



circio

Circular RNA expression systems for enhanced gene and cell therapies

2024 report & R&D update
26 March 2025

Important notice and disclaimer

This report contains certain forward-looking statements based on uncertainty, since they relate to events and depend on circumstances that will occur in the future and which, by their nature, will have an impact on the results of operations and the financial condition of Circio Holding ASA and the Circio Group. Such forward-looking statements reflect the current views of Circio and are based on the information currently available to the company. Circio cannot give any assurance as to the correctness of such statements.

There are a number of factors that could cause actual results and developments to differ materially from those expressed or implied in these forward-looking statements. These factors include, among other things, risks or uncertainties associated with the success of future clinical trials; risks relating to personal injury or death in connection with clinical trials or following commercialization of the company's products, and liability in connection therewith; risks relating to the company's freedom to operate (competitors patents) in respect of the products it develops; risks of non-approval of patents not yet granted and the company's ability to adequately protect its intellectual property and know-how; risks relating to obtaining regulatory approval and other regulatory risks relating to the development and future commercialization of the company's products; risks that research and development will not yield new products that achieve commercial success; risks relating to the company's ability to successfully commercialize and gain market acceptance for Circio's products; risks relating to the future development of the pricing environment and/or regulations for pharmaceutical products; risks relating to the company's ability to secure additional financing in the future, which may not be available on favorable terms or at all; risks relating to currency fluctuations; risks associated with technological development, growth management, general economic and business conditions; risks relating to the company's ability to retain key personnel; and risks relating to the impact of competition.

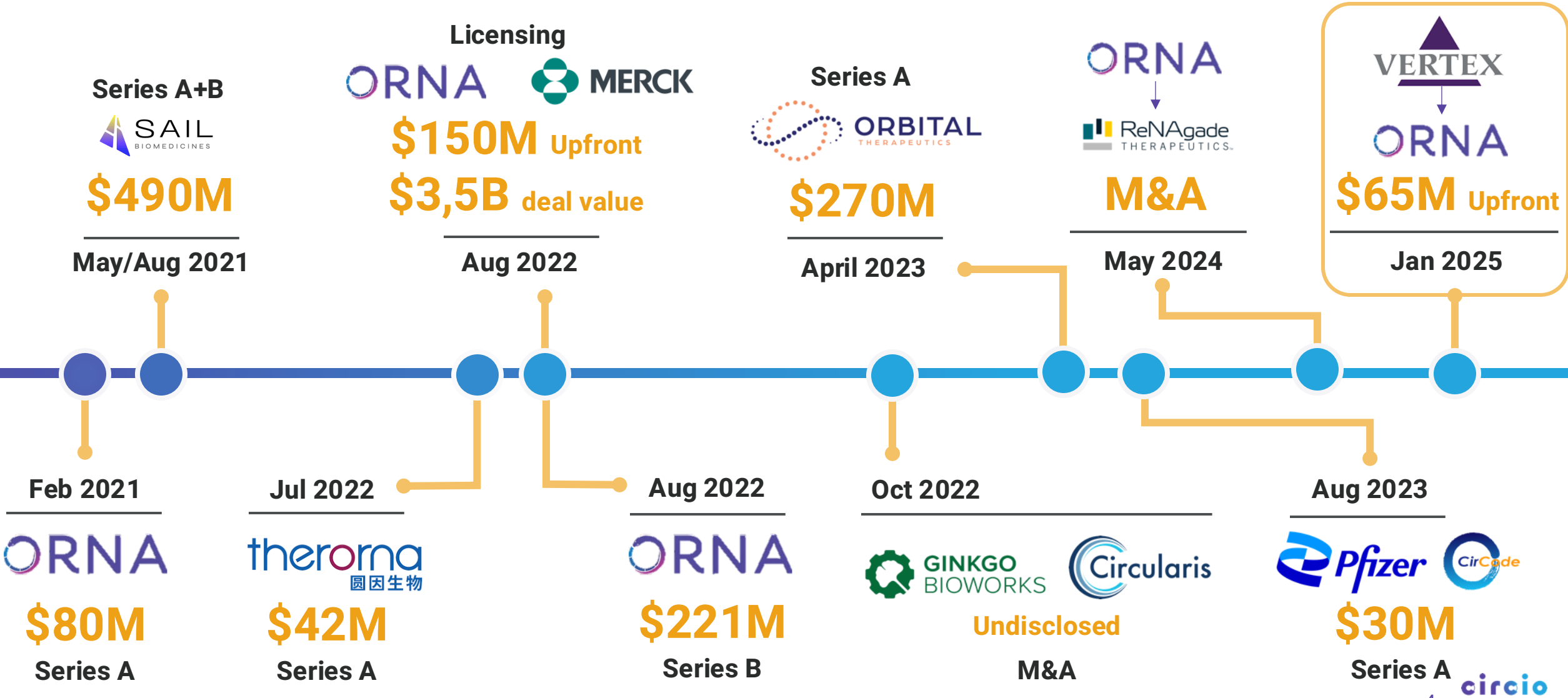


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Market update

2. circVec technology update
3. 2024 financials

Continued high deal activity in circular RNA space



Two recent circRNA and gene therapy deals highlight substantial commercial opportunity in Circio areas



\$65m up-front
+ up to \$635m in milestones

LNP-circRNA for *in vivo* gene editing in blood diseases

- circRNA (oRNA) manufacturing and LNP delivery platform
- Develop two novel therapeutic candidates for sickle cell disease and beta thalassemia



\$1.1b
in up-front + milestones

AAV gene therapy for muscular dystrophies

- AAV capsid engineering technology platform
- Three preclinical neuromuscular therapeutic candidates for DM1, DMD and FSHD

Circio has built broad visibility in scientific literature, life science media and industry conferences

nature reviews genetics January 2025

Review Article | Published: 09 January 2025

The therapeutic potential of circular RNAs

Eoghan O'Leary, Yanyi Jiang, Lasse S. Kristensen, Thomas B. Hansen & Jørgen Kjems

[Nature Reviews Genetics \(2025\)](#) | [Cite this article](#)

Pivoting To RNA

with Circio's Dr. Erik Digman Wiklund

Ep. 217

Business of Biotech



CITELINE
a norstella company

IN VIVO
CITELINE COMMERCIAL

In Vivo >> Market Intelligence

Circio's Vision For Long-Lasting Nucleic Acid Therapeutics

16 Dec 2024 • By [David Wild](#)

Circular RNA has several advantages, but the field is young. Scandinavian startup Circio Holdings believes its version of the technology will prove the most robust.

