# 6th DIA Cell and Gene Therapy Products Symposium in Japan "Mastering Regenerative Medicine in Clinical Practice:

Solving Issues at the Industrial Stage"

#### December 13-14, 2021

Day 1: Commercialization of Regenerative Medicines: Reliable and Stable Manufacturing and Supporting Quality - Latest Technologies

Day 2: Making Full Use of Regenerative Medicines: Further Connection and Understanding between Industries and the Medical Field

#### Web Hosting (Zoom Webinar)

Since the implementation of the Regenerative Medicine Promotion Act in 2013, which aims to facilitate the rapid and practical application of these products in Japan, active discussions among international stakeholders have helped accelerate clinical development of regenerative medicines for intractable diseases in both domestic and overseas markets, and multiple products have been put into practical use as therapeutic drugs. At the same time, specific issues at each stage, from R&D to commercialization have been clearly identified. DIA Japan has organized the Cell and Gene Therapy Symposium since 2016 as a platform for sharing issues among industry, government, and academia personnel and related parties to jointly explore solutions through constructive discussions. Since 2018, this symposium has covered gene therapy products and, as it has continued to evolve, has expanded to two days to accommodate active discussions between the industry, government, and academic communities. The vision of the symposium has also grown in line with the needs of frontline healthcare professionals and has moved from the initial stage of "practical application," in which regenerative medicine products are delivered to patients in the clinical setting to the next stage of practical application. Our 2020 symposium focused on "industrialization" to ensure that better products are continuously and stably delivered to the medical field and patients.

For 2021, under the title "Regenerative medicines that can be mastered in the medical field," we have prepared the two-day agenda to share issues through open and positive discussions about actions that we can take right now, as knowledge and experiences are being accumulated in all stages, from R&D to manufacturing to use in the medical field

In Session 1 of Day 1, experts will jointly introduce and discuss new essential technologies such as next-generation genome sequencing (NGS) for acquiring data related to viral safety, an essential requirement for the development and timely provision of cellular and tissue-based biotechnology-derived pharmaceuticals, as well as issues related to the construction of databases and cooperative systems required for their practical application. Session 2 will focus on biodistribution related to evaluating the quality and safety of regenerative medicines. the discussions will encompass the latest technical information and issues related to biodistribution research on cell-processing and gene therapy products, as well as case studies and the current status of regional regulatory harmonization.

On Day 2, the concept of equivalence/homogeneity evaluation, a critical component of building efficient and stable manufacturing strategies and systems for cellular- and tissue-based products will be discussed in Session 3. Speakers with experience in the development of gene therapy products will share the issues that they have faced and how they dealt with them in case studies. Session 4 will address various distribution issues anticipated in the overall supply chain of products based on valuable company experiences in situations requiring a more advanced and complicated supply system in line with the characteristics of regenerative medicine products.

Session 5 will discuss the status of corporate requests for cooperation between industries and medical represented by the Cartagena Type 1 Use Regulations as well as challenges arising on the medical setting side. The discussion will deepen the understanding of both stakeholders and focus on exploring solutions to issues that may arise in medical settings to which a wide variety of regenerative medicine products will soon be entrusted.

This Symposium will continue to feature key opinion leaders (KOLs) to deliver keynote lectures. In 2021, Dr. Toshiyoshi Fujiwara (Okayama University) will discuss practical application of oncolytic virus research in the context of gene therapy in the oncology field. Dr. Hideyuki Okano (Keio University) will provide valuable updates on the latest iPS cell research and its application to central nervous system disease treatments.Dr. Shinichi Muramatsu (Jichi Medical School) will discuss the challenges of eradicating hereditary intractable diseases, including gene therapy for AADC deficiency.

The DIA Cell and Gene Therapy Symposium will continue to serve as a platform for continued discussions among the industry, academia, and government in Japan. It will continue to grow as a venue where participants can bring the latest issues in product development and industrialization back into their practical work, along with all the knowledge and insights required to solve these

This symposium will take place in webinar format. Both a one-day pass and a registration package that combines Days 1 and 2 are available. These packages include a download service so that attendees can fully utilize the presentation materials, recorded sessions, and keynote lectures in their own home or work environment.

#### Virtual Exhibit Opportunities Available

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National Institute of Health Sciences (NIHS)

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Janssen Pharmaceutical K.K.

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#### Simultaneous Translation Available

WHO SHOULD ATTEND?

Cell and gene therapy product developmentprofessionals in biopharmaceutical

companies, medical devices companies,

venture capital companies, regulatory

agencies, or academia.

