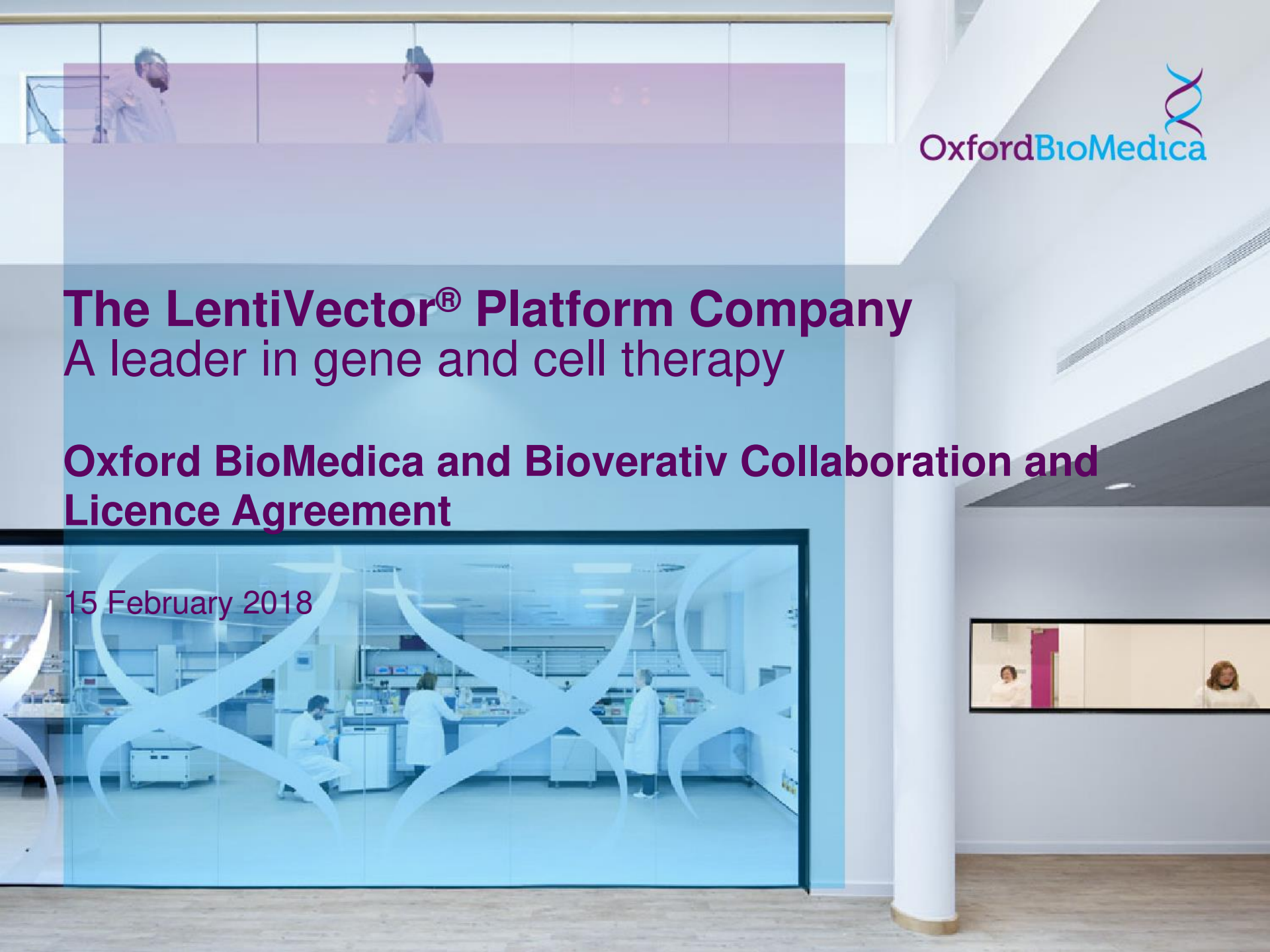

The LentiVector® Platform Company
A leader in gene and cell therapy

Oxford BioMedica and Bioverativ Collaboration and Licence Agreement

15 February 2018

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World's leading gene and cell therapy company

LentiVector Enabled

Pioneers of unique LentiVector-Enabled technology – partnered in first ever approved gene therapy launched in the US market[1] and further validated through the deal with Bioverativ

01

NOVARTIS
Orchard therapeutics
GC LabCell
IMMUNE DESIGN
Bioverativ
SANOFI

Partnerships with Novartis, Bioverativ, Immune Design, GC LabCell and Orchard Therapeutics. Products and patents licensed to Sanofi and GlaxoSmithKline and own pipeline of assets