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ARTICLE

Enhancing gene therapy with Circio

In this Q&A, Erik Wiklund, CEO of Circio, explains the key findings of their circVec circular RNA platform technology, why they chose AAV-based gene therapy for AATD as the lead programme, and their plans for the future to enhance the potency and reduce the cost of current gold-standard gene therapy.



News > Drug Development

Opinion: Circular RNA Will Soon Replace mRNA in Biopharma

July 31, 2024 | 5 min read | Erik Digman Wiklund



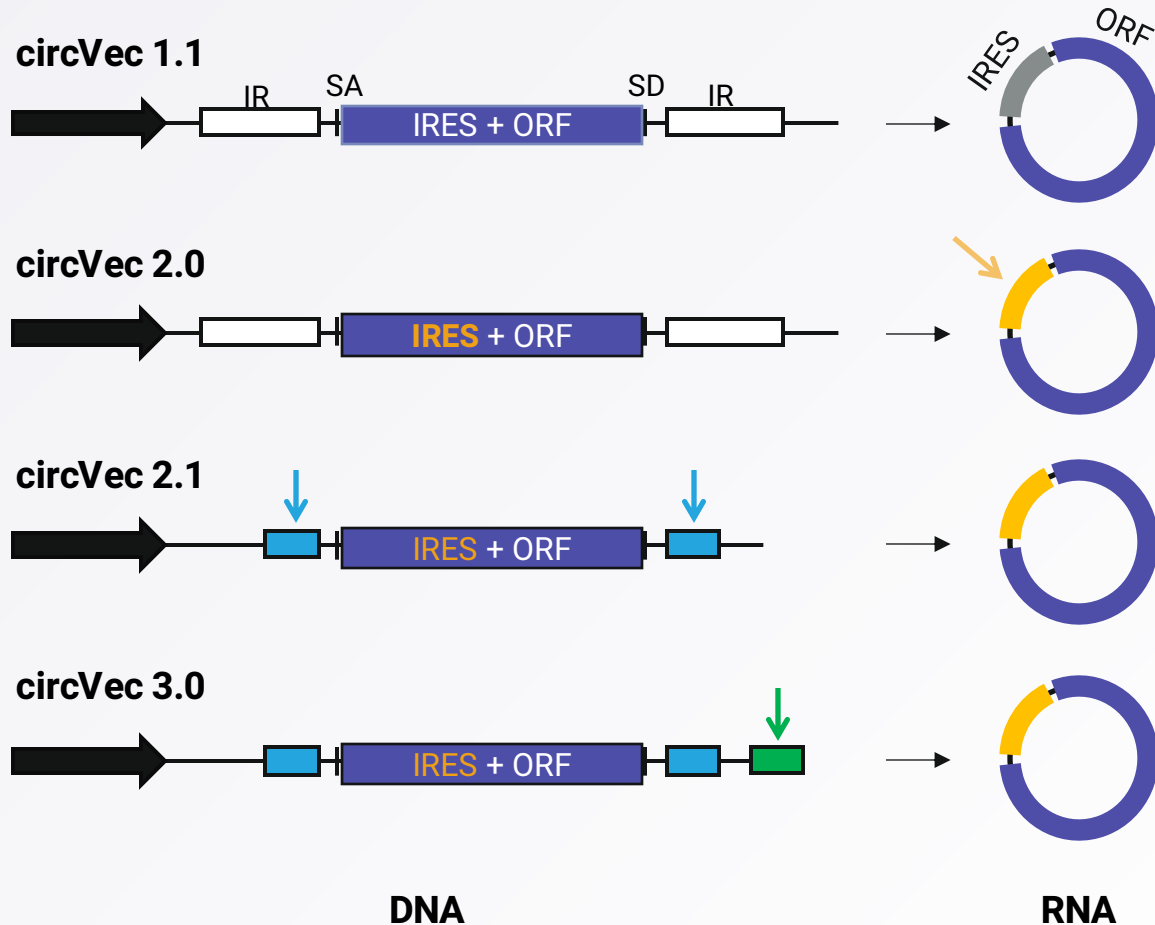
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circVec technology
update

