UNITED STATES
SECURITIES AND EXCHANGE COMMISSION
WASHINGTON, D.C. 20549

FORM 6-K

REPORT OF FOREIGN PRIVATE ISSUER
PURSUANT TO RULE 13a-16 OR 15d-16
UNDER THE SECURITIES EXCHANGE ACT OF 1934

For the month of January 2019

Commission File Number: 001-38722

ORCHARD THERAPEUTICS PLC
(Translation of registrant's name into English)

108 Cannon Street
London EC4N 6EU
United Kingdom
(Address of principal executive offices)

Indicate by check mark whether the registrant files or will file annual reports under cover of Form 20-F or Form 40-F.

Form 20-F ☒ Form 40-F ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(1): ☐

Indicate by check mark if the registrant is submitting the Form 6-K in paper as permitted by Regulation S-T Rule 101(b)(7): ☐

On January 7, 2019, Orchard Therapeutics plc (the "Company") issued a press release, a copy of which is attached hereto as Exhibit 99.1 and is incorporated herein by reference.

The Company will be conducting meetings with investors attending the 37th Annual J.P. Morgan Healthcare Conference in San Francisco beginning on January 7, 2019. As part of these meetings, the Company will deliver the slide presentation furnished to this report as Exhibit 99.2 and which is incorporated herein by reference.

The information in this report included as Exhibit 99.1 and Exhibit 99.2 and incorporated herein by reference shall not be deemed "filed" for the purposes of Section 18 of the Securities Exchange Act of 1934, as amended (the "Exchange Act"), or otherwise subject to the liabilities of that section. It may only be incorporated by reference in another filing under the Exchange Act or the Securities Act of 1933, as amended, if such subsequent filing specifically references the information furnished pursuant to this report.

EXHIBITS

Exhibit	Description
99.1	Press Release dated January 7, 2019
99.2	Orchard Therapeutics plc Presentation at the 37th Annual J.P. Morgan Healthcare Conference, dated January 7, 2019.

SIGNATURES

Pursuant to the requirements of the Securities Exchange Act of 1934, the registrant has duly caused this report to be signed on its behalf by the undersigned, thereunto duly authorized.

ORCHARD THERAPEUTICS PLC

Date: January 7, 2019

By: /s/ Frank E. Thomas
Frank E. Thomas
Chief Financial Officer

Exhibit 99.1

Orchard Therapeutics Highlights Recent Accomplishments and 2019 Strategic Priorities as a Global Leader in Gene Therapy

Preparing Three Lead Programs for MLD, ADA-SCID and WAS for Regulatory Filings Over the Next Three Years

Recently Announced Clinical Proof-of-Concept in X-CGD Demonstrates Platform's Transformative Potential

Advancing Earlier Stage Pipeline with Potential Clinical Proof-of-Concept for TDBT and Clinical Trial Application for MPS-IIIA

Entering 2019 in a Strong Financial Position with $340M in Cash and Investments

BOSTON and LONDON, Jan. 7, 2019 (GLOBE NEWSWIRE) – Orchard Therapeutics (NASDAQ: ORTX), a leading commercial-stage biopharmaceutical company dedicated to transforming the lives of patients with serious and life-threatening rare diseases through innovative gene therapies, today summarized recent accomplishments and 2019 strategic priorities in conjunction with its attendance at the 37th Annual J.P. Morgan Healthcare Conference in San Francisco. Mark Rothera, president and chief executive officer, will present a business overview outlining the company's progress as a global leader in gene therapy on Wednesday, January 9, 2019 at 3:00 p.m. PT that will be webcast at ir.orchard-tx.com.

"2018 was a momentous year for Orchard, marked by the success of our acquisition and integration of GSK's rare disease *ex-vivo* gene therapy portfolio, initial scaling of our manufacturing capabilities and completion of our initial public offering," said Mr. Rothera. "2019 will continue the company's evolution as a leader in gene therapy, with multiple clinical milestones supporting three regulatory filings over the next three years and growing manufacturing capabilities. We have a bold vision and are well on our way to delivering gene therapies that have the potential to transform the lives of patients with rare, life-threatening diseases worldwide with a single treatment."

2019 Strategic Priorities

Neurometabolic Disorders

- Release two and three-year follow-up data in 20 patients from the fresh formulation registrational trial of OTL-200 for metachromatic leukodystrophy (MLD)
- Release engraftment data in the first three patients from the cryopreserved formulation clinical trial of OTL-200 for MLD
- Submit clinical trial application (CTA) for OTL-201 for mucopolysaccharidosis type IIIA (MPS-IIIA) and support initiation of a clinical trial

Primary Immune Deficiencies

- Release two-year follow-up data in 20 patients from the fresh formulation registrational trial of OTL-101 in adenosine deaminase severe combined immune deficiency (ADA-SCID)
- Release engraftment data in 10 patients from a cryopreserved formulation clinical trial of OTL-101 in ADA-SCID
- Release three-year follow-up data in eight patients from the fresh formulation registrational trial of OTL-103 in Wiskott-Aldrich syndrome (WAS)
- Initiate cryopreservation formulation clinical trial for OTL-103 in WAS
- Design and engage regulators on registrational trial for OTL-102 in X-linked chronic granulomatous disease (X-CGD), which recently achieved clinical proof-of-concept (link to full release here)

Hemoglobinopathies

- Report clinical proof-of-concept data for OLT-300 in transfusion-dependent beta-thalassemia (TDBT)