02

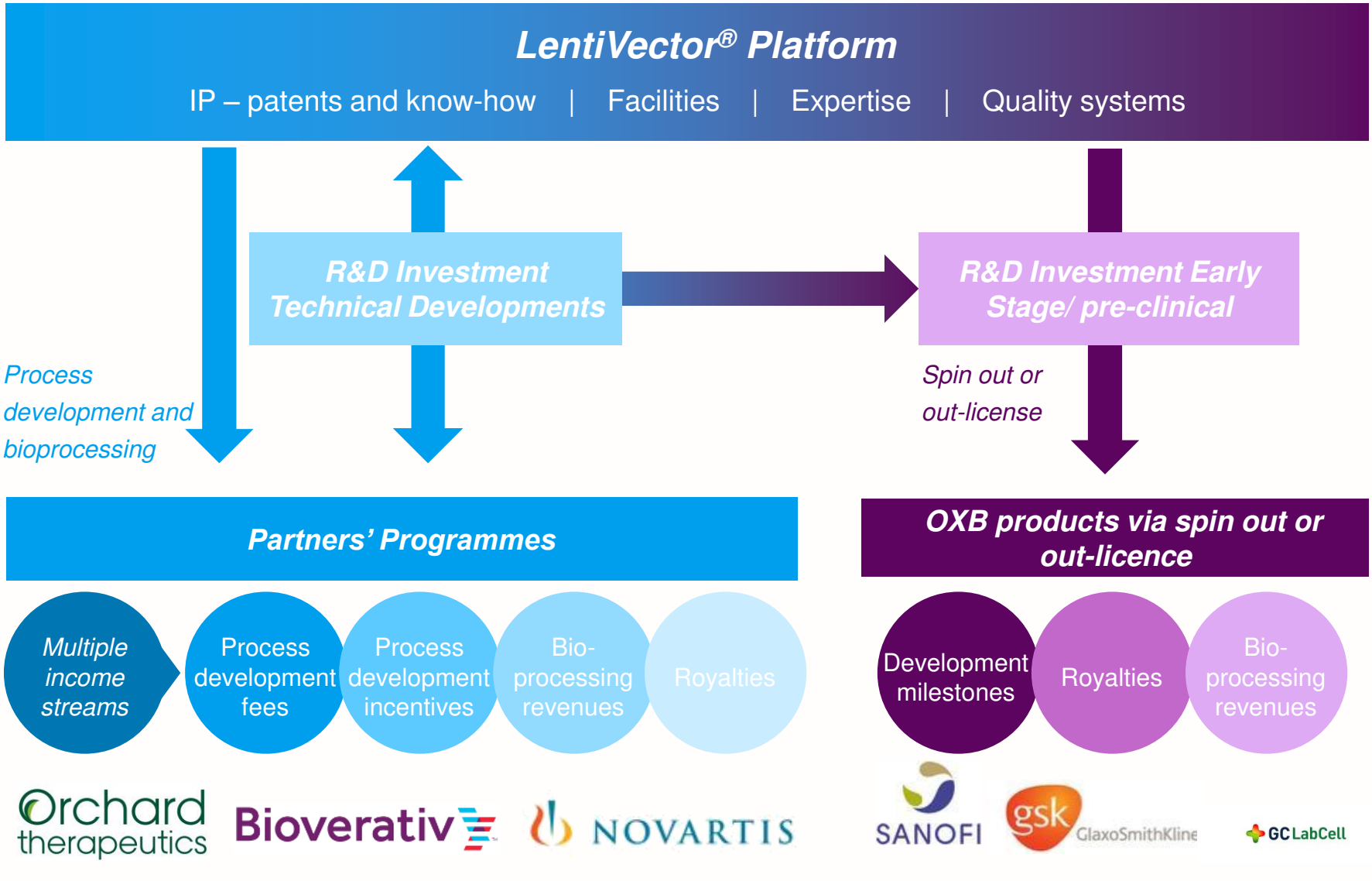
FDA MHRA
APPROVED

World class FDA and MHRA approved state-of-the-art bioprocessing and laboratory facilities for clinical and commercial supply

03

[1]Clive Glover, GE Healthcare "Sales of cell and gene therapy will reach $10 billion by 2021", October 2015.

