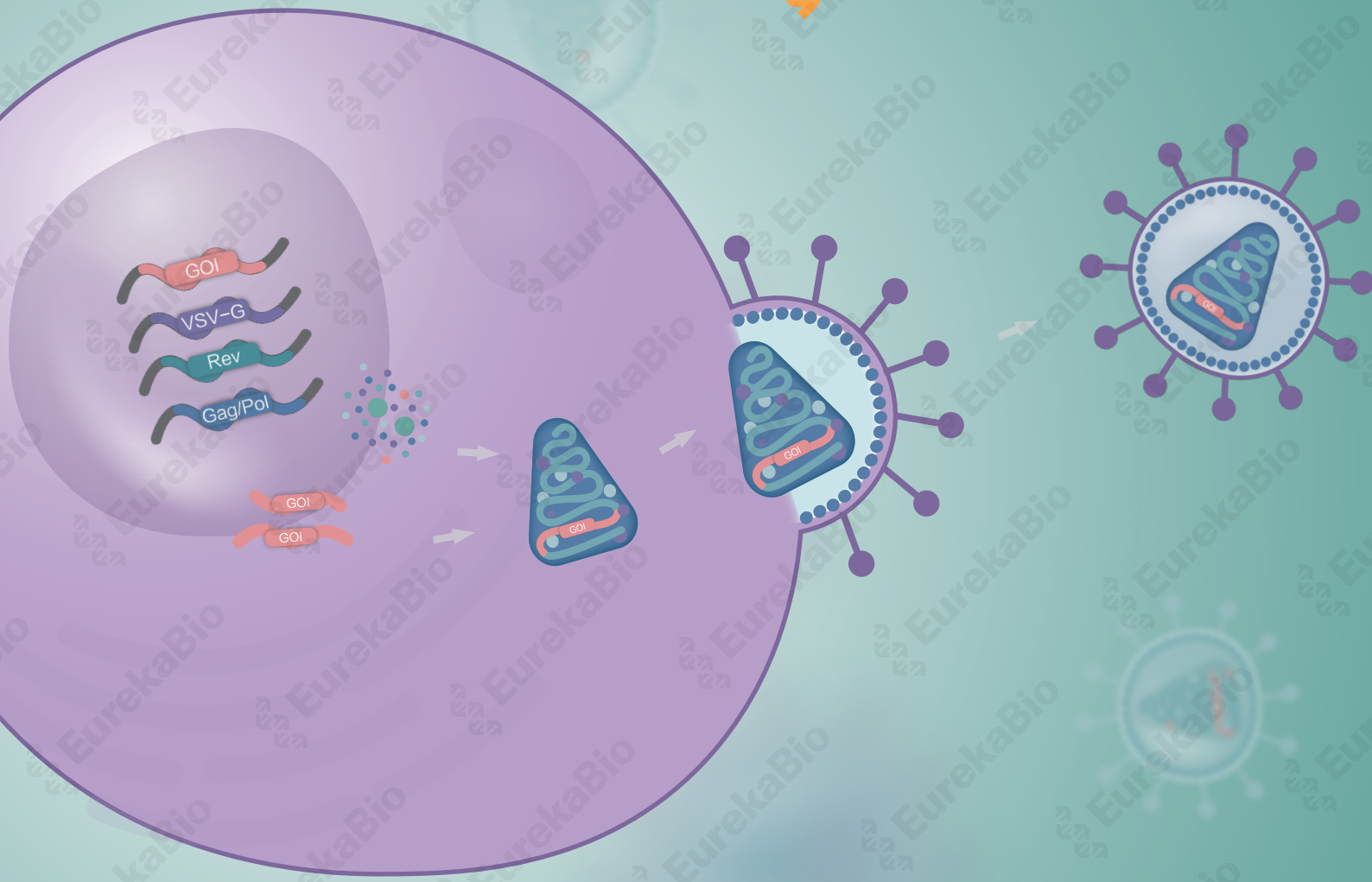
EurekaBio



The EuLV System

Highly Efficient Stable Producer Cell line for Scalable Lentiviral Vector Production System

