

# LVV TURBO™ MANUFACTURING PLATFORM

uBriGene's LVV Turbo™ lentivirus production platform integrates three cutting-edge technologies to deliver higher-yield, high-potency lentivirus at lower cost.

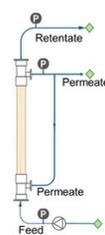
- **High-productivity suspension cell line:** LVV Turbo™ 293TH cells, proprietary GMP-qualified, deliver 5× higher transduction titers than adherent 293T cells.
- **Closed downstream process:** The LVV Turbo™ proprietary closed process eliminates terminal filtration, preserving vector yield typically lost during sterile filtration.
- **Enhanced T-cell transduction:** In partnership with Syenex, the Ultra-T enhancer enables up to 5× higher T-cell transduction titers.

LVV Turbo™  
293TH Suspension Cells



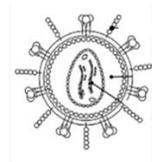
High Productivity  
5x Higher

LVV Turbo™  
Fully Closed Downstream



High Final LVV Recovery  
>60%

LVV Turbo™ +  
Ultra-T Enhancer



High TU Titer for T cells  
5x Higher

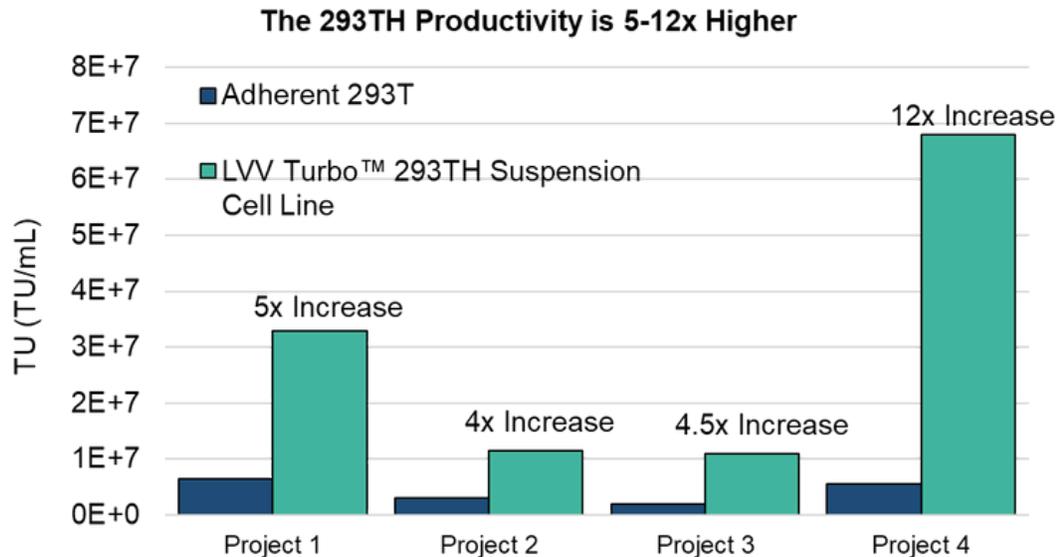
Check our  
LVV GMP Page



 **brigene**®

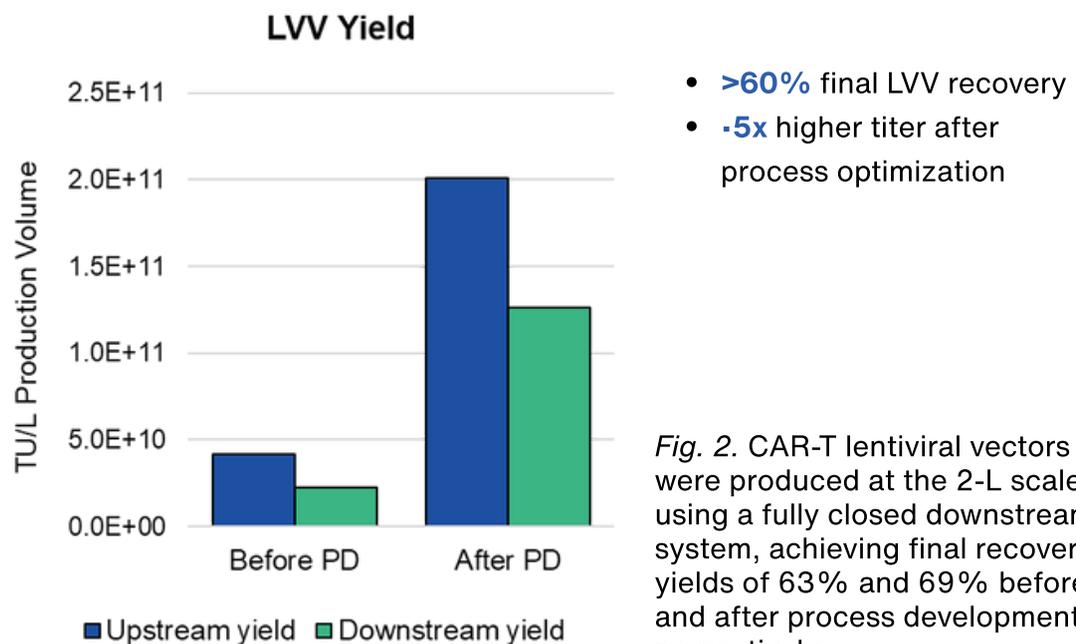
## LVV Turbo™ 293TH Suspension Cell Line - High Lentivirus Productivity

- **4-12x** increase in transduction titer (Jurkat cells, flow cytometry)



*Fig. 1.* LVV productivity comparison between HEK293T cells and 293TH cells. Transduction units were measured by flow cytometry in Jurkat cells.