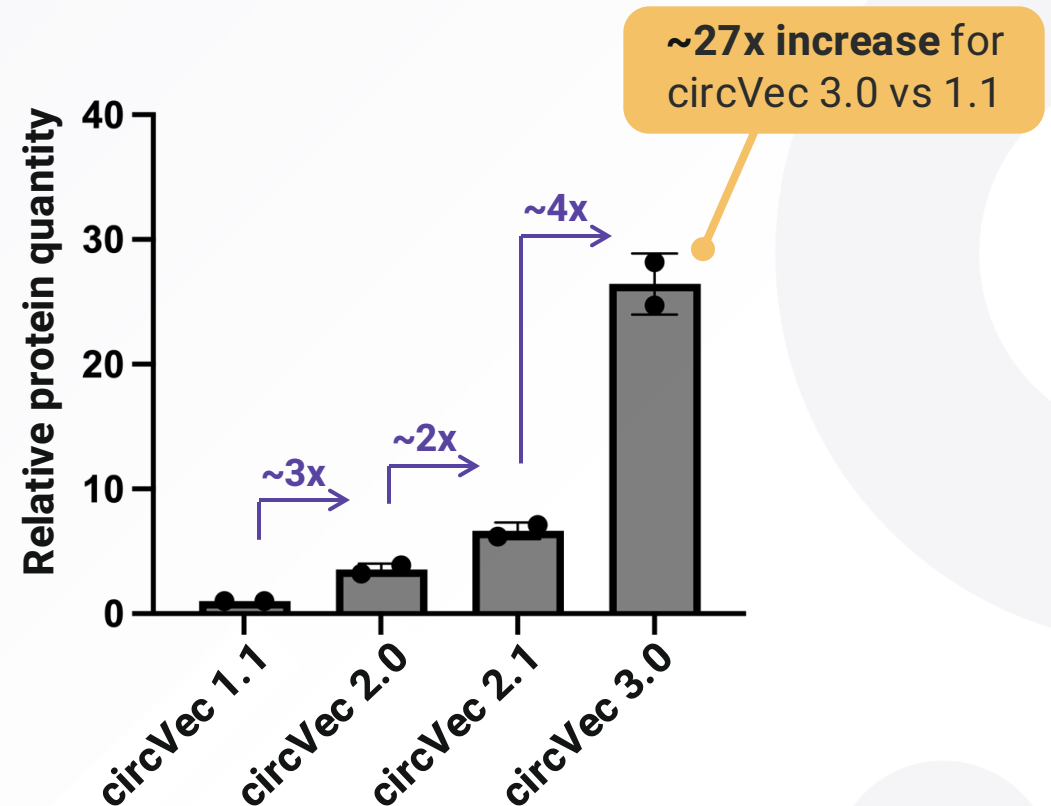
3. 2024 financials

Novel circVec 3.0 generation adds power to the platform

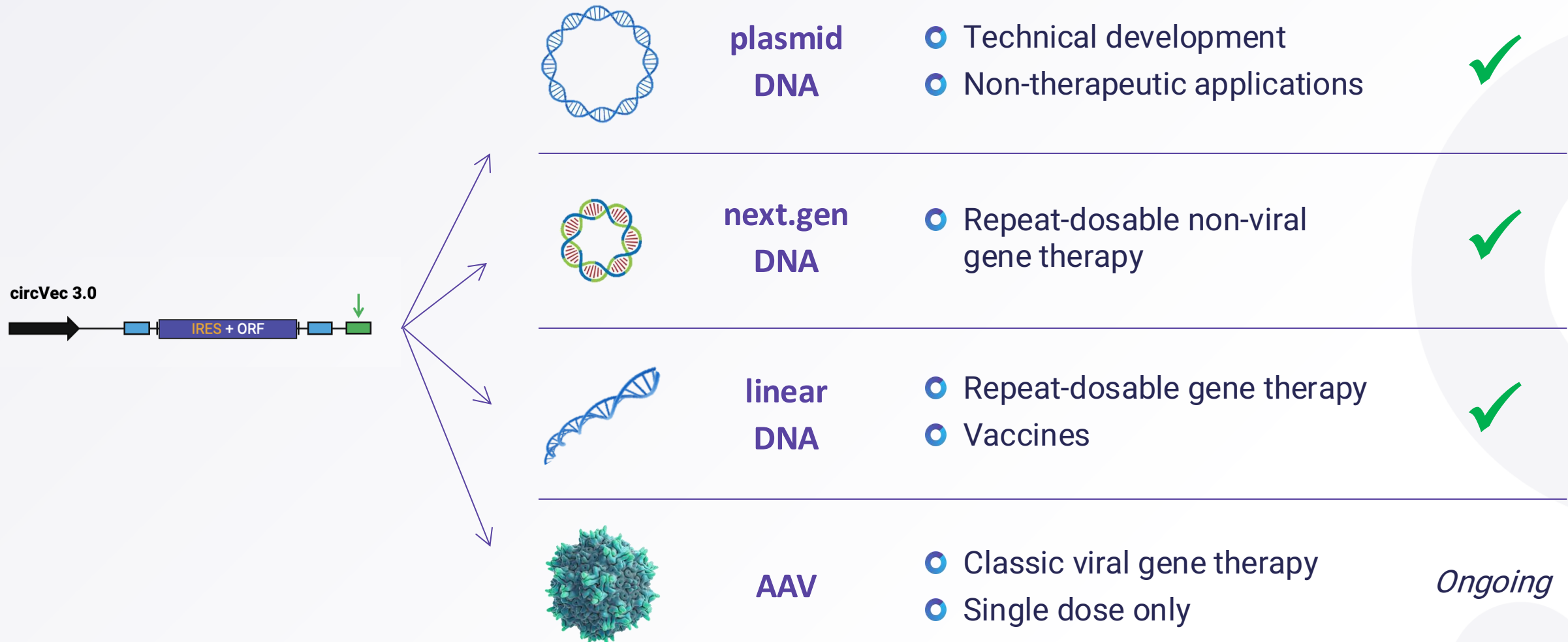
circVec generation 1.X – 3.X, design schematics