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### DAY 1 | Monday, December 13, 2021

#### Commercialization of Regenerative Medicines Reliable and Stable Manufacturing and Supporting Quality-Latest Technologies and Knowledge

10:00-10:15

WELCOME AND OPENING REMARKS

Hajime Saijo, PhD

Senior Vice President & Managing Director, DIA Japan

Yoii Sato, PhD

Program Chair

National Institute of Health Sciences (NIHS)

10:15-11:15

**KEYNOTE ADDRESS 1** 

SESSION CHAIR

Daisaku Sato, PhD

Director, Compliance and Narcotics Division.

Ministry of Health, Labour and Welfare (MHLW)

#### Current Perspectives on Using High-throughput Sequencing (HTS) for Adventitious Virus Detection in **Biologics**

Arifa Khan, PhD

Senior Investigator in the Office of Vaccines Research and Review in the Center for Biologics Evaluation and Research (CBER), FDA

#### SESSION 1 11:15-12:30

#### Viral Safety – Current Status and Future Direction

**SESSION CO-CHAIRS** 

Yoii Sato, PhD

Head, Division of Cell-Based Therapeutic Products, National Institute of Health Sciences (NIHS)

Kazunobu Oyama, PhD

Manager, CMC Regulatory Affairs, Daiichi Sankyo Co., Ltd.

Virus safety is extremely important for regenerative medical products, including viral vector products, as well as other biopharmaceuticals. In last year's symposium, we discussed the issues in the revision of ICH Q5A. In this session, we will review the technical and regulatory issues of viral safety assessment using next-generation sequencing (NGS), which is scheduled to be introduced in the revised Q5A. In addition, we will also share the activities of the Asian Regenerative Medicine Association Liaison Conference (APACRM), which has been conducting comparative study of Asian regulations for mesenchymal stromal cells as an example and has been discussing their viral safety evaluation. In the panel discussion, the speakers and Dr. Arifa Khan from the FDA will be invited for comprehensive discussions the future direction of from the FDA will be invited for comprehensive discussions on the future direction of virus safety, based on the current status of the AVDTIG (Advanced Virus Detection Technologies Interest Group) and ICH Q5A(R2).

#### Possibility of NGS Alternative to in Vivo Test - Concept Keisuke Yusa, PhD

Professor, Graduate School of Science, Technology and Innovation, **KOBE** university

#### Current Status of NGS Testing Implementation in US/EU and Regulatory Issues in Japan

Ryutaro Hirasawa, PhD

Bio-Virus Safety Committee, Parental Drug Association Japan Chapter (PDA Japan Chapter)

#### Eligibility of Mesenchymal Stem Cell as the Initiating Cell for the Production of Cell Therapy Products

Toshimitsu Tanaka, PhD

Regulatory harmonization committee (CMC regulatory affairs, regulatory affairs, Associate Director), Forum for Innovative Regenerative Medicine /Astellas Pharma Inc.

#### Panel Discussion

Session Speaker and

Arifa Khan, phD

Senior Investigator in the Office of Vaccines Research and Review in the Center for Biologics Evaluation and Research (CBER), FDA

12:30-13:30 LUNCH BREAK

13:30-14:15 **KEYNOTE ADDRESS 2** 

SESSION CHAIR

Daisaku Sato, PhD

Director, Compliance and Narcotics Division.

Ministry of Health, Labour and Welfare (MHLW)

#### Multidisciplinary Oncolytic Virotherapy for Human Cancer

Toshivoshi Fujiwara, MD, PhD

Professor, Graduate School of Medicine, Dentistry and Pharmaceutical Sciences, Okayama University

14:15-14:30 SHORT BREAK

#### **Biodistribution of Regenerative Medical Products**

SESSION 2

SESSION CO-CHAIRS

14:30-16:10

Yoii Sato, PhD

Head, Division of Cell-Based Therapeutic Products, National Institute of Health Sciences (NIHS)

Takashi Okada, MD, PhD

Director, Center for Gene and Cell Therapy, The institute of Medical Science, The University of Tokyo

Biodistribution (BD) of cell therapy products is one of important factors in view of tumorigenicity and/or the predictability of adverse effects, especially after systemic administration. With the evolving technology, tissue targeting of vector of gene therapy products dramatically progresses. In this session, the audience can expect to hear the overview of the current technology for

BD from the FIRM/AMED MEASURE group, the direction of ICH-512, the art of sciences for designing BD vector engineering, and memory responses of the cell, which could be potential issues of BD.

