



**THE TRANSFECTION**  
**EXPERTS** | Virus Production

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**150 ml size**

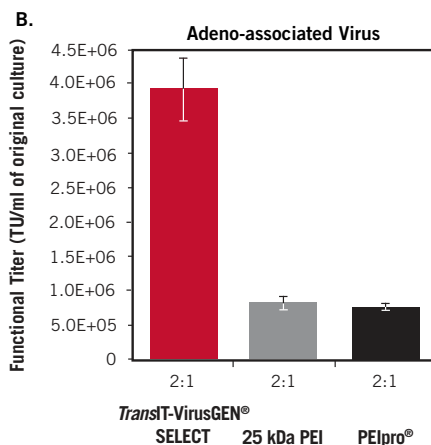
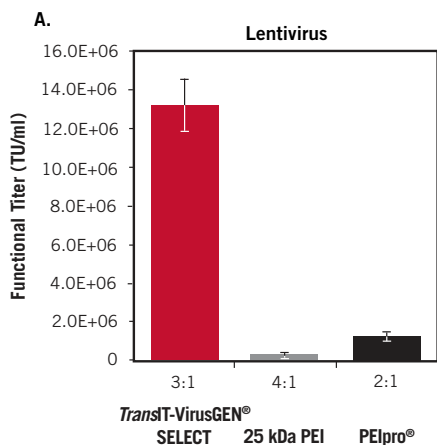
*TransIT-VirusGEN*<sup>®</sup>  
**SELECT**

**Mirus**<sup>®</sup>

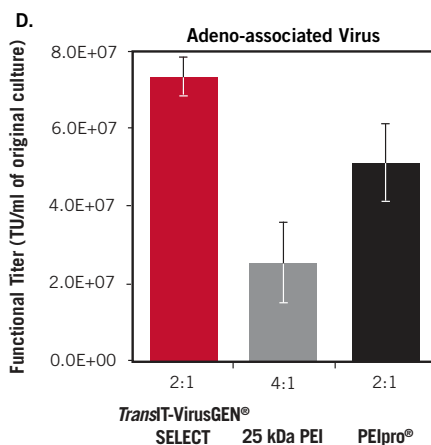
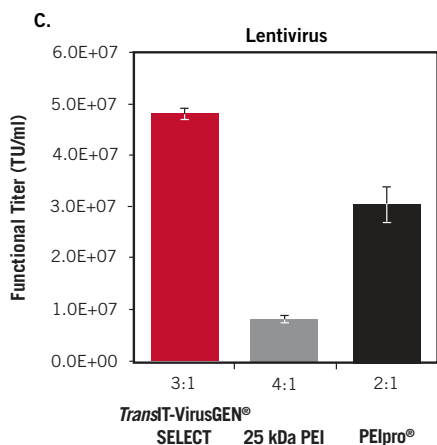
[www.mirusbio.com/SELECT](http://www.mirusbio.com/SELECT)

# TransIT-VirusGEN® SELECT Outperforms PEI and PEIpro®

## Suspension Cell Culture



## Adherent Cell Culture



Lentivirus was produced using (A) suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium or (C) adherent 293T/17 cells grown in DMEM + 10% FBS and transfected with 3rd generation vectors pLKO.1-puro-CMV-TurboGFP™ transfer vector (Sigma) and ViraSafe™ Pantropic Packaging mix (pRSV-Rev, pCMV-VSV-G, pCgpV, Cell Bio Labs) at a 3:0.5:0.5:2 DNA ratio, 1 µg/ml total plasmid DNA, using the TransIT-VirusGEN® SELECT Transfection Reagent (3:1, vol:wt), 25 kDa linear PEI (4:1, Polysciences) or PEIpro® (2:1, Polyplus Transfection). Virus-containing supernatant was used to transduce 293T/17 cells and GFP expression was measured at 72 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer.