Major 2018 Accomplishments

Pipeline Expansion and Advancement

- Completed the strategic acquisition and subsequent integration of GSK's rare disease *ex-vivo* gene therapy portfolio, including Strimvelis®, the only treatment for patients with ADA-SCID approved in the EU, along with clinical programs in MLD, WAS and TDBT
- Completed pre-biologics license application (BLA) and CMC specific meetings with the U.S. Food and Drug Administration (FDA) for OTL-101 for ADA-SCID, following which the program remains on track for a BLA filing in the U.S. in 2020
- Achieved clinical proof of concept for OTL-102 in X-CGD, demonstrating sustained levels of functioning neutrophils in patients after 12 months
- Obtained Rare Pediatric Disease Designations from the FDA for OTL-200 for the treatment of MLD and OTL-201 for the treatment of MPS-IIIA
- Obtained priority medicines (PRIME) designation from the European Medicines Agency (EMA) for OTL-300 for the treatment of TDBT

Corporate & Manufacturing Developments

- Raised approximately $375 million in gross proceeds in 2018 from a Series C financing and underwritten initial public offering
- Leased a manufacturing site in Fremont, CA and opened a Boston, MA corporate office. The manufacturing facility will enhance the company's capacity to develop and deliver *ex-vivo* lentiviral vector and gene-corrected hematopoietic stem cells for a wide range of rare diseases on a global scale and will complement the existing network of partner CMOs that will underpin the launches for the first three programs. (Link to full release here)

Cash Guidance

The company ended 2018 with approximately $340 million of cash and investments. The company expects that its cash, cash equivalents and marketable securities as of December 31, 2018 will enable the company to fund its currently anticipated operating expenses and capital expenditure requirements into the second half of 2020.

Presentation at 37th Annual J.P. Morgan Healthcare Conference

Orchard will webcast its corporate presentation from the 37th Annual J.P. Morgan Healthcare Conference in San Francisco on Wednesday, January 9, 2019 at 3:00 p.m. PT. A live webcast of the presentation will be available under “News & Events” in the Investors & Media section of the company’s website at orchard-tx.com. A replay of the webcast will be archived on the Orchard website following the presentation.

About Orchard

Orchard Therapeutics is a fully integrated commercial-stage biopharmaceutical company dedicated to transforming the lives of patients with serious and life-threatening rare diseases through innovative gene therapies.

Orchard’s portfolio of autologous *ex vivo* gene therapies includes Strimvelis®, the first autologous *ex vivo* gene therapy approved by the European Medicines Agency for adenosine deaminase severe combined immunodeficiency (ADA-SCID). Additional programs for neurometabolic disorders, primary immune deficiencies and hemoglobinopathies include three advanced registrational studies for metachromatic leukodystrophy (MLD), ADA-SCID and Wiskott-Aldrich syndrome (WAS), clinical programs for X-linked chronic granulomatous disease (X-CGD) and transfusion-dependent beta-thalassemia (TDBT), as well as an extensive preclinical pipeline.

Orchard currently has offices in the U.K. and the U.S., including London, San Francisco and Boston.

Forward-Looking Statements

This press release contains certain forward-looking statements which are made pursuant to the safe harbor provisions of the Private Securities Litigation Reform Act of 1995. Forward-looking statements include express or implied statements relating to, among other things, Orchard’s expectations regarding the timing of regulatory submissions for approval of its product candidates, the timing of interactions with regulators and regulatory submissions related to ongoing and new clinical trials for its product candidates, the timing of announcement of clinical data for its product candidates and the likelihood that such data will be positive and support further clinical development and regulatory approval of these product candidates, the likelihood of approval of such product candidates by the applicable regulatory authorities, and Orchard’s guidance that its existing cash, cash equivalents and marketable securities as of December 31, 2018 will enable the company to fund its anticipated operating expenses and

capital expenditure requirements into the second half of 2020. These statements are neither promises nor guarantees but are subject to a variety of risks and uncertainties, many of which are beyond Orchard's control, which could cause actual results to differ materially from those contemplated in these forward-looking statements. In particular, the risks and uncertainties include, without limitation: the delay of any of Orchard's regulatory submissions, the failure to obtain marketing approval from the applicable regulatory authorities for any of Orchard's product candidates, the receipt of restricted marketing approvals, or delays in Orchard's ability to commercialize its product candidates, if approved. Given these uncertainties, the reader is advised not to place any undue reliance on such forward-looking statements. For additional disclosure regarding these and other risks faced by Orchard, see the disclosure contained in Orchard's public filings with the Securities and Exchange Commission, including in the final prospectus related to Orchard's initial public offering filed with the Securities and Exchange Commission pursuant to Rule 424(b) of the Securities Act of 1933, as amended, as well as subsequent filings and reports filed by Orchard with the Securities and Exchange Commission. These forward-looking statements speak only as of the date of publication of this document. Orchard undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law.

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Exhibit 99.2

J.P.Morgan

Orchard therapeutics

Mark Rothera

President & Chief Executive Officer

January 9, 2019

Forward Looking Statements

Certain information set forth in this presentation and in statements made orally during this presentation contains “forward-looking statements”. Except for statements of historical fact, information contained herein constitutes forward-looking statements and includes, but is not limited to, the Company’s expectations regarding: (i) the safety and efficacy of its product candidates; (ii) the expected development of the Company’s business and product candidates; (iii) the timing of regulatory submissions for approval of its product candidates; (iv) the timing of interactions with regulators and regulatory submissions related to ongoing and new clinical trials for its product candidates; (v) the timing of announcement of clinical data for its product candidates and the likelihood that such data will be positive and support further clinical development and regulatory approval of these product candidates; (vi) the likelihood of approval of such product candidates by the applicable regulatory authorities; (vii) execution of the Company’s vision and growth strategy, including with respect to global growth; and (viii) projected financial performance and financial condition, including the sufficiency of the Company’s cash and cash equivalents to fund operations in future periods and future liquidity, working capital and capital requirements. The words “may,” “should,” “expects,” “intends," “plans,” “anticipates,” “believes,” “estimates,” “predicts," “potential,” “continue,” and similar expressions are intended to identify forward-looking statements, although not all forward-looking statements contain these identifying words. Forward-looking statements are provided to allow investors the opportunity to understand management’s beliefs and opinions in respect of the future so that they may use such beliefs and opinions as one factor in evaluating an investment.