This session also aims to encourage participants to consider future products development from the view of biodistribution.

#### Trend analysis and multi-site evaluation of non-clinical biodistribution studies for cell therapy products

Yoshiteru Kamiyama, PhD

Senior Director, Drug Metabolism & Pharmacokinetics Research Analysis & Pharmacokinetics Research Labs, Astellas Pharma Inc.

#### ICH S12: Nonclinical Biodistribution COnsideration for Gene Therapy Products - Current Status

Masakazu Hirata, MD, PhD

Review Director, Office of New Drug V,

Pharmaceuticals and Medical Devices Agency (PMDA)

#### Generation of bespoke AAV for Safe Transduction

Takashi Okada, MD, PhD

Director, Center for Gene and Cell Therapy, The institute of Medical Science, The University of Tokyo

#### Memory Response of Gene Therapy Product

#### in View of Biodistribution –

Yuki Kagoya, MD, PhD

Chief, Division of Immune Response, Aichi Cancer Center Research Institute

All Session Speakers

**COFFEE BREAK** 16:10-16:25

**KEYNOTE ADDRESS 3** 16:25-17:10

SESSION CHAIR

Daisaku Sato, PhD

Director, Compliance and Narcotics Division. Ministry of Health, Labour and Welfare (MHLW)

#### iPSCs-Based Regenerative Medicine and Drug Development

Hideyuki Okano, MD, PhD

Professor, Department of Physiology, Keio University School of Medicine

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Speakers and agenda are subject to change without notice.

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### DAY 2 | Tuesday, December 14, 2021 |

#### Making Full Use of Regenerative Medicines: Further Connection and Understanding between Industries and the Medical Field

9:30-9:45 OPENING - DAY 2

SESSION CHAIR

Yasuko Terao, PhD

Director, ASPAC Lead, Global Government Grant Office (G3O), Janssen Research & Development, Janssen Pharmaceutical K.K.

#### Development Status and Issues of Gene Therapy Products

Masafumi Onodera, MD, PhD

Director, Gene & Cell Therapy Promotion Center, NCCHD

9:45-11:15 SESSION 3

#### Point to Consider on CMC Comparability Challenges Through the Development of the Gene Therapy Products

**SESSION CO-CHAIRS** 

Kazunobu Oyama, PhD

Manager, CMC Regulatory Affairs, Daiichi Sankyo Co., Ltd.

Mika Yoshimatsu, MS

Manager, CMC Sciences Department, Janssen Pharmaceutical K.K.

During the development of the gene therapy products, CMC events such as process improvements or production site changes often happens. Comparability strategies addressing to these CMC concerning changes will be critical, particularly at the late phase development, not only for promoting clinical studies smoothly but also for the successful marketing authorization approval within the expected timeframe. In addition, science-based, and technical-based considerations are necessary for discussing the evaluation of comparability, especially in the development of new modality products. In this session, we will have speakers who will share their insights and experiences of comparability approaches and challenges in the global CMC development. The panel discussion will focus on general considerations, challenges, and current difficulties with applying the risk-based and science-based approach on the gene therapy product development.

### Analytical Comparability Strategies for AAV Gene Therapy Products

Jaclyn Moxham, MS

Senior Director, Biotherapeutics GCMC, Pfizer, Inc.

#### Demonstrating Comparability if AAV Gene Therapy Products during Clinical Development: Managing the Link Between the Product and the Process

Niamh Kinsella, PhD

Associate Director, Global Regulatory CMC Early Development Gene Therapy Lead, .Biogen Idec Ltd.

#### Global Regulatory and Testing Trend of the Virus Vector Drugs

Alison Armstrong, PhD

Global Head of Field Technology Management, BioReliance, Merck

#### **Panel Discussion**

All Session Speakers

Atsushi Nishikawa, M.Sc

Office of Cellular and Tissue-based Products, Pharmaceuticals and

Medical Devices Agency

Sadao Ozawa, Ph.D

Merck Ltd.

11:15-11:30 COFFEE BREAK

11:30-12:15 KEYNOTE ADDRESS 4

SESSION CHAIR

Masafumi Onodera, MD, PhD

Director, Gene & Cell Therapy Promotion Center, NCCHD

#### AAV Gene therapy for Parkinson Disease and AADC deficiency

Shinichi Muramatsu, MD, PhD

Professor, Open Innovation Center, Jichi Medical Univercity

12:15-13:15	LUNCH BREAK	
13:15-14:55	SESSION 4	

#### Issues and Initiatives in the Supply Chain of

## Regenerative Medical Products ~ for Further Promotion of the Industrialization ~

**SESSION CO-CHAIRS** 

Teruyo Arato, PhD

Professor, Hokkaido University Hospital

Yoshie Tsurumaki, Rph

Senior External Relation Manager, Cell & Gene Franchise, Oncology Division, Novartis Pharma K.K.