AAV2 was produced using (B) suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium or (D) adherent 293T/17 cells grown in DMEM + 10% FBS and transfected using pAAV-hrGFP, pAAV-RC, and pAAV-Helper plasmids (1:1:1 DNA ratio, 1.5 µg/ml plasmid DNA, Agilent Technologies) using TransIT-VirusGEN® SELECT Transfection Reagent (2:1, vol:wt), 25 kDa linear PEI (2:1 or 4:1, Polysciences) or PEIpro® (2:1, Polyplus Transfection). Harvested virus was used to transduce HT1080 cells and GFP expression was measured 48 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer. For both lentivirus and AAV, functional titers were measured from virus dilutions with less than 20% GFP positive cells.\*

# Animal Origin Free Documentation

Below is an example of the Certificate of Origin and BSE/TSE Statement for *TransIT-VirusGEN*® SELECT Transfection Reagent documenting that it is chemically synthesized and it is not manufactured with any animal-derived components.

**CERTIFICATE OF ORIGIN**

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<b>Product Name:</b>	<i>TransIT-VirusGEN</i> ® SELECT Transfection Reagent
<b>Product Number:</b>	MIR 6730
<b>Lot Number:</b>	
<b>Animal Derived Components:</b>	None
<b>Type of Manufacture:</b>	Chemical Synthesis
<b>Country of Manufacture:</b>	USA

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This information is to be used for the purpose of determining animal origin only and not to be confused with "country of origin" for import/export purposes.

**BSE TSE Statement**

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<b>Product Name:</b>	<i>TransIT-VirusGEN</i> ® SELECT Transfection Reagent
<b>Product Number:</b>	MIR 6730
<b>Lot Number:</b>	
<b>Issue Date:</b>	

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This product is manufactured in Madison, WI (USA) entirely from material of non-animal origin. The manufacture, packaging, storage and transportation of these materials do not involve the use of material of animal origin. Therefore, these products have minimal risk of contamination with Bovine Spongiform Encephalopathy (BSE) or Transmissible Bovine Encephalopathy (TSE).

Mirus Bio LLC does not have plans to change the production of this material in any way that would increase the risk of BSE or TSE contamination.

Certified By: *Susan Elder*

**Susan Elder, Quality Control**

**Signed on behalf of Mirus Bio LLC By:**

This product is sold to the Buyer with product, may not be re-packaged or re-

Rev. Example

*Susan Elder*

**Susan Elder, Quality Supervisor**

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# Quality Control Documentation

Below is an example of the Certificate of Analysis for *TransIT-VirusGEN*<sup>®</sup> SELECT Transfection Reagent that includes a functional assay and testing for: sterility, endotoxin and mycoplasma.

## CERTIFICATE OF ANALYSIS



**Product Name:** *TransIT-VirusGEN*<sup>®</sup> SELECT Transfection Reagent

**Product Number:** MIR 6730

**Lot Number:**

**Date of Manufacture:**

**Retest Date:**

**Storage Condition:** -10 to -30°C

**Issue Date:**

### Quality Control Testing and Results

Description	Specification	Result
Functional Assay <sup>1</sup>	> 500,000 TU/mL	Pass
Sterility Testing <sup>2</sup>	No growth observed	Pass
Endotoxin Testing <sup>3</sup>	≤ 1 EU/mL	Pass
Mycoplasma Testing <sup>4</sup>	None detected	Pass
Identity	All components detected	Pass
Appearance	Clear, colorless solution	Pass

### References

<sup>1</sup>*TransIT-VirusGEN*<sup>®</sup> SELECT Transfection Reagent is tested for adeno-associated virus (AAV) production in suspension 293 cells using a GFP encoding transfer vector. Functional virus titer is determined by transducing HT1080 cells and measuring GFP expression by flow cytometry.

<sup>2</sup> Performed per USP <71> guidelines.

<sup>3</sup> Performed per USP <85> guidelines.

<sup>4</sup> Performed per USP <63> guidelines.