These statements are neither promises nor guarantees of future performance. Such forward-looking statements necessarily involve known and unknown risks and uncertainties, which may cause actual performance and financial results in future periods to differ materially from any projections of future performance or result expressed or implied by such forward-looking statements. You are cautioned not to place undue reliance on forward-looking statements. These statements are subject to a variety of risks and uncertainties, many of which are beyond the Company’s control, which could cause actual results to differ materially from those contemplated in these forward-looking statements. For additional disclosure regarding these and other risks faced by the Company, see the disclosure contained in the Company’s public filings with the Securities and Exchange Commission, including in the final prospectus related to the Company’s initial public offering filed with the Securities and Exchange Commission pursuant to Rule 424(b) of the Securities Act of 1933, as amended, as well as subsequent filings and reports filed with the Securities and Exchange Commission. These forward-looking statements speak only as of the date of this presentation. The Company undertakes no obligation to publicly update or revise any forward-looking statements, whether as a result of new information, future events or otherwise, except as may be required by law.

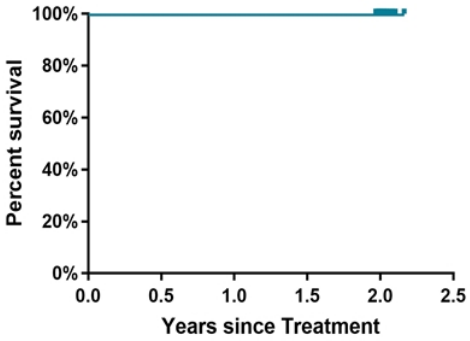
Global Fully Integrated Biotech Dedicated to Transforming the Lives of Patients with Rare Diseases Through Innovative Gene Therapies

Singular focus on autologous *ex-vivo* gene therapy for rare diseases

Orchard's Lead Programs Show Transformative Potential

OTL-101 for ADA SCID

Overall survival data



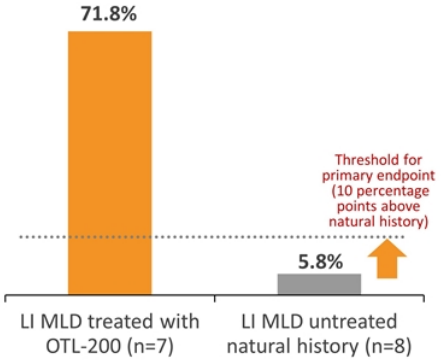
100% overall survival

Source: UCLA study; n=20

OTL-200 for MLD

Gross motor function measure (GMFM)

GMFM total score in late infantile (LI) MLD at 24 months post OTL-200 vs. natural history

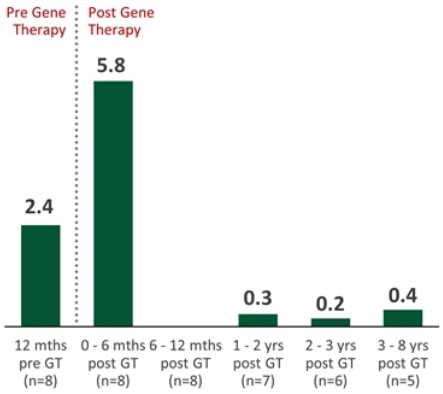


66% treatment difference vs. untreated

Source: clinical study report (CSR) of 05 Dec 2017

OTL-103 for WAS

Severe infection rate



Reductions in severe infections

Source: interim clinical study report (CSR) of 10 Jan 2017

Orchard Now a Leading Global Gene Therapy Company

Orchard therapeutics

	Pipeline	People	Value	Locations	Board of Directors
Entering 2018	• **2** clinical stage programs • **5** pre-clinical programs	• **55** employees	• **~$320M** post Series B	• London, UK • Single CA site	• Primarily investors
Entering 2019	• **1** commercial product • **5** clinical stage programs • **10** pre-clinical programs	• **~180** employees • Executive leadership team in place	• **~$1.3B** market cap post IPO • **$340M** cash on the balance sheet	• London, UK • Boston, MA • Multiple CA sites	• Primarily independent industry experts

Global Leadership in Gene Therapy for Rare Diseases

Deep pipeline of five clinical-stage gene therapies & potential to treat CNS disorders

- Over 150 patients treated, with promising clinical data and durable long-term effects
- Three submissions for product approvals anticipated over the next three years (MLD, ADA-SCID, WAS)
- Recently announced X-CGD clinical POC and TDBT clinical POC expected in 2019
- Establishing manufacturing capabilities to deliver products globally
- Strong balance sheet entering 2019 with $340M in cash