circVec protein quantification, Western blot

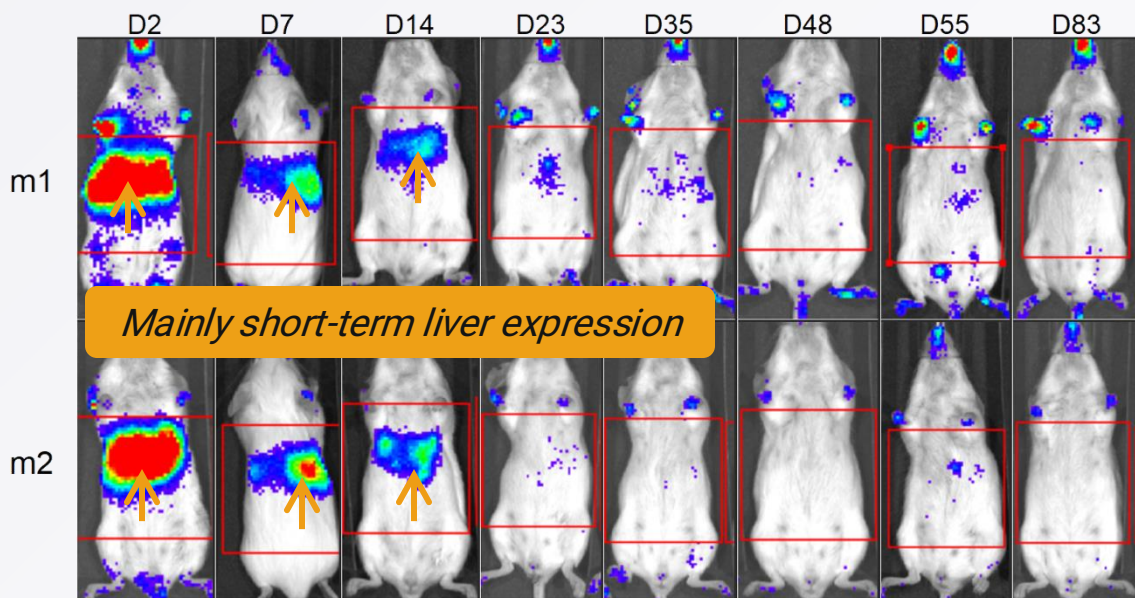


circVec 3.0 validated in several vector formats

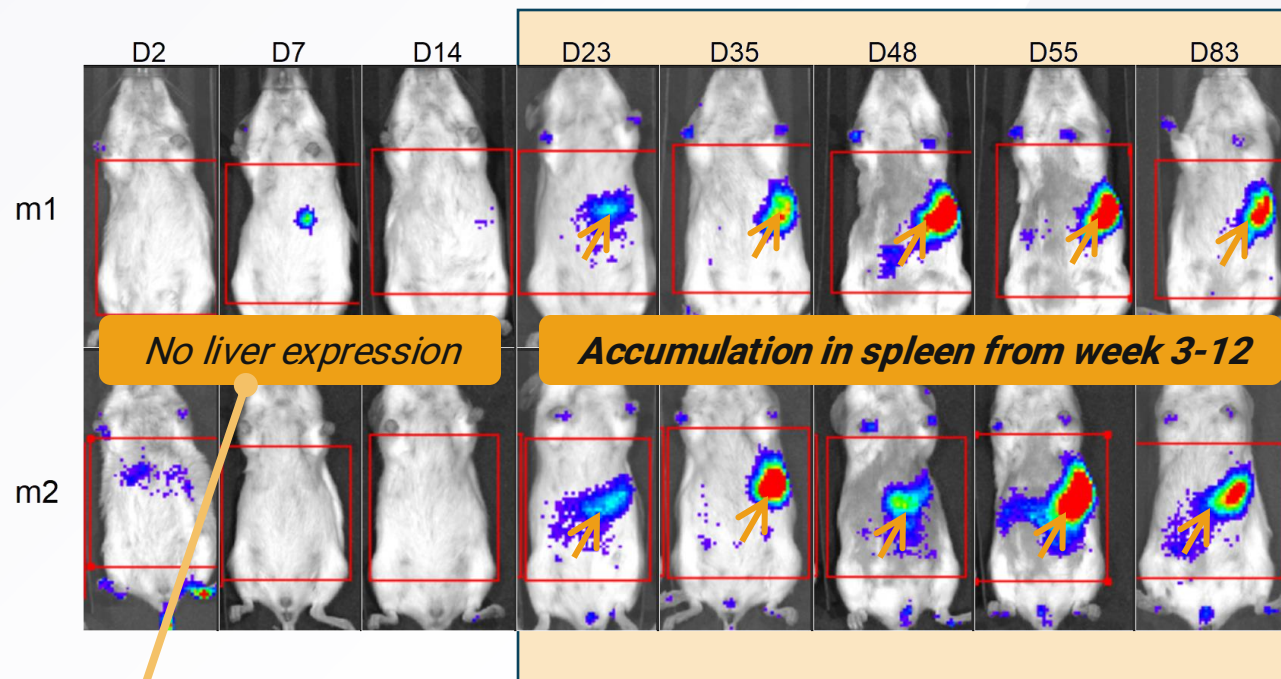


LNP-formulated circVec 2.1 accumulates in spleen, potentially valuable opportunity in cell therapy