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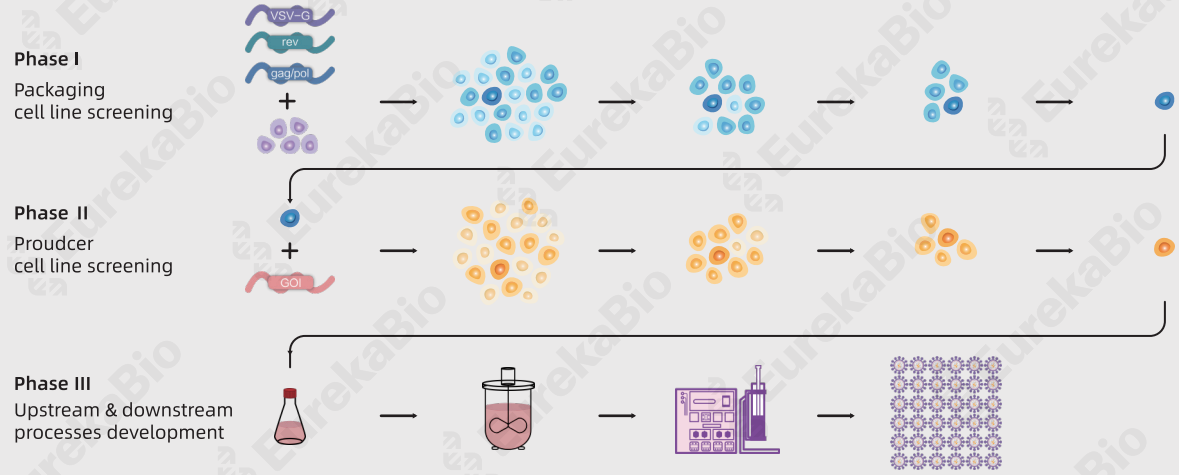
Lentiviral vectors (LVV) represent a key tool for gene and cell therapy applications. LVV production continues to face challenges in large-scale manufacturing, specifically regarding producing enough vectors to meet the demand for treating patients as well as producing a high and consistent quality of vectors for efficient dosing.

The cutting-edge EuLV system is a highly efficient stable producer cell line development platform for a scalable LVV upstream production system. The inducible stable producer cell line is generated to produce lentiviral vectors in a chemically defined medium (CDM) through a high cell-density HEK 293T suspension culture. The system stably inserts the required VSV-G, gag/pol, rev, and the gene of interest (GOI) into the genome of 293T cells, and then induces the expression of lentiviral vectors through chemicals.

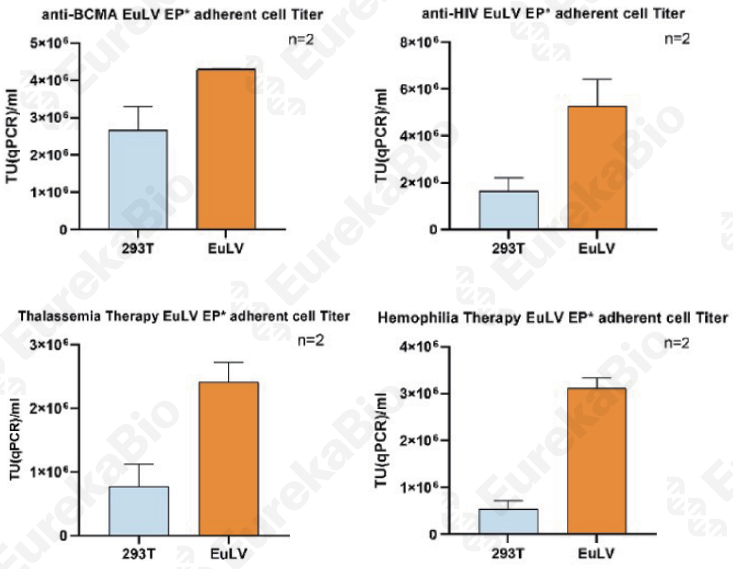


- In phase I, the packaging cell line with lentiviral packaging genes gag/pol, rev and VSV-G is developed.
- In phase II, the producer cell line is developed with GOI stably inserted.
- In phase III, upstream and downstream processes based on stable producer cell lines are developed.

Advantages of EuLV Stable LVV Production System

High-performing	-	Generates stable clones with high titers up to 5.3E11 TU/L
Cost-effective	-	Saves cost of plasmids and transfection reagents
Scalable	-	Produces large amounts of vectors in serum-free 293T suspension system
Reproducible	-	Eliminates variability of transient transfection
Fast	-	As low as 5 months to identify best monoclonals
Ready-to-go	-	GMP compliant cell line, free of operation