Strategy: Leveraging our LentiVector Enabled delivery platform



OxfordBioMedica

Collaboration & Licence Agreement

Collaboration & Licence Agreement with Bioverativ

Collaboration overview

- Development of *in vivo* gene therapy for:
  - haemophilia A (Factor VIII deficiency)
  - haemophilia B (Factor IX deficiency)
- Licence to Oxford BioMedica's LentiVector Enabled technology
- Access to Oxford BioMedica's industrial-scale manufacturing technology
- Potential for clinical supply agreement

Key Terms

- $5 million on closing
- Up to $100 million for:
  - product development
  - regulatory and sales-related milestones
- Undisclosed royalty payable on net sales

Bioverativ

- Bioverativ was an independent biopharmaceutical company spun out of Biogen's haemophilia business in 2017 but is now subject to an acquisition by Sanofi
- Bioverativ is dedicated to transforming the lives of people with haemophilia, cold agglutinin disease and other rare blood disorders
- Bioverativ's haemophilia therapies were the first major advancements in the treatment of haemophilia A and B in two decades
- Bioverativ is currently still listed on the US NASDAQ market and has a market capitalisation of around $6bn
- Revenues of around $890m in FY 2016[1]

"Beginning with hemophilia, we will lead by doing what's right for patients and those who care for them, and by actively working with the blood disorders community to accelerate innovation and develop life-changing treatments"[2]

Bioverativ™

[1] 2016 and 2017 GAAP to non-GAAP Reconciliation, 03 May 2017
[2] Bioverativ CEO John G. Cox

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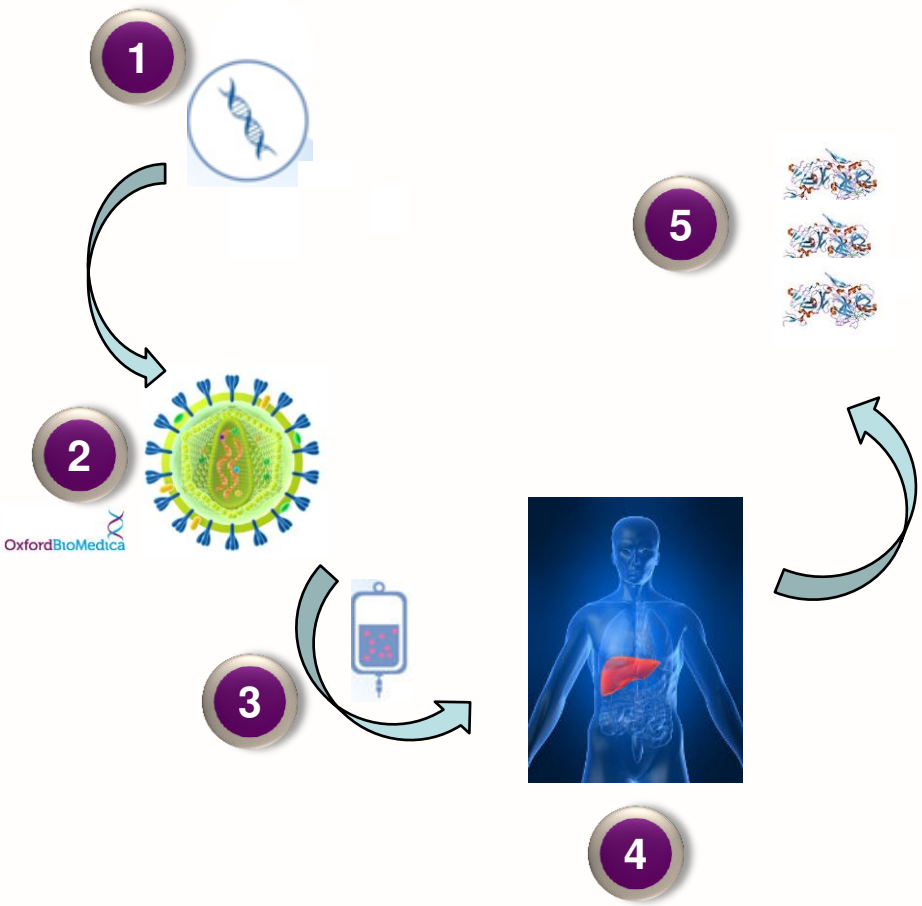
Haemophilia Market

- Haemophilia is an x-linked hereditary bleeding disorder characterised by impaired blood coagulation as result of deficiencies in the production or function of coagulation Factor VIII (FVIII) in haemophilia A or Factor IX (FIX)
- In the 7 major markets, diagnosed prevalent cases of haemophilia A and haemophilia B will rise from 51,500 in 2016 to around 52,600 in 2026[1]
- US has the highest number of prevalent cases at around 34%[2]
- Sales of products to treat haemophilia in 7 major markets reached $6.7bn in 2016 and is forecast to reach $8.0bn by 2026[3]
- Unmet need for one-off long term treatments
- AAV vectors have been employed for development of gene therapies for haemophilia, but duration of treatment effect and potential for treating young patients is not yet determined