Deep Pipeline of Gene Therapies with Transformative Potential

	Preclinical	Clinical proof of concept	Registrational trial	Commercialization	Designations
Neurometabolic disorders					
OTL-200	**MLD** (metachromatic leukodystrophy)				RPD
OTL-201	**MPS-IIIA** (Sanfilippo type A)				RPD
OTL-202	**MPS-IIIB** (Sanfilippo type B)				
Primary immune deficiencies					
Strimvelis®	**ADA-SCID** (adenosine deaminase severe combined immunodeficiency)				RPD
OTL-101	**ADA-SCID** (adenosine deaminase severe combined immunodeficiency)				RPD; BKT
OTL-103	**WAS** (Wiskott–Aldrich syndrome)				RPD
OTL-102	**X-CGD** (X-linked chronic granulomatous disease)				
Hemoglobinopathies					
OTL-300[3]	**TDBT** (transfusion-dependent beta-thalassemia)				PRIME

Several additional research and preclinical programs under development

RPD Program with Rare Pediatric Disease Designation; eligible for a Priority Review Voucher

BKT Breakthrough Therapy Designation;
PRIME Priority Medicine (PRIME) Designation

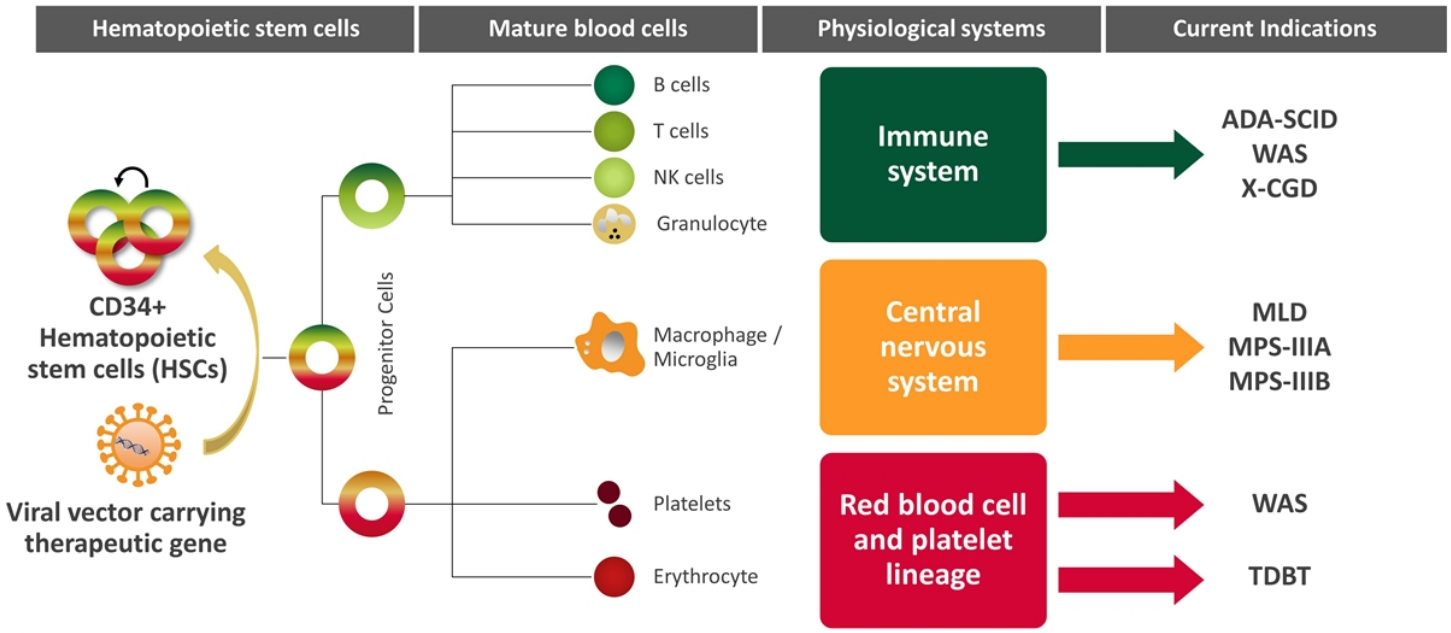
Over 150 Patients Treated with Orchard's Autologous *Ex Vivo* Gene Therapies

Franchise	Program	Patients treated[1]	Longest patient follow-up
Primary immune deficiencies	**Strimvelis®** (ADA-SCID)	24	18 years
	OTL-101 (ADA-SCID)	62	6 years
	OTL-103 (WAS)	16	8 years
	OTL-102 (X-CGD)	10	3 years
Neurometabolic disorders	**OTL-200** (MLD)	32	8 years
Hemoglobinopathies	**OTL-300** (TDBT)	9	3 years
Total		153 patients	

Persistent, long-term effects across five indications

[1] Patients treated in the development phase, including in clinical trials and under pre-approval access (defined as any form of pre-approval treatment outside of a company-sponsored clinical trial, including, but not limited to, compassionate use, early access, hospital exemption or special license). Data as of December 2018
Data include all patients treated with CD34+ hematopoietic stem cells transduced *ex vivo* with vector of interest.

