Today’s Agenda

◆ The Background of Acquiring Orchard Therapeutics
  – President and Chief Executive Officer   Masashi Miyamoto, Ph.D.

◆ About Orchard Therapeutics and HSC-GT*
  – The CEO of Orchard Therapeutics plc, Bobby Gaspar, M.D., Ph.D.

◆ Future Plans Regarding HSC-GT
  – President and Chief Executive Officer   Masashi Miyamoto, Ph.D.

*Hematopoietic stem cell gene therapy
Our Vision toward 2030

Kyowa Kirin will realize the successful creation and delivery of life-changing value* that ultimately makes people smile, as a Japan-based Global Specialty Pharmaceutical company built on the diverse team of experts with shared passion for innovation.

Provide pharmaceuticals for unmet medical needs
We are focused on developing medicines for diseases where there is a clear patient need for new options. We make full use of multiple therapeutic modalities, including biotechnology such as antibody technology, and beyond, building on our Kyowa Kirin established strengths.

Address patient-centric healthcare needs
We will meet the needs of patients and society by providing value across the entire patient care pathway, delivering cutting-edge science and technology, grounded in our in-depth pharmaceutical knowledge and expertise.

Retain the trust of society
We pursue world-class product quality and operational excellence to grow our business in ways which build long-term trust with our stakeholders.

* Make patients smile through dramatic improvements in quality of life by identifying the unmet medical needs of people battling with medical conditions and by creating and supplying new drugs or services that help them overcome those challenges.
Story for Vision 2030

Strategies for creating and delivering life-changing value

Disease Science
- Focus disease areas: bone & mineral, intractable hematological diseases/hematology, and rare diseases
  - Explore UMN, causes and mechanisms of disease in depth
  - Pursuit of molecular and cellular regulatory mechanisms for therapeutic realization

Drug Discovery Technology
- Strengthening Innovative Modalities: Advanced Antibody Technologies, Hematopoietic stem cell gene therapy
  - Application of optimal modalities for therapeutic realization
  - Evolution of drug discovery methods through AI and data science

External Collaboration
- Open Innovation
- Partnering

Life-changing Value Creation
- Assets in focus disease areas
- Strategic Partnering Assets *

Value delivery on our own
- Global deployment of products developed by taking full advantage of the company's strengths

Collaborative value delivery
- Aim to maximize value by combining the strengths of the company and its partners

Full-licensing
- Maximize the value of developed products and deliver them to patients faster by out-licensing to the most appropriate partners

*Assets outside of the disease areas of focus are designated as strategic partnering assets, and value maximization is achieved through collaboration with partners.
Why Orchard Therapeutics?

**Internal Changes**
- Focus on disease areas with strengths in bone & mineral, hematologic cancers & intractable blood diseases, and rare diseases
- Portfolio evolution through maximizing the value of rocatinlimab and discontinuation of several pipelines
- Transition to a global structure incorporating diverse skills and mechanisms for organizational growth

**External Changes**
- Establishing treatments for diseases with no existing therapy
- Personalized medicine
- Fundamental treatments
- Social demand for realizing them is increasing

**Challenges in Drug Discovery Research**
- Exhaustion of drug discovery targets with existing modalities like antibodies and small molecules
- Genetic and rare diseases have targets but limited access methods

Focus on Orchard Therapeutics' Technology & Pipeline
- Lenmeldy™/Libmeldy® - Aiming for fundamental treatments of diseases without SoCs
- Enhancing access to genetic and rare diseases through Hematopoietic Stem Cell Gene Therapy (HSC-GT)
- Anticipating new value creation through the integration of Kyowa Kirin's drug discovery R&D expertise
Bobby Gaspar – the CEO of Orchard Therapeutics plc

Bobby Gaspar, M.D., Ph.D.
- Co-founder and chief executive officer of Orchard Therapeutics
- Studied medicine and surgery at Kings College in London
- Completed Ph.D. at the UCL Great Ormond Street Institute of Child Health
Imagine Limitless Possibilities

8 April 2024

Bobby Gaspar, M.D., Ph.D.
We aspire to end the devastation caused by genetic and other severe diseases through the curative potential of HSC gene therapy.
Orchard Therapeutics: A global gene therapy leader

**Our Mission**
Dedicated to ending the devastation caused by severe genetic diseases through the curative potential of hematopoietic stem cell (HSC) gene therapy.