The supply chain of regenerative medical products is sophisticated and complicated, and it is necessary to build a more reliable supply system according to the characteristics of each product. Consistent quality control is required in the process of raw material collection, manufacturing, shipping, and transportation. In addition, the realization of a stable supply is indispensable for further promotion of the industrialization of regenerative medical products, and many discussions

have been held on the construction of a stable supply system for cell raw materials. In this session, speakers from regulators, companies, academia, and medical institutions will share various issues and initiatives throughout the supply chain with examples, and in the panel discussion, discussions will be deepened on solutions to each issue.

## Overview: The Issues Related to Supply Chain Management of Regenerative Medical Products

Masaki Kasai, PhD

Office of Cellular and Tissue-based Products, Deputy Review Director, Pharmaceuticals and Medical Devices Agency (PMDA)

### Challenges for Autologous CAR-T Cell Journey Platform Establishment

Tokuhito Sumitani, MSc, RPh

Clinical Development Department II, Daiichi Sankyo Co., Ltd.

# Establishment and Reality of the Supply Chain System for the Allogeneic Regenerative Medicine Product, TEMCEL®HS Injection

Kiwamu Imagawa, PhD

 $\dot{\text{Director}}, \textit{Regenerative Medicine}, \textit{Research Division}, \textit{JCR Pharmacuticals Co., Ltd.}$ 

## To Establish the Stable Supply System of Perinatal Appendage-Derived Cells as a Source of Regenerative

Medicine Products

Tokiko Nagamura, MD, PhD Department of Cell Processing and Transfusion, IMSUT Hospital, The Institute of Medical Science, The University of Tokyo

**Panel Discussion** 

All Session Speakers

14.33 13.10 COLLECTION	14:55-15:10	COFFEE BREAK
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15:10-15:50 EDUCATIONAL LECTURE

**SESSION CHAIR** 

Teruhide Yamaguchi, PhD

Professor, Kanazawa-Instituite of Technology

#### GMO Procedures and Requirements for ATMPs in the EU

Stuart Beattie, PhD

Regulatory CMC Gene Therapy Clinical Lead, Biogen

15:50-17:20 SESSION 5

### Actual Requirements of Cartagena Type Use 1 for Medical Institutions from Pharmaceutical Point of View

SESSION CO-CHAIRS

Daisaku Sato, PhD

Director, Compliance and Narcotics Division.

Ministry of Health, Labour and Welfare (MHLW)

Sumimasa Nagai, MD, PhD

Institute for Advancement of Clinical and Translational Science(iACT)

Kyoto University Hospital

The number of products developed for gene therapy has been increasing, and some products have been launched in Japan. On the other hand, the gap between companies and medical sites regarding the manuals on the use of gene therapy products has become apparent. In this session, the actual situation will be grasped, and utilization in actual medical fields, feasibility, and future issues will be discussed. In particular, we will focus on the gap between the "Type 1 Use" specified for each product in the regulations and the" Manual for Site Requirements and Sites Prepared by Companies", and we will discuss the appropriate countermeasures by sharing the actual situation and organizing the basic idea of the regulations.

#### A Fact-Finding Survey of Handing Gene Therapy Products Compliance with Type 1 Use Regulations of the Cartagena Law in Clinical Site

Masafumi Onodera, MD, PhD

Director, Gene & Cell Therapy Promotion Center, NCCHD

#### Panel Discussion

All Session Speakers and

Teruhide Yamaguchi, PhD

Professor, Kanazawa-Instituite of Technology

Masato Komuro, PhD

Manager, Regulatory Affairs, Novartis Pharma K.K.

Kyoko Yamada, MSc

Clinical Study Management, Chugai Pharmaceutical Co., Ltd.

Miyako Matsumizu

Phizer R&D

#### 17:20-17:30 CLOSING REMARKS

Yasuko Terao, PhD

Program Vice-chair

Director, ASPAC Lead, Global Government Grant Office (G3O), Janssen Research & Development, Janssen Pharmaceutical K.K.

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	illuustiy	On of After Nov.30, 2021	¥42,900 🗖	¥28,160 🗖	¥28,160 🗖
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<sup>\*</sup> Including members of Forum for Innovative Regenerative Medicine (FIRM).

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