Delivering Therapeutic Genes to Multiple Physiological Systems



Potential for sustained disease correction after a single administration via gene-modified HSCs engraftment

Numerous Data and Clinical Milestones Anticipated in 2019

3 Registrational Clinical Trial Data Sets

OTL-200 (MLD)

2 & 3 year follow-up fresh formulation (n=20)
Cryo formulation engraftment data (n=3)

OTL-101 (ADA-SCID)

2 year follow-up fresh formulation (n=20)
Cryo formulation engraftment data (n=10)

OTL-103 (WAS)

3 year follow-up fresh formulation (n=8)

Clinical Trial Initiations & Other Milestones

OTL-103 (WAS)

Initiate cryo formulation trial

OTL-102 (X-CGD)

Design registrational trial & engage regulators

OTL-300 (TDBT)

Report data from POC trial (n=9)

OTL-201 (MPS-IIIA)

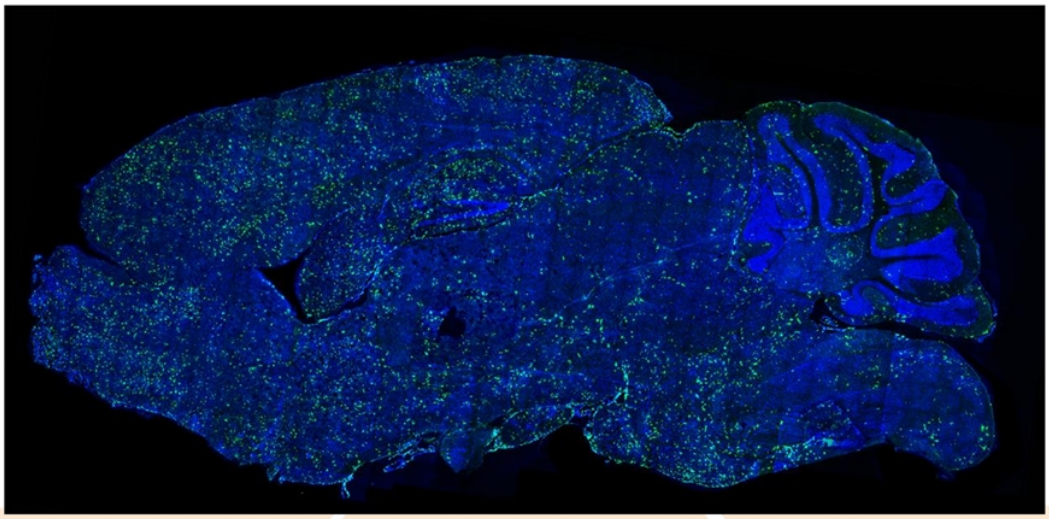
Submit CTA & support clinical trial initiation

Neurometabolic Disorders

Delivery of Proteins to the Brain Unlocks Potential to Treat Large Number of Neurometabolic Diseases

Orchard therapeutics

Broad transgene distribution in brain of mouse after administration of HSCs transduced with GFP-encoding vector



MLD | **MPS-IIIA** | **MPS-IIIB**

Multiple potential additional neurometabolic indications

Source: Capotondo et al. PNAS 2012;109:15018-15023; Brain of a wildtype mouse transplanted with GFP-LV transduced HSPCs after Busulfan conditioning
Green = GFP (green fluorescent protein); **blue** = nuclei staining

Devastating Neurometabolic Diseases with No Approved Treatment Options

	Metachromatic Leukodystrophy (MLD)	Sanfilippo Syndrome Type A and Type B (MPS-IIIA, MPS-IIIB)
Disease Overview / Symptoms	• Deficiency in the ARSA[1] enzyme • Rapid & progressive neurodegeneration with loss of motor & cognitive function • Incidence: 400-770 patients per year	• Deficiencies in the SGSH (MPS-IIIA) and NAGLU (MPS-IIIB) enzymes • Progressive neurodegeneration, subsequent motor function decline; loss of language and mobility; seizures • MPS-IIIA incidence: 250-480 patients per year
Prognosis	• Severe form with high mortality rates: • Infantile: 50% at 5 years (onset 0-3 years)[2] • Juvenile: 44% at 10 years (onset 3-16 years)[2]	• Life expectancy: 10-25 years (MPA-IIIA) and 15-30 years (MPS-IIIB)
Current Treatment	• Largely palliative addressing symptoms • Very limited to no efficacy with allogeneic HSCT	• Largely palliative addressing symptoms • Allogeneic HSCT not shown to be effective[3] • ERT not effective treating neurological manifestations[4]

[1] ARSA: arylsulfatase-A; [2] Mahmood (2010); [3] Sergijenko (2013) and Boelens (2010); [4] Buhrman (2013)
SGSH: N-sulfoglycosamine sulfohydrolase; NAGLU: N-acetyl-alpha-glucosaminidase

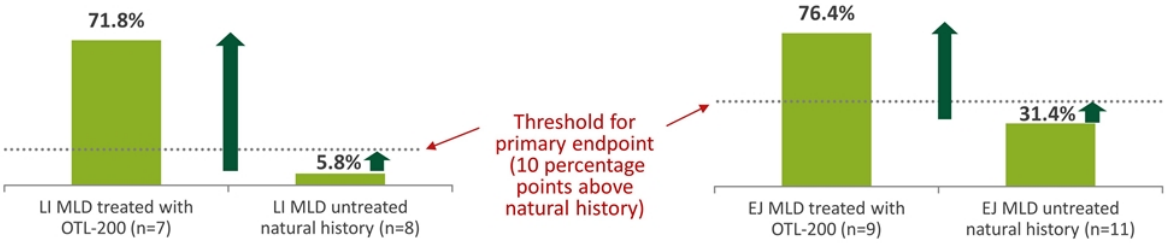
OTL-200 for MLD: Significant Improvements in Motor Function

MAA Submission Expected in 2020 (followed by BLA)

Orchard therapeutics

Late infantile MLD - GMFM Total Score
at 24 months post OTL-200 vs. natural history

Early juvenile MLD - GMFM Total Score
at 24 months post OTL-200 vs. natural history



66% treatment difference vs natural history

45% treatment difference vs natural history

32 patients treated (23 under clinical trials; 9 under compassionate use program)
- Evidence of normalized motor and cognitive function with early treatment
- Ongoing clinical trial with cryopreserved formulation (3 of 10 patients enrolled)

