, University of Tsukuba

O-20 Mitochondrial Membrane Lipid Recognition by Toxoplasma gondii GRA protein: A Novel Interface Between Host Mitochondria and Parasite Effectors

Mitsuhiro Nishigori

Division of Biology, Fukuoka University

11:35 – 12:35

Symposium 4 – Frontiers of Mitochondrial Genomics in Neurodegenerative and Neuromuscular Disorders

Chairs:

- Yuichi Goto (National Center of Neurology and Psychiatry)
- Shigeto Sato (Department of Neurology, Juntendo University Graduate School of Medicine)

S4-1 Genomic Insights Into the Pathogenesis of Parkinson's Disease

Manabu Funayama

Juntendo University

S4-2 Involvement of casein kinase 1 ϵ / δ in the onset of familial Parkinson's disease caused by CHCHD2 gene mutations and improvement by low-molecular-weight compounds

Satoru Torii

Institute of Science Tokyo

S4-3 Therapeutic Potential of Highly Purified Mesenchymal Stem Cells (RECs) in MELAS Through Mitochondrial Transfer and Degradation Mechanisms

Takeshi Taketani

Department of Pediatrics, Shimane University Faculty of Medicine, Shimane University Hospital

S4-4 Mitochondrial Pathophysiology and Therapeutic Targets in Duchenne Muscular Dystrophy

Sato Itsumi

Department of Pediatrics, Hokkaido University, Department of Molecular therapy, National Center of Neurology and Psychiatry

12:45 – 13:45

Luncheon Seminar 2

(Co-hosted by Dojindo Laboratories, Inc.)

Analysis of Membrane Permeability Increase Mechanisms Using Isolated Mitochondria

Chair: Yuichi Goto (National Center of Neurology and Psychiatry)

Speaker: Shigeomi Shimizu (Institute of Science Tokyo)

13:50 – 14:50

Poster Viewing

15:00 – 16:00

Symposium 5 – Mitochondrial Molecular Quality Control and Diseases

Chairs:

- Shigeru Yanagi (Laboratory of Molecular Biochemistry, Department of Life Science, Faculty of Science, Gakushuin University)
- Kazuto Nakada (Institute of Life and Environmental Sciences, University of Tsukuba)

S5-1 A causal relationship between mtDNA mutations and mitochondrial respiratory dysfunction in premature aging mice

Hiroaki Tamashiro

Graduate School of Science and Technology, University of Tsukuba

S5-2 Monitoring the complexity and dynamics of mitochondrial translation

Taisei Wakigawa

RIKEN; The University of Tokyo

S5-3 The New Role of Mitochondrial Organelle Contacts in Stress Responses and Physiological Functions

Isshin Shiiba
Gakushuin Univ.

S5-4 Mitochondrial Defense Mechanisms against glycation stress

Taku Ozaki
Iwate University

16:00 – 17:00

Oral Session 5

Applied Technologies & Translational Tools & Drug Discovery

Chairs:

- Katsumi Kasashima (Dep. of Biochemistry, Jichi Medical University)
- Isshin Shiiba (Gakushuin Univ.)

O-21 Development of a novel ATP prodrug with mitochondrial-activating potential

Takahisa Anada
Institute for Materials Chemistry and Engineering, Kyushu University,

O-22 Establishment of an organelle collector-based method for isolating mitochondria from mammalian cells

Chiharu Abe
Faculty of Pharmaceutical Sciences, Tokyo University of Science

O-23 Improving Storage Stability of Mitochondrial Components Encapsulated in MITO-Porter (TransMIT) through Freeze-Drying

Kaoru Shiraki
Faculty of Pharmaceutical Sciences, Hokkaido University Institute of Medical

O-24 Targeted protein delivery to mitochondria in live cells using polymer-conjugated nanocarriers

Nobuyuki MORIMOTO
Faculty of Materials for Energy, Shimane University

O-25 Development of antiparasitic drugs targeting the mitochondrial respiratory chain of *Echinococcus multilocularis*

Shigehiro ENKAI
Department of Pediatrics, Teikyo University School of Medicine

17:00 –

Closing Remarks



Poster Session Presenters

- P-1 Anticancer effect of the novel agent MitoQNs targeting mitochondrial DNA replication**
Atsushi Takatori
Div. Innov. Cancer Ther., Chiba Cancer Ctr. Res. Inst.,
- P-2 Development of Cardiolipin Synthesis Inhibitors and Their Impact on Mitochondrial Morphology**
Sayaka Sekiya
Graduate School of Science and Engineering, Yamagata University
- P-3 Distinct Roles of Mitofusin 1 and Mitofusin 2 in Brown Fat Cell Differentiation**
Shun Nagashima
Tokyo University of Pharmacy and Life Sciences
- P-4 Exploration of Aging- and Calorie Restriction-Related Mitochondrial Signal Peptidases**
Komachi Kato
Department of Food and Nutrition Science, Ochanomizu University
- P-5 Functional Characterization of the Novel Mitochondrial Activator MitoRubin**
Daishi Tanabu
Laboratory of Molecular Biochemistry, Gakushuin University
- P-6 Mitochondria-ER Contact Sites mediate a novel pathway of iron supply to mitochondria.**
Hijiri Oshio
Faculty of Science, Gakushuin University
- P-7 Mitochondrial intermediate peptidase (MIPEP) regulates mitochondrial proteostasis via maturation of ClpXP protease**
Michiya Kawarai
Laboratory of Molecular Pathology and Metabolic Disease, University of Science (TUS)
- P-8 Optimization of a preservation medium for isolated mitochondria**
Mao Yoshihara
Faculty of Pharmaceutical Sciences, Tokyo University of Science
- P-9 Overexpression of arg11 restored CoQ level in *S. pombe* Δ*pos5* strain**
Nishihara S.
Bioresource and Life Sciences; Department of Life Sciences, Tottori university
- P-10 Plasmaogen-induced hind limb taping model rats Inhibition of disuse-induced muscle atrophy**
Ryosuke Niwa
Doshisha University
- P-11 Quality and functional properties of microglia- and mesenchymal stromal cell-derived mitochondria for mitochondria-based therapeutics in neurological disorders**
Nao Tsubata
Tokushima University

Poster Session Presenters

P-12 The nucleoside diphosphate kinase NME6 regulates nucleoid dynamics and mitochondrial function

Souta Konno

Department of Biological Sciences, The University of Osaka

P-13 Mito-Ball: A Novel Morphological Hallmark of Mitochondrial Dysfunction in Cardiomyopathy

Takeshi Tokuyama

Department of Biochemistry, Jichi Medical University

P-14 Establishing a new evaluation platform for mitochondrial respiratory complex assembly

Natsuha Nishikawa

Laboratory of Pharmacology, Wakayama Medical University

P-15 Mitochondrial Dynamics and Morphology in Human Epidermis: Insights from Healthy and Diseased Skin

Miho Kimura

Department of Dermatology, Jichi Medical University

P-16 Exploration of purine metabolism as a novel therapeutic target for mitochondrial diseases: Effects of inosine supplementation on cybrid cell models

Ryosuke Urabe

Department of Pediatrics, Teikyo University

