

# Supporting Lentiviral Vector Development for Safer and More Efficacious Cell Therapies

**SIRION** provides a 360° solution beginning from the early R&D to the late preclinical lentivirus space to support development of safe and efficacious lentiviral vector-based cell therapies.

## SIRION KEY Advantages

**01 12 years in-house lentiviral vector expertise**

de-risking the development of lentiviral vector-based therapies

**02 Integrated development**

addressing key clinical requirements as early as possible

**03 Focus on client needs**

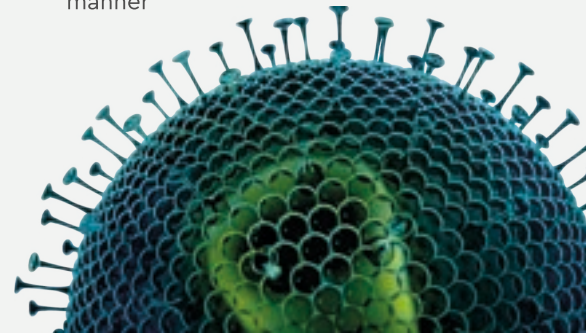
in a time and cost-effective manner

**04 Established worldwide CDMO network**

for smooth project transfer to the clinical phase

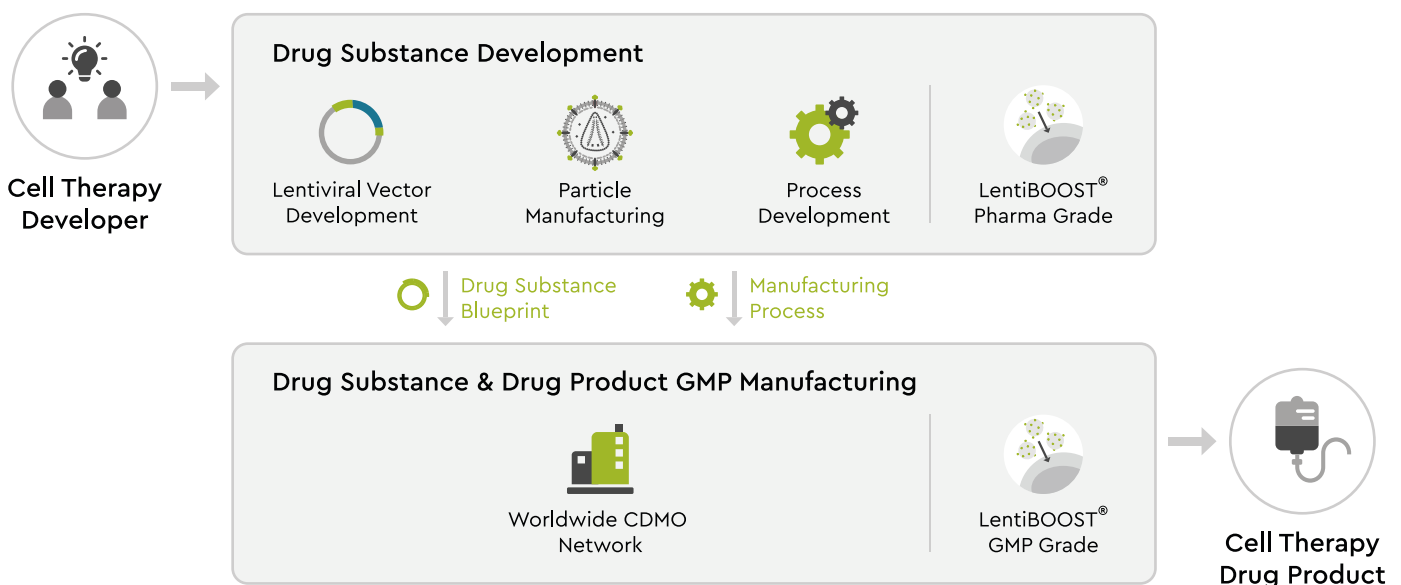
**05 LentiBOOST® lentiviral transduction enhancer**

proprietary technology for R&D and clinical use



## SIRION Viral Vectors & Transduction Technology in over 30 Clinical Programs

**SIRION Biotech** bundles proprietary technology, know-how and external stakeholders into a valuable resource to support cell and gene therapy developers. We enable cell therapy developers in all preclinical aspects of drug substance development and support swift progression to first clinical phase.



# How can SIRION Biotech support you to develop lentiviral vectors for safer and more efficacious cell therapies?



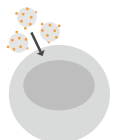
Cell Therapy Developer



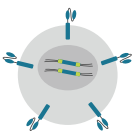
Transfer plasmid



LV particle



Cell material



Drug substance




Cell Therapy Drug Product


## 01 Development of cutting edge lentiviral vector components

Lead vector design, including the lentiviral vector backbone and the therapeutic transgene expression cassette, is the basis for successful cell therapy development.

### Therapeutic expression cassette plus SIRION backbone

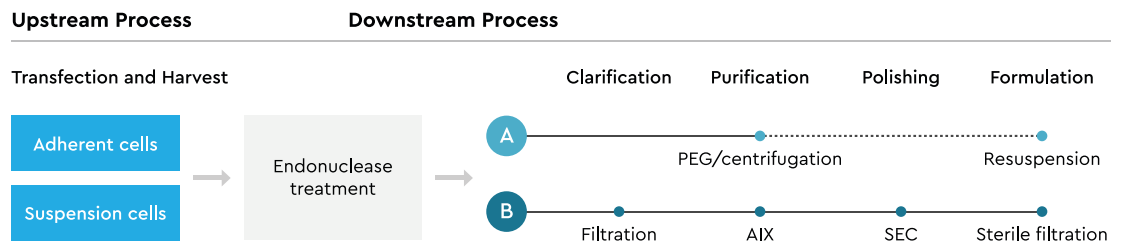
 SIRION Biotech's vector backbone is optimized for clinical applications and used in cell therapeutic projects (e.g., CAR-T and TCR).

### Developing transgene expression cassettes with SIRION

 Safety, efficacy and manufacturability (i.e., of the LV particles and cell therapy) are the criteria driving the development of transgene expressions cassettes.

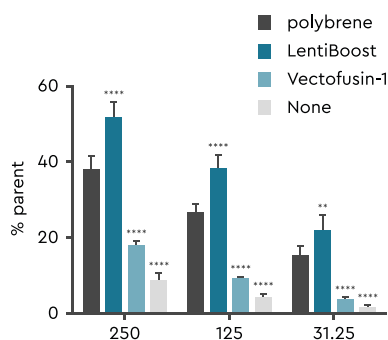
## 02 USP and DSP plug & play adapted to client needs

Determination of the most effective Upstream and Downstream Processes to meet client-specified quality attributes, e.g., host cell proteins or residual endonuclease.



## 03 Optimized manufacturing of a cell therapeutic using LentiBOOST®

LentiBOOST® GMP Grade\* is used in more than 30 clinical programs worldwide and an approved drug product.



### For human T cells

Customer data showing T-cells transfected with LentiBOOST® at different concentrations.

\*SIRION holds a patent (published as WO2013127964) for this substance class and licenses the technology for clinical use.

LentiBOOST® acts in a receptor-independent way and can be used with various cell types such as, **CAR-T cells**, **CD34+** hematopoietic stem cells, **MSCs**, **NK cells**, and many more. In addition, this technology can easily be integrated into running transduction protocols.