## LVV Turbo™ Closed Downstream Process Leads to Up to 60% Lentivirus Recovery Yield



*Fig. 2.* CAR-T lentiviral vectors were produced at the 2-L scale using a fully closed downstream system, achieving final recovery yields of 63% and 69% before and after process development, respectively

## Ultra-T Technology – Up to 5x Boost of LVV Titer for T Cells (ex vivo)

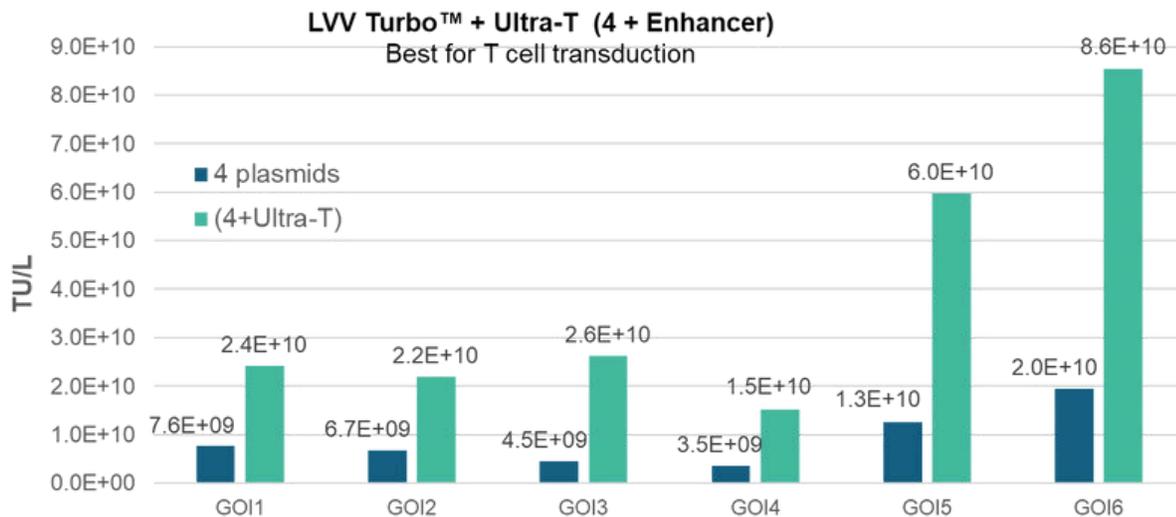


Fig. 3. Comparison of LVV transduction titers produced with the standard 4-plasmid system and with Ultra-T enhancer, measured by flow cytometry in Jurkat cells.

## What Does High LVV Yield Translate Into CAR-T Doses?

- 20L ENG run
- Total yield: 7E12 TU

MOI	CAR-T doses
1	~15,000
2	~7,500
5	~3,000

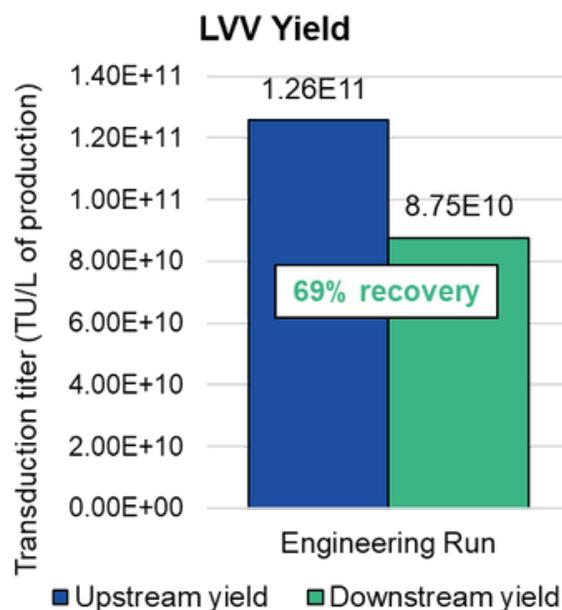


Fig. 4. LVV produced using the LVV Turbo™ platform with Ultra-T enhancer in a 20 L engineering run. Transduction units were measured by flow cytometry in Jurkat cells.

## GMP LVV Quality Control Test

We conduct a comprehensive suite of in-house LVV release assays to ensure timely product release.

Categories	Assays	Methods
Identity	Sequence verification	Sanger
Physical / Chemical	Appearance	Visual inspection
	pH	pH meter
Potency	Integration Units (IU)	qPCR
	Total lentivirus titer	ELISA
	Lentiviral transduction titer	Flow cytometry
	Custom potency	/
Residuals	Residual host DNA	qPCR
	Residual plasmid	qPCR
	Residual HCP	ELISA
	Residual nuclease	ELISA
	Residual host DNA (E1A)	ddPCR
	Residual host DNA (SV40)	ddPCR
Safety	Endotoxin	Gel clot
	Sterility test	Cell culture
	Mycoplasma test	PCR/qPCR
	Replication competent	Cell Culture

**Disclaimer:** LVV Turbo™ is a uBriGene trademark; Ultra-T™ is a Syenex trademark. Clinical use of Ultra-T™ requires a Syenex license.



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