Treatment difference (OTL-200 – untreated): 66.1% (LI) and 45% (EJ) respectively
Source: clinical study report (CSR) of 05 December 2017

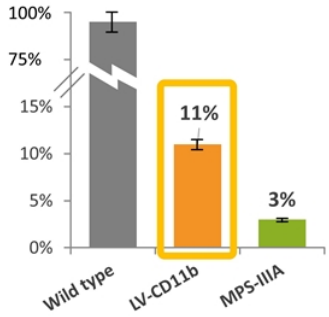
OTL-201 and OTL-202 (MPS-IIIA And MPS-IIIB): Preclinical Proof of Concept

CTA Submission for MPS-IIIA Expected in 2019

Orchard therapeutics

Increased enzyme expression in the brain

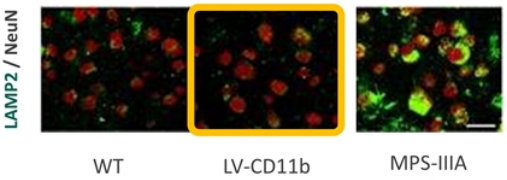
Percentage enzyme vs. wild type



11% enzyme expression vs. wild type

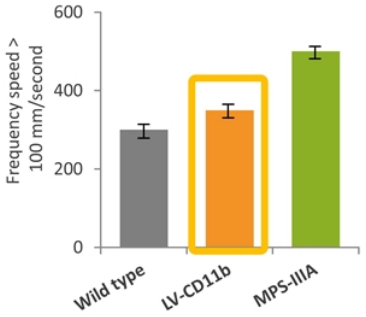
Decreased substrate accumulation in the brain

Staining of neurons and lysosomes



~80% decrease in heparan sulfate vs. MPS-IIIA wild type

Full behavioral correction to wild type levels



Reduced hyperactivity

Sergijenko et al, Mol. Ther. 2013, 21(10), 1938-1949

Primary Immune Deficiencies (PIDs)

Life Threatening Inherited Immune Disorders: ADA-SCID, WAS and X-CGD

	Adenosine Deaminase Severe Combined Immunodeficiency (ADA-SCID)	Wiskott-Aldrich Syndrome (WAS)	X-linked Chronic Granulomatous Disease (X-CGD)
Disease Overview / Symptoms	• Deficiency in ADA enzyme • T, B, and NK cell dysfunction • Recurrent and life-threatening severe infections • Incidence 80 – 180 patients per year	• Deficiency in WAS protein • Thrombocytopenia causing severe bleeding and infections, eczema, autoimmunity and life-threatening malignancies[1] • Incidence 100 – 260 patients per year	• Deficiency in NADPH oxidase function • Neutrophils / granulocytes unable to kill bacterial and fungal pathogens • Life-threatening, repeated chronic fungal and bacterial infections • Incidence 200 – 320 patients per year
Prognosis	• Usually fatal within first two years of life without treatment	• Median survival ~15 years with conservative treatment[2]	• ~40% mortality by age 35[3]
Current Treatment	• Strimvelis (EU only) • Allogenic HSCT • Chronic ERT	• Conservative care • Allogeneic HSCT	• Prophylactic antibiotics, antifungals and interferon • Allogeneic HSCT

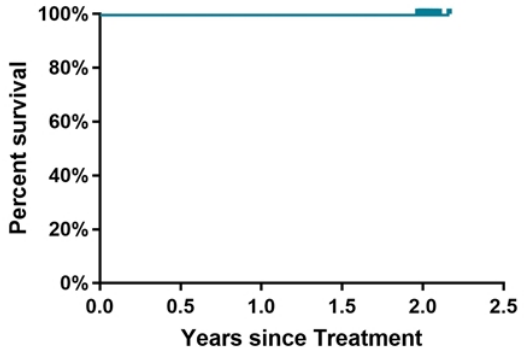
[1] Oszahin (2008); Albert (2011); [2] Dupuis-Girod (2003); [3] van den Berg et. al, PLoS One. 2009;4(4):e5234.

OTL-101 for ADA-SCID: Registrational Trial Supports Transformative Potential

BLA Submission Expected in 2020 (followed by MAA)

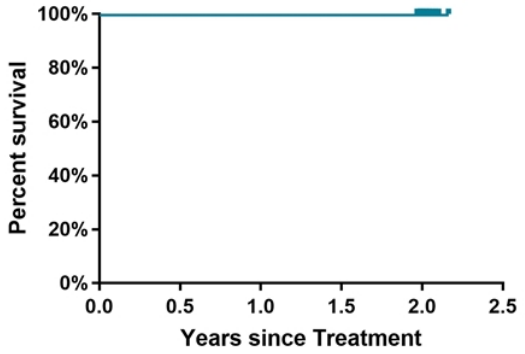
Orchard therapeutics

Overall Survival



100% overall survival (n=20)

Event-free Survival



100% event-free survival (n=20)

62 patients treated in total as of December 2018

- Up to 6.5 years follow-up
- 100% overall survival; ~95% event-free survival

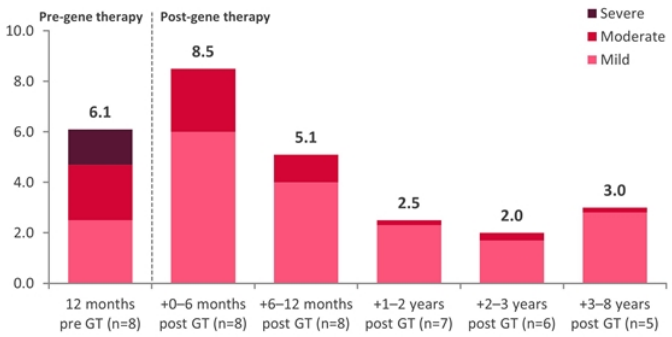
Data from registrational 2-year fresh cell product; n=20