**Our Approach**
Our approach harnesses the unique power of a patient’s own genetically modified HSCs, to potentially correct the underlying cause of a genetic disease permanently with a one-time treatment.

**Our Focus**
We are focused on treating severe genetic disorders where the disease burden on children, families and caregivers is immense and current treatment options are limited or do not exist.

Global footprint:
- ~170 Employees

Established presence in:
- France
- Germany
- Italy
- Netherlands
- Sweden
- Switzerland

U.S. headquarters
101 Seaport Blvd
245 Hammersmith Road
Office, laboratories and global HQ

Global headquarters
London
Strategic long-term growth and value creation with expansion into larger indications

**Value vs. Time**

- **Near-mid term**: Execute and deliver on rare disease portfolio.
  - Continue to build out capabilities in HSC gene therapy across regulatory, manufacturing, commercialization and access.

- **Mid-long term**: Expand on HSC gene therapy approach for larger indications and enabling technologies.
HSC gene therapy enables delivery of gene-corrected cells to multiple organ systems.

Integration

Self-renewal

HSC

Viral Vector

Granulocyte

T cells

B cells

NK cells

Megakaryocyte

Erythrocyte

Monocyte / Macrophage

BONE

Osteoclasts

MPS-IH

BRAIN

Microglia

MLD → MPS-III

LIVER

Intestinal macrophages

INTESTINE

X-CGD → NOD2 Crohn’s

Kupffer Cells

HSC

Viral Vector
Autologous ex vivo gene therapy approach

**Administration:**
Genetically-modified cells are given back to the patient intravenously.

**Conditioning:**
The patient is given conditioning to "make space" for the genetically-modified cells.

**Cryopreserved genetically-modified HSPCs:**
Drug product is certified that it meets manufacturing standards and sterility.

**Blood cell collection:**
Blood hematopoietic stem and progenitor cells (HSPCs) are taken from the patient via leukapheresis.

**HSPC selection and purification:**
HSPCs, identified by the CD34+ cell surface marker, are selected and purified by magnetic bead selection.

**Transduction:**
HSPCs are genetically-modified outside of the body ("ex vivo") via exposure to a lentiviral vector carrying a functional copy of the gene.

**Patient can return home**
Advancing a pipeline to address serious genetic diseases

<table>
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<tr>
<th>Neurometabolic/Neurodegenerative Disorders</th>
<th>Preclinical</th>
<th>Clinical proof of concept</th>
<th>Registrational trial</th>
<th>Commercialization</th>
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<tbody>
<tr>
<td>Lenmeldy™ / Libmeldy® (atalasagene autotemcel)</td>
<td>Early-onset MLD</td>
<td>Approved in the U.S. and EU*</td>
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<td>OTL-203</td>
<td>MPS-I</td>
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<td>MPS-III</td>
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<td>OTL-204</td>
<td>FTD</td>
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*Lenmeldy™ is approved in the U.S. for the treatment of children with pre-symptomatic late infantile, pre-symptomatic early juvenile, or early symptomatic early juvenile metachromatic leukodystrophy (MLD). Libmeldy® is approved in the European Union, UK, Iceland, Switzerland, Liechtenstein and Norway.
Strong operational execution already in 2024

- BLA approval by FDA for **Lenmeldy** in early-onset MLD
- Built U.S. field team to set the stage for successful execution of the launch
- MLD patients identified for treatment driving significant revenue growth
- Beneluxa reimbursement agreement expanded **Libmeldy** market in Europe
- Randomized first patients in OTL-203 pivotal study
Lenmeldy™ / Libmeldy® (MLD): Potential significant clinical benefit for a devastating genetic disease

Disease Snapshot
- Fatal genetic CNS disorder
- Rapid and irreversible loss of motor and cognitive function
- In its most severe form, most children pass away within five years of symptom onset

Severe Motor Impairment Free Survival (sMFS)
Interval from birth to first occurrence GMFC-MLD ≥ 5
(no locomotion and unable to sit) or death

Treatment with OTL-200 resulted in statistically significant and clinically meaningful improvement in sMFS in the PSLI (p<0.001), PSEJ (p=0.042) and ESEJ (p<0.001) MLD subgroups compared to disease natural history.

