RNA Neobiology
Second Announcement

February 1 (Frl.) -2 (Sat.) 2019
Site: Center for Learning and Innovation
Takeda Pharmaceutical Company Limited
http://www.takeda-sci.com
The 20th Takeda Science Foundation Symposium on Bioscience

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Second Announcement

February 1 (Fri.) - 2 (Sat.), 2019
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Although a vast majority of the genome is transcribed, mRNAs that encode for proteins account for a small proportion of these transcripts and the majority are non-coding. Recent advances in the functional characterization of non-coding RNAs have made a great impact on the life sciences. Non-coding RNAs are involved in the regulation of a variety of biological events including gene transcription, RNA processes, protein localization, modulation of RNA stability, translation and so on. The emergence of next-generation sequence analyses has led to the identification of novel and rare non-coding RNA transcripts. The advent of cryo-electron microscopy has enabled us to visualize dynamic features of ribosomes during the translation process.

The 20th Takeda Science Foundation Symposium on Bioscience will deal with post-transcriptional gene regulation, particularly focusing on non-coding RNAs, translational regulation and RNA binding proteins. Leading researchers will gather from all over the world and discuss the latest progress in this field.

On behalf of the organizing committee, we cordially invite you to attend the symposium to exchange ideas and expertise with top scientists in this field. We look forward to seeing you in Osaka in February 2019.

The 20th Takeda Science Foundation Symposium on Bioscience Organizing Committee

Chair: Shizuo Akira
Professor, Osaka University, Japan

Toshifumi Inada
Professor, Tohoku University, Japan

Mikiko C. Siomi
Professor, The University of Tokyo, Japan
Date and Site
Date: Friday, February 1 - Saturday, February 2, 2019
Site: Center for Learning and Innovation (CLI),
Takeda Pharmaceutical Company, Ltd.
Address: 50-2 Yamadaminami, Suita
Osaka 565-0823, Japan
Phone: +81-6-6878-7712
Fax: +81-6-6878-7740

Official Language
The official language of the symposium is English.
No simultaneous translation will be provided.

Registration Desk Opening Hours
• Friday, February 1 09:00 – 18:00
• Saturday, February 2 08:30 – 16:00

Publication
A Program & Abstracts Book will be distributed to
all participants when registering.

Social Events
All participants are cordially invited to Welcome Reception.
Friday, February 1 18:30 – 20:10
Site: Dining Hall “ODORIKO”, 1st Floor
Center for Learning and Innovation
Takeda Pharmaceutical Company, Ltd.

Lunch
Lunch will be served at the Symposium site
on February 1 and 2.

Access to CLI:
Kansai Int’l Airport  (KIX)
Osaka Int’l Airport (Itami Airport, ITM)
FREE Shuttle buses run from JR KISHIBE Station.
A timetable will be available at the Symposium website.
http://www.takeda-sci.com
### Friday, February 1 - Symposium Day 1

**Session 1**

- **Part 1** (09:40-10:40)
  - **Chairperson**: Erik Sontheimer, U.S.A.
  - **Speakers**:
    - S1-1 Ling-Ling Chen, China
    - S1-2 Daiju Kitagawa, Japan
    - S1-3 Thomas Tuschl, U.S.A.

- **Part 2** (11:00-12:30)
  - **Chairperson**: Ling-Ling Chen, China
  - **Speakers**:
    - S1-4 Mikiko C. Siomi, Japan
    - S1-5 Thomas Tuschl, U.S.A.

**Session 2**

- **Part 1** (15:05-16:35)
  - **Chairperson**: Tsutomu Suzuki, Japan
  - **Speakers**:
    - S2-1 Jonathan Weissman, U.S.A.
    - S2-2 Toshifumi Inada, Japan
    - S2-3 Roland Beckmann, Germany

- **Part 2** (16:55-17:55)
  - **Chairperson**: Toshifumi Inada, Japan
  - **Speakers**:
    - S2-4 Nahum Sonenberg, Canada
    - S2-5 Lynne E. Maquat, U.S.A.

**Publication** (17:55-18:15)

- **Chairperson**: Mikiko C. Siomi, Japan
- **Speaker**: Angela K. Eggleston, U.S.A.

### Saturday, February 2 - Symposium Day 2

**Session 3**

- **Session 3** (09:00-10:30)
  - **Chairperson**: V. Narry Kim, Korea
  - **Speakers**:
    - S3-1 Kyoshi Nagai, U.K.
    - S3-2 Tsutomu Suzuki, Japan
    - S3-3 Gideon Rechavi, Israel

**Session 4**

- **Part 1** (10:50-11:50)
  - **Chairperson**: Howard Y. Chang, U.S.A.
  - **Speakers**:
    - S4-1 V. Narry Kim, Korea
    - S4-2 Piero Carninci, Japan

- **Part 2** (13:40-15:10)
  - **Chairperson**: Piero Carninci, Japan
  - **Speakers**:
    - S4-3 Nikolaus Rajewsky, Germany
    - S4-4 Shizuo Akira, Japan
    - S4-5 Howard Y. Chang, U.S.A.