LNP-mVec (mRNA), luminescence
Systemic I.V. delivery, single dose on Day 0

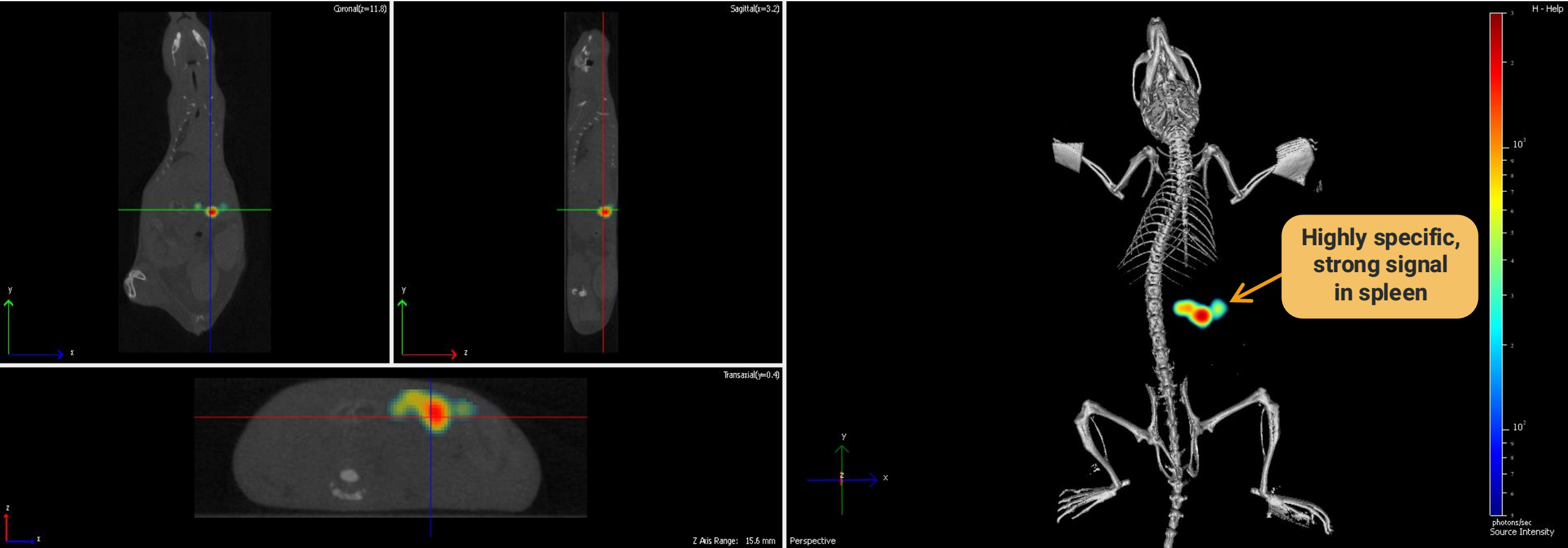


LNP-circVec 2.1 (circRNA), luminescence
Systemic I.V. delivery, single dose on Day 0