OTL-103 for WAS: Evidence of Consistent and Durable Efficacy

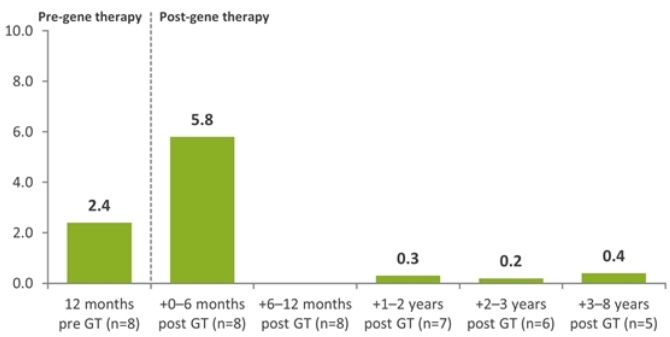
Cryo Trial to Initiate 2019; BLA/MAA submission in 2021

Orchard therapeutics

Bleedings per patient per year



Severe infections per patient per year



Reduction in the rate of severe infections, bleeding events and hospitalizations

Well-tolerated among 16 patients treated (8 under clinical trials; 8 under compassionate use program)

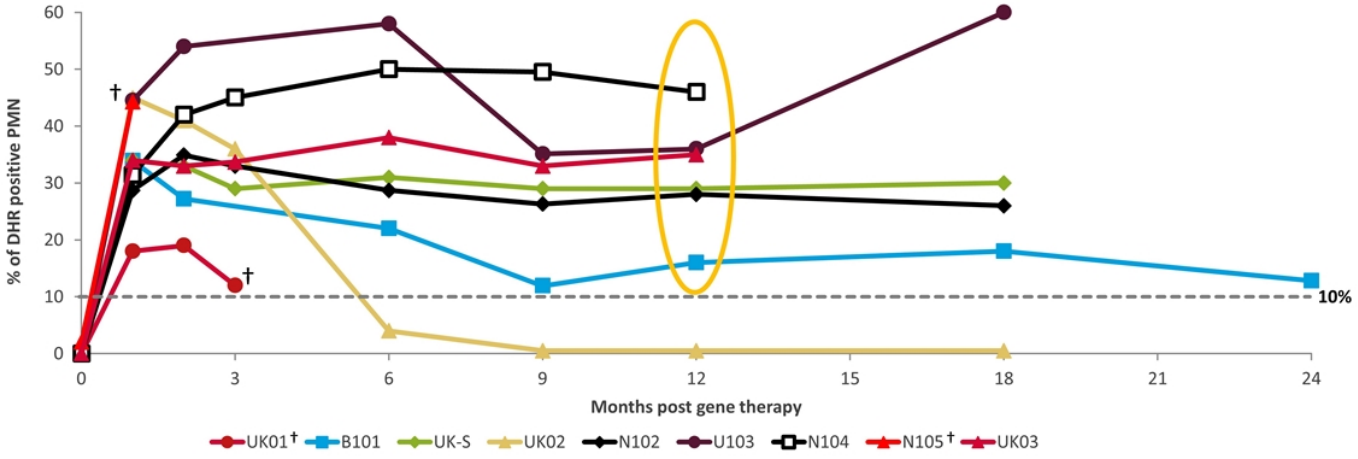
Data based on interim clinical study report of 10 Jan 2017; figures reflect data as of the cut-off date of 29 April 2016

OTL-102 for X-CGD: Evidence of Sustained Neutrophil Activity in Patients

Proof of Concept Established in December 2018

Orchard therapeutics

Oxidase activity – % of DHR-positive peripheral mononuclear cells



Functional neutrophils above 10% at 12 months in 6 patients providing clinical benefit

Data provided by Great Ormond Street Hospital, Boston Children Hospital, NIH and UCLA; unaudited data as of 07-May-2018; † patient deceased from advanced disease
Excludes data from 1 patient treated with drug product deemed by the investigator as different from the OTL-102 drug product

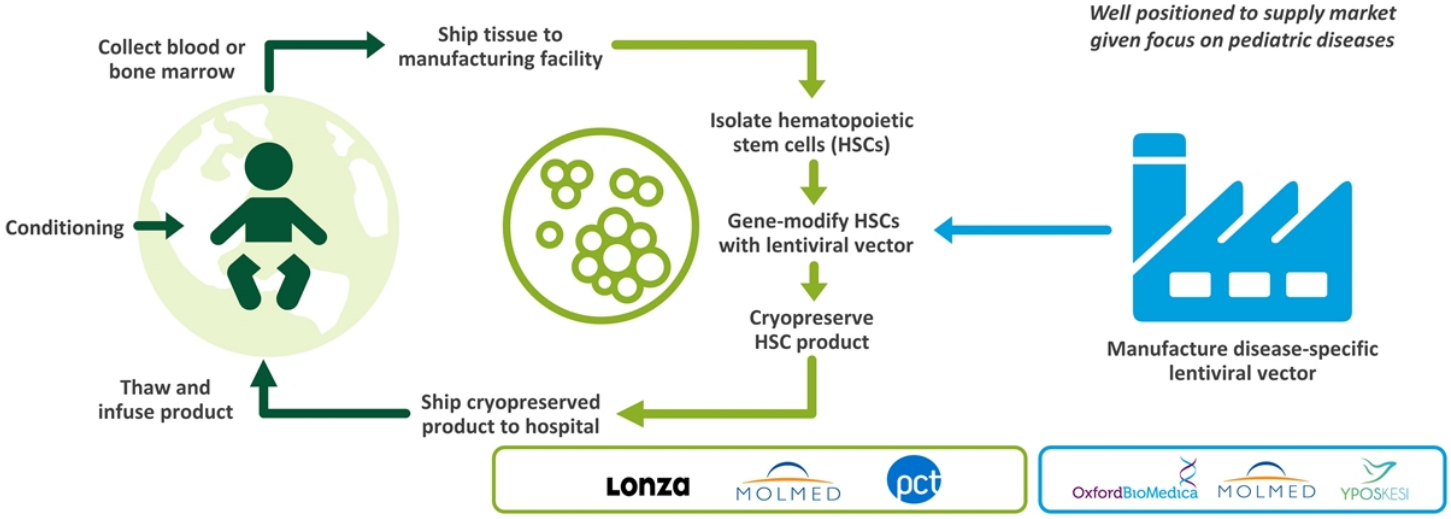
CMO Infrastructure Established for Launch of First Three Cryopreserved Gene Therapy Products