[1,2] EpiCast Report Hemophilia – Epidemiology Forecast to 2026, Published Global Data July 2017
[3] PharmaPoint Hemophilia A and B Global Drug Forecast & Market Analysis to 2026, Published Global Data July 2017

How gene therapy addresses haemophilia

In vivo gene therapy to produce FVIII and FIX to treat haemophilia A and B respectively

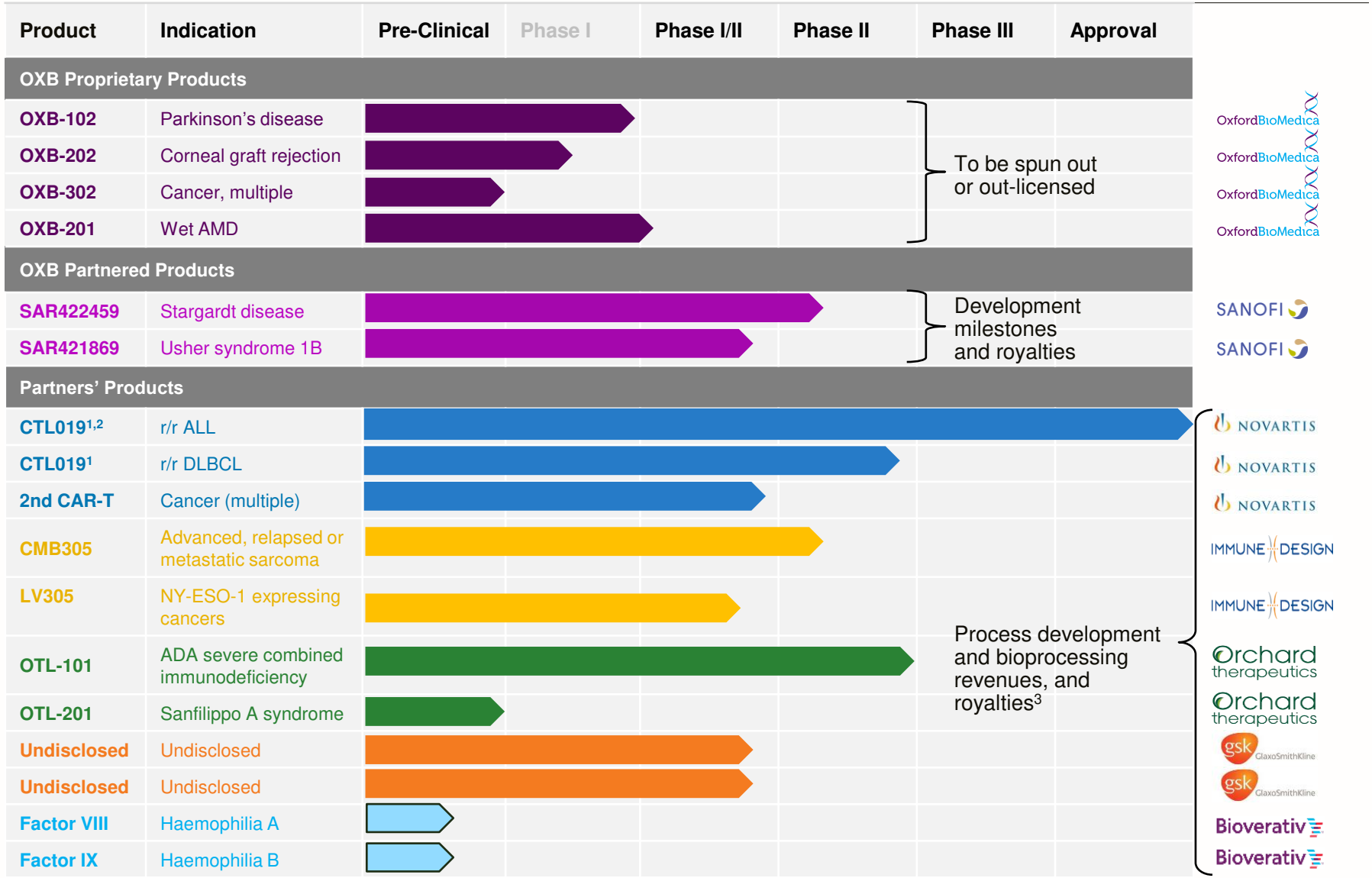


1. DNA encoding either FVIII or FIX is produced
2. Lentiviral vector carrying either FVIII or FIX genes
3. Systemic or intra-hepatic injection of the lentiviral vector manufactured by OXB
4. Once inside the patient, the lentiviral vector reaches the liver and inserts into the hepatocyte genome in order to produce the appropriate proteins
5. New FVIII or FIX proteins released into the bloodstream for a potential one-time treatment