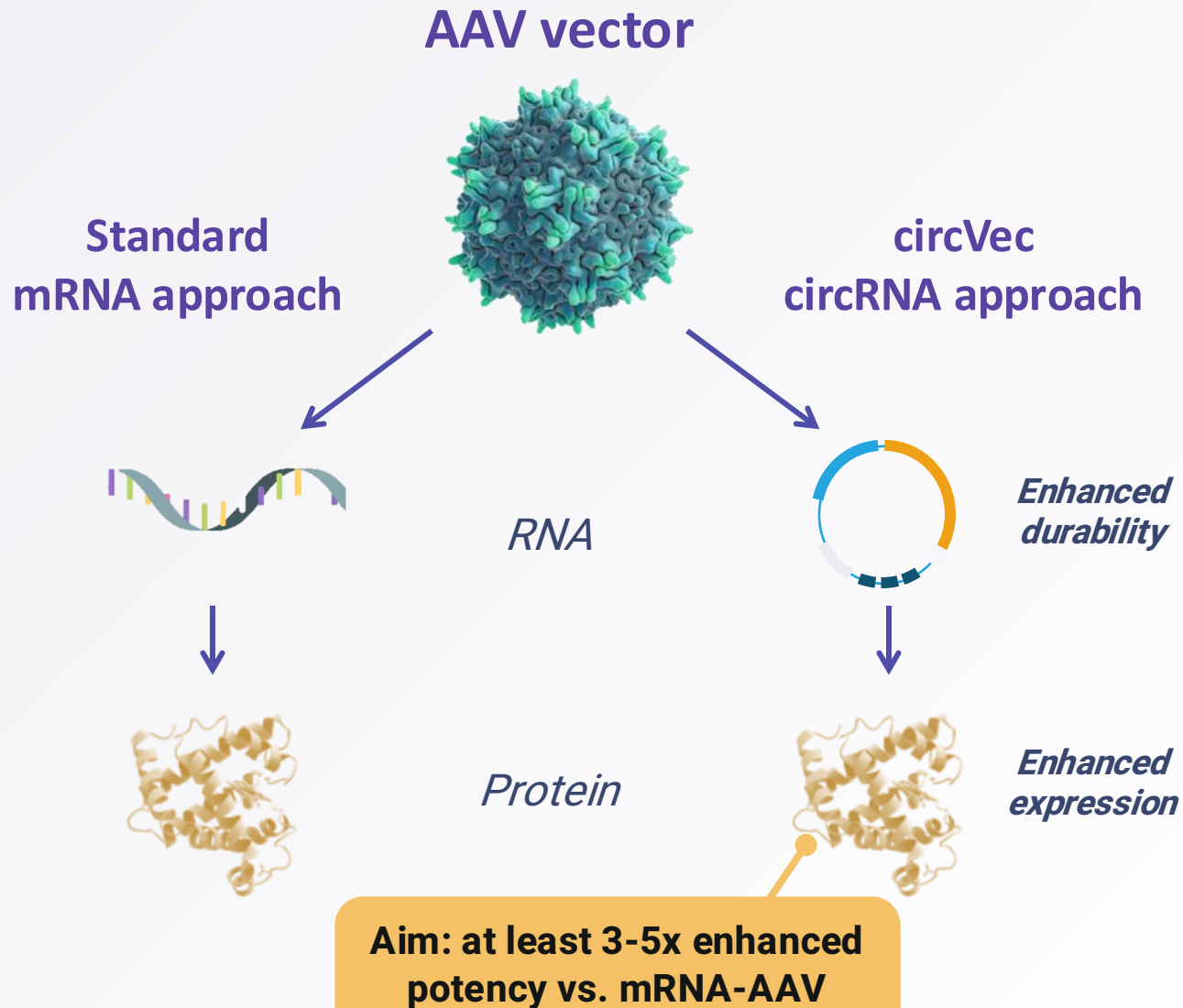


circVec de-targets liver expression

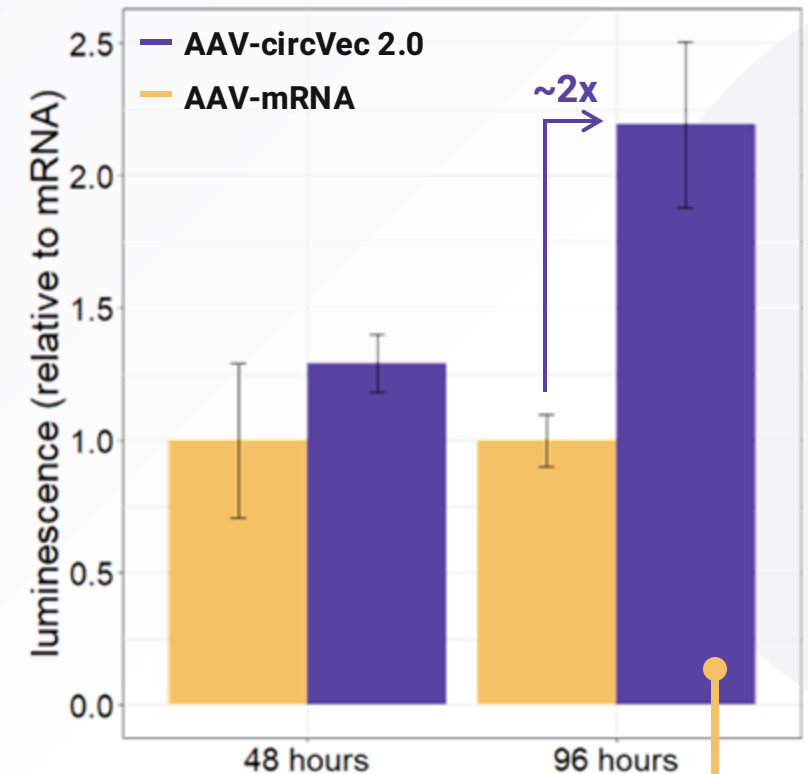
3D imaging confirms spleen-specific circVec expression



circVec for gene therapy – enhancing AAV vectors



AAV protein expression, *in vitro* f-Luc



circVec-AAV feasibility validated, testing and optimization of constructs ongoing

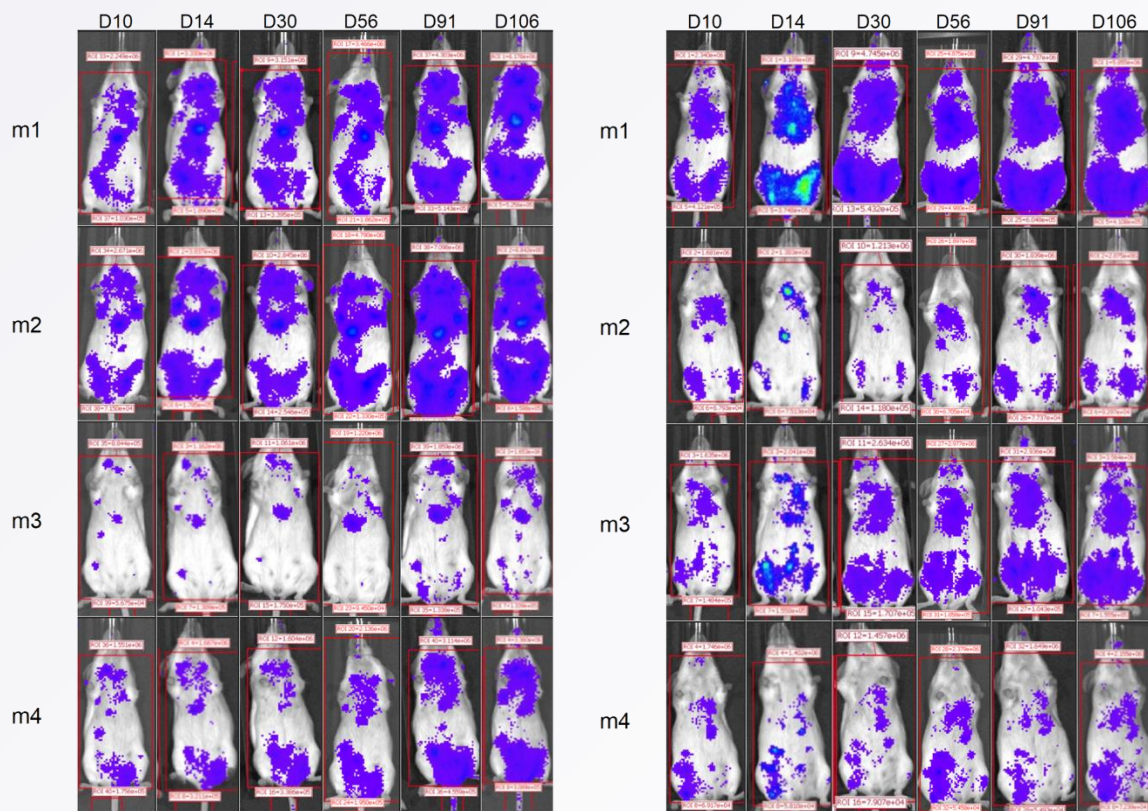
Muscle-specific AAV-circVec 2.0 vs. mRNA in vivo expression by systemic I.V. injection