**Session 5**

- **15:30-17:00**
  - **Chairperson**: Shizuo Akira, Japan
  - **Speakers**:
    - S5-1 Joel D. Richter, U.S.A.
    - S5-2 Takahiro Ochiya, Japan
    - S5-3 Adrian Krainer, U.S.A.
### SYMPOSIUM PROGRAM

**DAY 1  Friday, February 1**

09:30-09:40  **Opening Remarks**  
*Shizuo Akira*  Osaka University, Japan

#### Session 1  Non-coding RNA

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<th>Part 1</th>
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| **Chairperson**  
*Erik Sontheimer*  University of Massachusetts Medical School, U.S.A. | **S1-1** | 09:40-10:10 |
| Linking circular RNA biogenesis to function  
*Ling-Ling Chen*  Chinese Academy of Sciences, China | **S1-2** | 10:10-10:40 |
| IncRNAs that regulate mitotic spindle formation and chromosome segregation in human cells  
*Daiju Kitagawa*  The University of Tokyo, Japan | **Chairperson**  
*Erik Sontheimer*  University of Massachusetts Medical School, U.S.A. |

10:40-11:00  **Coffee Break**

#### Part 2 11:00-12:30

| Chairperson  
*Ling-Ling Chen*  Chinese Academy of Sciences, China | **S1-3** | 11:00-11:30 |
|---|---|
| Enhancing genome editing with new Cas9s and guide/donor modifications  
*Erik Sontheimer*  University of Massachusetts Medical School, U.S.A. | **S1-4** | 11:30-12:00 |
| piRNA biogenesis and functions in Drosophila  
*Mikiko C. Siomi*  The University of Tokyo, Japan | **S1-5** | 12:00-12:30 |
| RNA-binding-protein-guided ubiquitination of ribosomal proteins impacts translation and ribosome quality control  
*Thomas Tuschl*  The Rockefeller University, U.S.A. | **Chairperson**  
*Ling-Ling Chen*  Chinese Academy of Sciences, China |

12:30-13:30  **Lunch**

13:20-15:00  **Poster Session**  
*Odd Number*  13:20-14:10  
*Even Number*  14:10-15:00

| 16:35-16:55  **Coffee Break** |

#### Session 2  Protein Synthesis and Quality Control

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<th>Part 1 15:05-16:35</th>
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| **Chairperson**  
*Tsutomu Suzuki*  The University of Tokyo, Japan | **S2-1** | 15:05-16:05 |
| Monitoring translation in time and space with ribosome profiling  
*Jonathan Weissman*  University of California, San Francisco, U.S.A. | **S2-2** | 15:05-16:05 |
| Crucial roles of ribosome ubiquitination in quality controls and ER stress response  
*Toshifumi Inada*  Tohoku University, Japan |

16:55-17:55  **Coffee Break**

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<th><strong>Part 2</strong> 16:55-17:55</th>
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| **Chairperson**  
*Toshifumi Inada*  Tohoku University, Japan | **S2-4** | 16:55-17:25 |
| Functions of the Cap-binding Protein 4EHP/4E-T/ZNF598 Complex and sub-complexes in Control of miRNA function and ribosome quality control  
*Nahum Sonenberg*  McGill University, Canada |

17:25-17:55  **Coffee Break**

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<th><strong>Publication</strong> 17:55-18:15</th>
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| **Chairperson**  
*Mikiko C. Siomi*  The University of Tokyo, Japan | **S2-5** | 17:25-17:55 |
| Transcriptional coactivator PGC-1α contains a novel CBP80-binding motif that orchestrates efficient target-gene expression  
*Lynne E. Maquat*  University of Rochester Medical Center, U.S.A. |

18:30-20:10  **Welcome Reception**
SYMPOSIUM PROGRAM (as of end of November)

DAY 2 Saturday, February 2

Session 3 RNA Chemistry 09:00-10:30
Chairperson
V. Narry Kim Seoul National University, Korea

S3-1 09:00-09:30
CryoEM snapshots of the spliceosome provide insights into the molecular mechanism of pre-mRNA splicing
Kiyoshi Nagai MRC Laboratory of Molecular Biology, U.K.

S3-2 09:30-10:00
RNA modification, a chemical diversity for biological function
Tsutomu Suzuki The University of Tokyo, Japan

S3-3 10:00-10:30
Regulatory functions of RNA modifications
Gideon Rechavi Tel Aviv University, Israel

10:30-10:50 Coffee Break

Session 4 RNA in Medical Biology
Part 1 10:50-11:50
Chairperson
Howard Y. Chang Stanford University School of Medicine, U.S.A.

S4-1 10:50-11:20
RNA tails in human disease
V. Narry Kim Seoul National University, Korea

S4-2 11:20-11:50
An Emerging Landscape of Transcriptome Complexity
Piero Carninci RIKEN, Japan

11:50-12:00 Speakers’ Photo Session

Session 5 RNA in Therapeutics 15:30-17:00
Chairperson
Shizuo Akira Osaka University, Japan

S5-1 15:30-16:00
Translational Control of Neurologic Disease
Joel D. Richter University of Massachusetts Medical School, U.S.A.

S5-2 16:00-16:30
exRNA as a novel diagnostic and therapeutic target for cancer
Takahiro Ochiya National Cancer Center, Japan

S5-3 16:30-17:00
Targeted antisense therapy for spinal muscular atrophy
Adrian Krainer Cold Spring Harbor Laboratory, U.S.A.

17:00-17:20 Award Ceremony & Closing Remarks