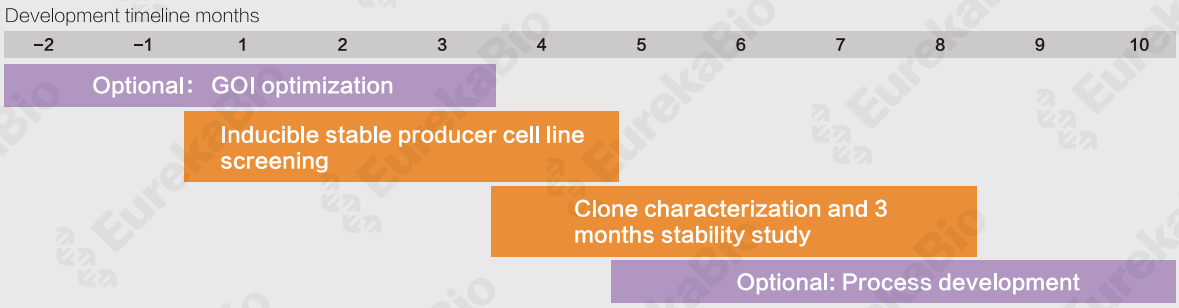
Higher lentiviral vector titer is achieved using EuLV system com pared to a traditional transient transfection process



During this study, the transduction titer of the enriched pool (EP*) of adherent EuLV producer cells (EuLV) is measured against the transient transfection method viral yield (293T).

The viral titer is higher than the transient method. Since only EP* adherent cells are used for comparison, the viral yield will be improved over 10-fold after monoclonal cell screening and suspension adaption.

EuLV system can deliver the stable producer cell line in less than 5 months



- Optional: GOI optimization, small scale production and simultaneously screening for variant GOIs
- Optional: Process development

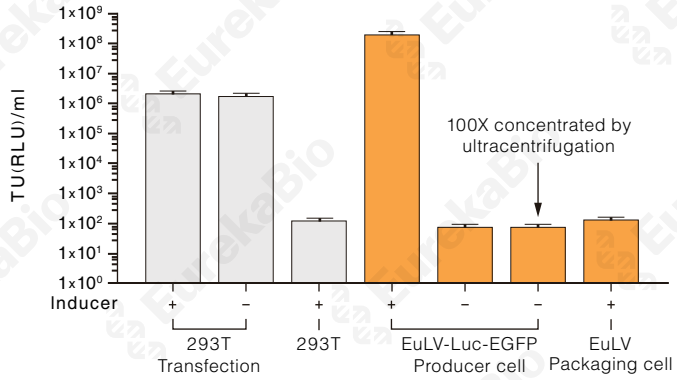
EuLV system uses an inducible stable producer HEK293T cell line, which facilitates the scalability of LVV production processes as well as streamlining production, making the process more reproducible and robust for clinical applications.

Want to learn more?

Contact us at **eulv@eurekabio.com**

No Leakage

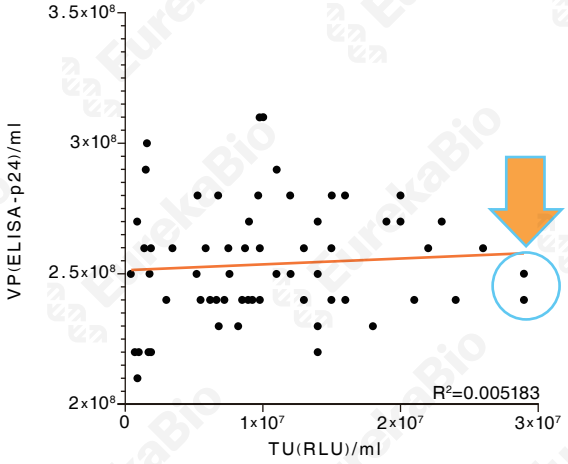
Non-induced Leak Detection



No obvious viral titer leakage can be detected in culture medium, even after 100-fold concentration.

High TU/P24

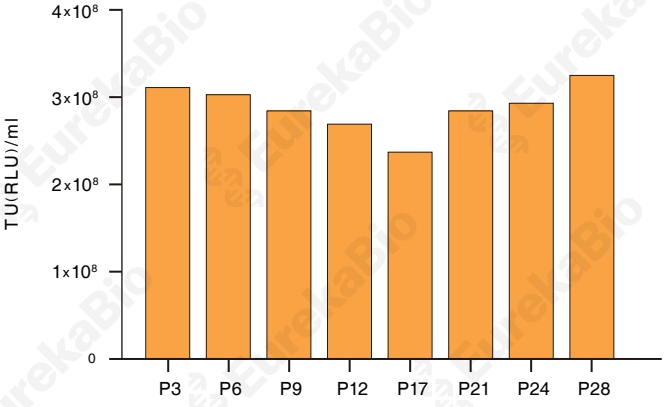
Viral Titer Quantitation （TU VS VP）



Pick best producer cell with higher ratio of function titer vs physical titer (for example, the blue circled clones).

Stability Test

Producer Cell Stability Test



Producer cell has no significant titer reduction for 30 passages.

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