IVIS, Low-dose (LD)

AAV-circVec technical optimization in progress

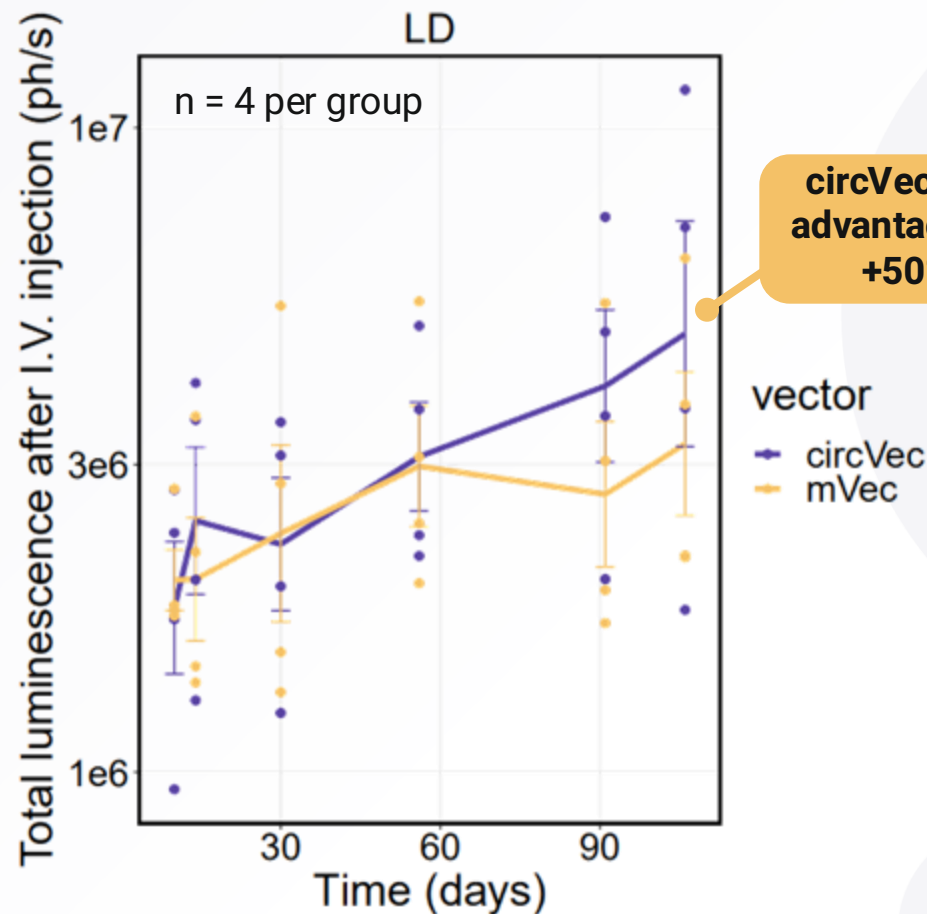
AAV9-circVec 2.0-FL

AAV9-mVec-FL



✓ *circVec-AAV functionality validated*

IVIS signal quantification, low dose, *in vivo* f-Luc



Broad circVec DNA and AAV in vivo program ongoing, multiple read-outs during Q2 2025

JAN'25

MAR'25

MAY'25

JUL'25

circVec 2.1, Certest LNP, I.V.
Completed, tissue analysis

✓ Feasibility study on **LNP:DNA delivery, strong spleen signal**, post-mortem tissue analysis ongoing

circVec 2.1/3.0, non-viral vectors, I.M.
Interim data April

Characterization of **circVec 3.0 in several different DNA formats**

Near-term BD opportunity

circVec 2.1/3.0, multiple AAVs, I.V.
Interim data April

AAV-circVec 3.0 expression in muscle and heart using I.V. injection of AAVs

Certest circVec 2.1 / 3.0 **spleen delivery validation w/next.gen DNA**

circVec 2.1/3.0, LNP, I.V., Certest repeat
Interim data May

Feasibility study on **protein secretion from circVec 3.0** using i.m. injection

circVec 3.0, secreted protein, I.M.
Interim data June

Ongoing

Planned

Several external collaborations starting / ongoing to test DNA circVec 2.1 & 3.0 delivery in vivo

JAN'25

MAR'25

MAY'25

JUL'25

LNP-circVec 2.1, I.V. delivery, w/undisclosed
Ongoing; data expected in April

LNP-circVec 2.1, I.M. delivery, w/4BaseBio
Ongoing, data during April


New spleen option, cell therapy opportunity

circVec 2.1/3.0, new spleen delivery, w/undisclosed
Initiation in early April, first data in May

circVec 3.0, new delivery system, w/undisclosed
Initiation end of April, first data May/June

Substantial potential if successful

circVec 2.1/3.0, new LNP, w/undisclosed*
Expected initiation early May

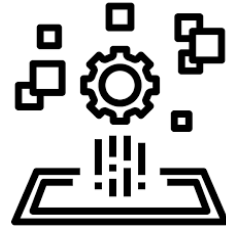
 Ongoing

 Planned

* In final stages of collaboration agreement

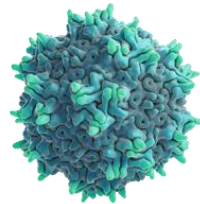
circVec R&D top priorities and next steps

circVec platform



- **circVec 3.0 optimization for multiple vector formats**
- **circVec 3.0 testing in vivo, multiple vector formats**
- **Two new patent filings at drafting / planning stage**

Gene therapy applications



- **Construct and validate superior circVec-AAV designs**
- **Testing tissue-specific AAV vectors in vivo**
- **Exploring novel delivery systems for DNA format vectors, using systemic (I.V.) and local (I.M) delivery**