Orchard therapeutics

Orchard Therapeutics supply chain

Local treatment of patients in hospital | **Drug product manufacturing (cell processing)** | **Lentiviral vector manufacturing**

Well positioned to supply market given focus on pediatric diseases



Lonza | MOLMED | pct

OxfordBioMedica | MOLMED | YPOSKESI

Recently announced build-out of Orchard manufacturing facility to provide capacity and long-term security of supply

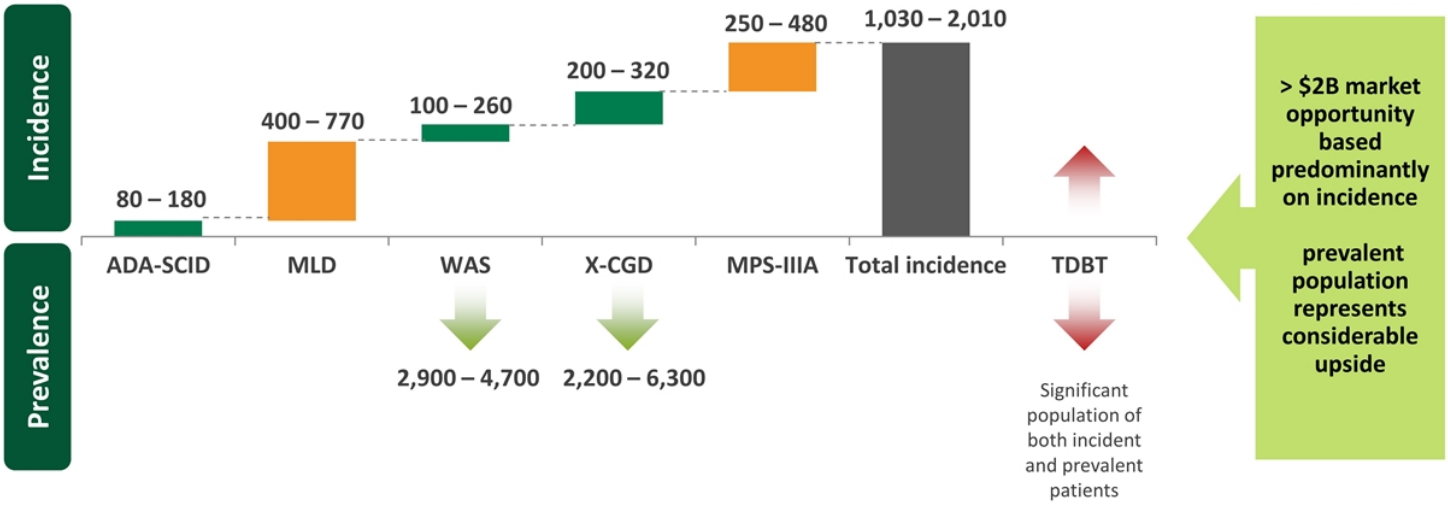
Enhancing Our Ability to Supply *Ex Vivo* Gene Therapy Programs

New facility will provide significant additional CGMP manufacturing capacity for lentiviral vector and cryopreserved cell therapy products

- ✓ Drives efficiencies and scalability in terms of lentiviral vector and drug product development
- ✓ Complements existing vector and drug product manufacturing partner capabilities

Lead Indications Represent Potential >$2B Market Opportunity

Orchard Retains Full Commercial Rights to All Indications in All Markets



Data based on Company estimates derived from published literature.

Numerous Data and Clinical Milestones Anticipated in 2019

3 Registrational Clinical Trial Data Sets

OTL-200 (MLD)

2 & 3 year follow-up fresh formulation (n=20)
Cryo formulation engraftment data (n=3)

OTL-101 (ADA-SCID)

2 year follow-up fresh formulation (n=20)
Cryo formulation engraftment data (n=10)

OTL-103 (WAS)

3 year follow-up fresh formulation (n=8)

Clinical Trial Initiations & Other Milestones

OTL-103 (WAS)

Initiate cryo formulation trial

OTL-102 (X-CGD)

Design registrational trial & engage regulators

OTL-300 (TDBT)

Report data from POC trial (n=9)

OTL-201 (MPS-IIIA)

Submit CTA & support clinical trial initiation

Orchard therapeutics

Transforming the lives of patients through innovative gene therapies

www.orchard-tx.com