Data presented at the at the Society for the Study of Inborn Errors of Metabolism (SSIEM) Annual Symposium 2023, August 2023

OTL-200

Pre-Symptomatic Late Infantile (PSLI)
Pre-Symptomatic Early Juvenile (PSEJ)
Early-Symptomatic Early Juvenile (ESEJ)

All 7 surviving PSEJ patients maintained the ability to walk with normal performance for age (GMFC-MLD Level 0)

Untreated NHx sibling

GMFC-MLD Level 6
3 years post-onset
8 years of age

Treated Child

GMFC-MLD Level 0
8 years post-GT
12 years of age
Patients treated across all six qualified treatment centers in Europe

Landmark agreements secured in a dozen European countries for all eligible MLD children

Alternative pathways for reimbursement successfully utilized

Focus on lead generation, disease awareness and diagnosis
OTL-203 (MPS-IH): Disease background & *NEJM* interim proof-of-concept results

**Disease snapshot**

- Multisystemic neurometabolic condition affecting cognition, growth and skeletal function
- Current standard of care: HSCT and/or ERT as a bridging or chronic therapy
- ~1:100,000 live births; NBS established in some geographies, including U.S.

**Next steps**

**Pivotal trial initiated**

- Randomized controlled trial vs. HSCT (standard of care)
- 40 patients
- 2-year primary analysis
- Composite endpoint
- Initial six sites to be activated globally

**Before gene therapy**

**1.5 yrs. after gene therapy**

**Neuropsychological Tests over Time**

Cognitive Age-Equivalent Score (Overall)

Interim Proof-of-Concept (PoC) Study Results Published in *NEJM*
OTL-201 (MPS-IIIA): A progressive and devastating disease with no approved treatment options

### Disease snapshot

- **Sanfilippo syndrome type A;** pathogenic variants in *SGSH* gene
- Accumulation of substrate heparan sulfate leading to severe CNS degeneration w/ somatic manifestations
- Severe phenotype development slows from 3 years of age, followed by cognitive decline, behavioural disturbances, loss of skills and eventual death
- No successful treatment options
- Incidence: ~1 in 100,000 live births

### Early Neurocognitive Outcomes

- Change in cognitive function (age equivalent scores) against natural history of MPSIIIA
- Change in patient behavior, patient QoL and daily living
- Early follow-up in trial patients:
  - Gain of skills in line with development of normal children in 4 out of 5 pts.
  - Developmental gains not seen in untreated MPS-IIIA, *e.g.* acquisition of speech, continence and complex play
  - Longer follow up ongoing to assess safety and efficacy outcomes

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<th>Post-GT Treatment</th>
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[Image of children and adults participating in activities]
Success in MLD provides roadmap, common infrastructure for next-in-line neurometabolic and CNS programmes

MLD

MPS-IH

MPS-IIIA

Other LSDs
GRN-FTD

Regulatory
Supply Chain

Manufacturing
Treatment Sites

Distribution
Referral Networks

Approved in Europe and U.S.
Compelling fundamentals driving near-term value creation and long-term growth

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<th>Commercial Model</th>
<th>Diagnostics and Newborn Screening</th>
<th>Future Potential Regulatory Approvals</th>
<th>Manufacturing and Distribution</th>
<th>Other Applications</th>
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<td>Establish scalable business and growth</td>
<td>Develop markets</td>
<td>Leverage success in rare diseases</td>
<td>Implement a sustainable process</td>
<td>Advance scientific platform</td>
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All based on a de-risked HSC GT scientific and clinical platform
The world’s leading gene therapy company
**Story for Vision 2030**

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Future HSC-GT related business

- Expansion of Lenmeldy™/Libmeldy® usage in EU and US
  - US approval on March 18, 2024, followed by launch
  - Ten prospective NBS* studies for MLD are active throughout the U.S., Europe and the Middle East, w/ ~275k newborns screened as of 31 March
  - Projected revenue for FY2024: 4.5 billion yen

- Expanding into New Drug Discovery Technologies
  - Fusion of our technology with HSC-GT: Recombinant protein delivery to sites typically difficult to reach
  - Creation of functional cells utilizing the pluripotency of HSCs

Aiming for the successful creation and delivery of life-changing value through the integration of both companies' strengths

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* Newborn screening