Business Development



- **Generating data for drug delivery collaborations and select lead development partner(s)**
- **Seeking partnerships and collaborations with AAV gene therapy companies**

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2024 financials

Circio's financial position was substantially strengthened during 2024



Equity Financing

NOK 30m raised in equity financing in 2024

- NOK 19.6m from Rights Issue in July
- NOK 10.7m from warrants exercise in December:
 - Warrants: NOK 7.8m (93% of warrants exercised)
 - NOK 2.9m from parallel private placement



Extended runway

- **Tight cost control**, reduced non-R&D expenses by >40%
- **Financing commitment by Atlas to 30 June 2025**



Debt reduction

- Business Finland **loan waiver of NOK 71.3m** (EUR 6.2m)
- **Atlas bonds reduced** from NOK 45m to **NOK 15.5m**

2024 financials¹ – Strong cost reduction

NOK m	2023	2024
Total revenue	0	0
R&D expenses ²	-50	-12
Payroll and related expenses	-34	-22
Other operating expenses ³	-16	-9
Total operating expenses	-101	-43
Operating loss	-101	-43
Net financial items	-10	62
Profit/loss before income tax	-111	19
Net change in cash	-44	-4
Net cash EOP	22	18

Transition from clinical to preclinical: - 75%

Payroll cost: - 35%

Other operating: - 45%

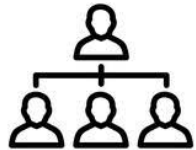
Waiver of ONCOS-102 R&D loans

1 Unaudited numbers

2 Including patent cost

3 Including depreciation and impairment

Resources focused to maximize R&D output



Organization

- Lean & efficient team (10 FTEs)
- Most FTEs are R&D related positions
- Steady state reached for current funding level



R&D focus

- Generate data package for transactions
- Active collaborations to generate new data
- Enabling asset development for partnering



Cost base

- Cash burn rate reduced to NOK ~4m / month
- Cost control in place, focus on efficiency
- Maximizing value from low cost base

Pursuing various options to strengthen the shareholder base and financial outlook



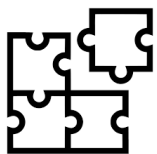
Financing

- Continuously exploring multiple financing options
- Accessing new groups of potential future investors



Atlas facility

- Agreement to extend the Financing commitment beyond June 2025



Structural transactions

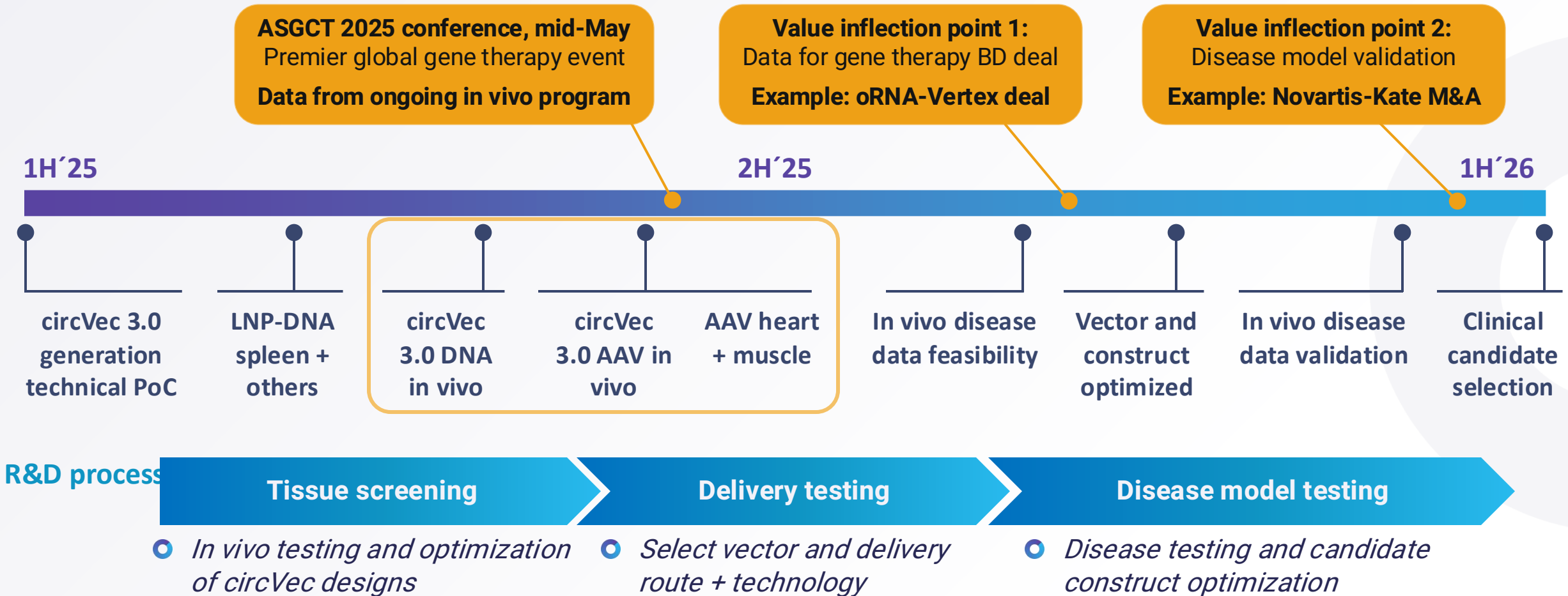
- Evaluating opportunities for structural deals
- Attracting private funding for specific assets, programs or technology



Business development

- circVec program broadly marketed and now well-known
- Gene therapy (e.g. AAV) most likely for short-term deal

Upcoming milestones and timelines: rich pipeline of R&D milestones with multiple shots on goal





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Q & A Session

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