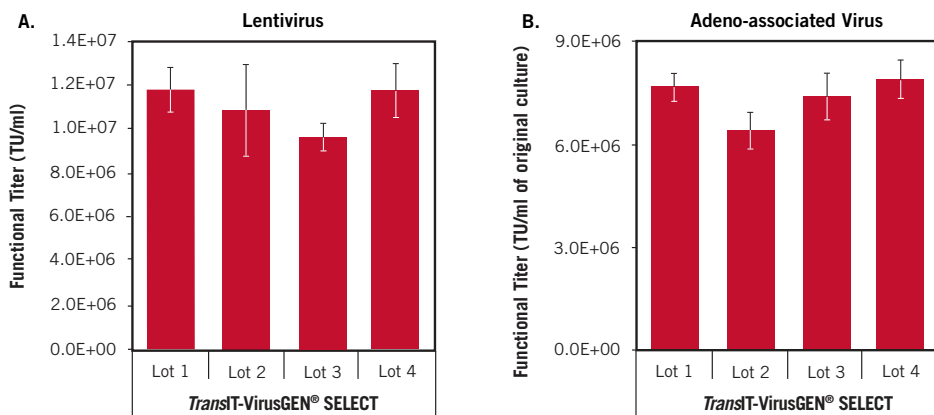
Certified By: *Susan Elder*

**Susan Elder, Quality Supervisor**

This product is sold to the Buyer with a limited license to use this product for research use and further manufacturing; not for administration into humans. This product, or parts from this product, may not be re-packaged or re-sold without written permission from Mirus Bio LLC. For bulk quantities, contact Mirus Bio LLC, 5602 Research Park Blvd. Ste 210, Madison, WI 53719 USA. Email: [sales@mirusbio.com](mailto:sales@mirusbio.com)

*TransIT-VirusGEN*<sup>®</sup> is a registered trademark of Mirus Bio LLC.

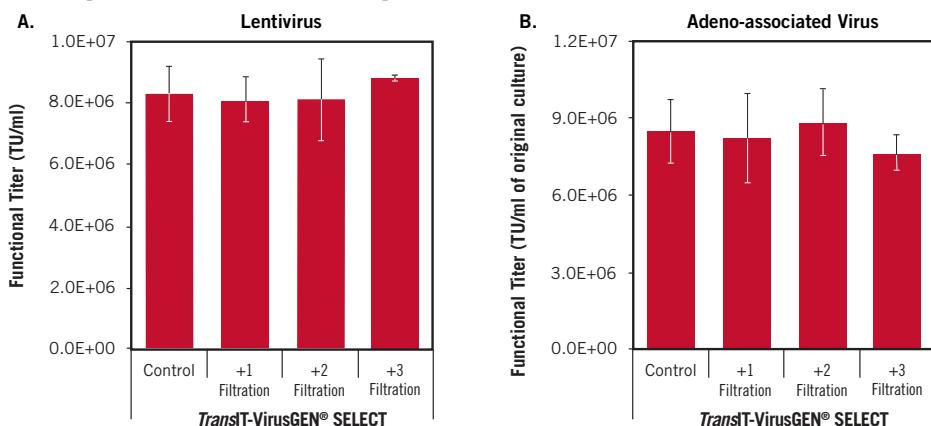
# Reliable Lot-to-Lot Consistency



(A) **Lentivirus** was produced using suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium and transfected with 3rd generation vectors pLKO.1-puro-CMV-TurboGFP™ transfer vector (Sigma) and ViraSafe™ Pantropic Packaging mix (pRSV-Rev, pCMV-VSV-G, pCgpV, Cell Bio Labs) at a 3:0.5:0.5:2 DNA ratio, 1 µg/ml total plasmid, using the *TransIT-VirusGEN*® SELECT Transfection Reagent (3:1, vol:wt). Virus containing supernatant was used to transduce 293T/17 cells and GFP expression was measured at 72 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer.