Oxford BioMedica's Latest Product Portfolio

Product pipeline

LentiVector Enabled



[1] USAN name is tisagenlecleucel
[2] Approved in the US only
[3] GSK partnership is a option fee and royalty agreement

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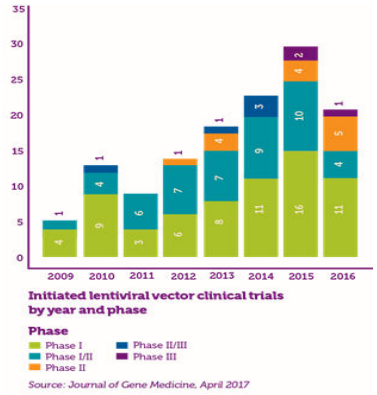
Extensive lentiviral vector clinical/pre-clinical trial activity

IMMUNE DESIGN
THERAVECTYS
Orchard therapeutics
celldesignlabs
abbvie
宾德生物 BinDeBio
Celyad
NOVARTIS
JUNO THERAPEUTICS
gsk GlaxoSmithKline
SANOFI
OxfordBioMedica
CARSGEN THERAPEUTICS
bluebirdbio
apceth BIOPHARMA
cellectis
TCR² THERAPEUTICS
Adaptimmune TRANSFORMING T CELL THERAPY
FIBROCELL
BIOMARIN
MUSTANGBIO
Bioverativ
TMUNITY
Sangamo THERAPEUTICS
CBMG Cellular Biomedicine Group 西比曼生物科技
Pacing Cure
GADETA
Rubius THERAPEUTICS
UNUM THERAPEUTICS
NEURALSTEM INC.
GC LabCell

The New York Times

New York Times, Gina Kolata (27 November 2017)

"Few gene-therapy companies have the factories or expertise to make the viruses for use in clinical trials, where standards are exacting and comprehensive. The firms that can do it are swamped with orders and requests."



OxfordBioMedica

Summary

Summary: World's leading gene and cell therapy company

OxfordBioMedica

Collaboration and licence agreement signed with Bioverativ. $5m upfront and up to $100m in product related milestones, regulatory and sales related milestones. Royalties on net sales on both products

01

The haemophilia market is large, more than $6bn in sales in 2016, with an unmet need for one-off long term therapy

02

LentiVector Enabled

Gene therapy approaches to treat haemophilia are transformative and this partnership may offer patients an important new treatment option

03

Expected upcoming news flow

Partners' programmes progress

- 2nd CAR-T programme to enter clinic
- Royalties commence from Novartis/CTL019[1]
- Expected approval for additional adult r/r DLBCL indication in US in Q1 2018
- Expected EMA approval for paediatric r/r ALL and adult r/r DLBCL in EU in Q2 2018
- Bioverativ gene therapy product for haemophilia A & B progressing towards the clinic

LentiVector® delivery platform

- Further contracts with new and existing partners giving us long-term economic interest in partners' product candidates by end of 2018
- Established 200L bioreactor serum-free suspension platform to produce lentiviral vectors at significantly lower cost per dose

In-house products

- Spin out / out-license of in-house product candidates

[1] USAN name is tisagenlecleucel

Vision of Oxford BioMedica – by end of 2018

Core LentiVector® platform R&D

New product candidates emerging from research/discovery using the LentiVector® enabled platform

Lead gene-modified NK cell therapeutic candidate emerging from the GC Lab Cell research collaboration

Technical developments – continuous improvement of the LentiVector® enabled platform

Feeds further product partnership opportunities

Product pipeline

OXB priority products
- Successful spin-outs and/or out-licensing
- Products progressing into Phase I/II studies

Novartis
- Oxford BioMedica supplying commercial material
- Royalties from CTL019[1]
- Second CAR-T product into clinical development
- Further CAR-T programmes

Sanofi
- SAR422459 progressing towards a pivotal trial

Immune Design
- LV305 progressing well in clinical development

Orchard Therapeutics
- OTL-101 pivotal trial close to completion
- OTL-201 in clinical development

Bioverativ
- Haemophilia A & B gene therapy progressing towards the clinic

Several further partnerships
- Economic interests in a range of gene and cell therapy products

Bioprocessing

Facilities operating at high capacity

[1] USAN name is tisagenlecleucel

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