(B) **AAV2** was produced using suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium and transfected using pAAV-hrGFP, pAAV-RC and pAAV-Helper plasmids (1:1:1 DNA ratio, 1.5 µg/ml, Agilent Technologies) using *TransIT-VirusGEN*® SELECT Transfection Reagent (2:1, vol:wt). Harvested virus was used to transduce HT1080 cells and GFP expression was measured 48 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer. For both lentivirus and AAV, functional titers were measured from virus dilutions with less than 20% GFP positive cells.\*

# Compatible with Multiple Filtrations



(A) **Lentivirus** was produced using suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium and transfected with 3rd generation vectors pLKO.1-puro-CMV-TurboGFP™ transfer vector (Sigma) and ViraSafe™ Pantropic Packaging mix (pRSV-Rev, pCMV-VSV-G, pCgpV, Cell Bio Labs) at a 3:0.5:0.5:2 DNA ratio, 1 µg/ml total plasmid, using the *TransIT-VirusGEN*® SELECT Transfection Reagent (3:1, vol:wt) that was filtered through a 0.22 µm polyethersulfone (PES) filter unit (Millipore Sigma) for the indicated number of times. Virus-containing supernatant was used to transduce 293T/17 cells and GFP expression was measured at 72 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer.

(B) **AAV2** was produced using suspension FreeStyle™ 293-F cells grown in FreeStyle™ F17 Medium and transfected using pAAV-hrGFP, pAAV-RC and pAAV-Helper plasmids (1:1:1 DNA ratio, 1.5 µg/ml, Agilent Technologies) using *TransIT-VirusGEN*® SELECT Transfection Reagent (2:1, vol:wt). Harvested virus was used to transduce HT1080 cells and GFP expression was measured 48 hours post-transduction using a Guava® easyCyte™ 5HT Flow Cytometer. For both lentivirus and AAV, functional titers were measured from virus dilutions with less than 20% GFP positive cells.\*

\*The error bars represent the range of triplicate wells. Suspension cells were at a density of  $2 \times 10^6$  cells/ml and adherent cells were approximately 85% confluent at the time of transfection.

# TransIT-VirusGEN® SELECT Transfection Reagent

The *TransIT-VirusGEN® SELECT Transfection Reagent* is designed for large-scale virus production in preclinical and early-phase clinical trials and is identical in formulation to the fully synthetic and animal origin free, research-grade *TransIT-VirusGEN®* Transfection Reagent. *TransIT-VirusGEN® SELECT* is tested for performance, identity, sterility, endotoxin and mycoplasma to streamline ancillary material qualification in viral vector manufacturing.

- **Performance** – Efficient DNA delivery for large-scale production of high-titer viral vectors
- **Quality** – Tested for performance, identity, sterility, endotoxin and mycoplasma
- **Reliability** – Exceptional lot-to-lot consistency
- **Flexibility** – Compatible with different virus production platforms and repeat filtration

Compare <i>TransIT-VirusGEN®</i> Solutions	Research & Development	Preclinical & Early-phase Clinical Trial	Late-phase Clinical Trial & Commercial Manufacturing
	<i>TransIT-VirusGEN®</i>	<i>TransIT-VirusGEN® SELECT</i>	<i>TransIT-VirusGEN® GMP</i>
Composition	<b>IDENTICAL <i>TransIT-VirusGEN®</i> REAGENT FORMULATION</b> Ready-to-use, chemically defined, animal origin free		
Quality	R&D	Preclinical	GMP
Quality Control	Standard Functional QC	Sterility: per USP <71> Bacterial Endotoxin: per USP <85> Mycoplasma: per USP <63> Formulation Identity	Manufactured as a quality-assured product according to relevant guidelines for Good Manufacturing Practice (GMP)
Configuration	0.3 ml; 0.75 ml; 1.5 ml; 5x and 10x1.5 ml	30 ml 150 ml	150 ml
Packaging	Vial	Bottle	Bottle
Availability	Purchase or Sample: <a href="http://www.mirusbio.com/sample">www.mirusbio.com/sample</a>	Purchase or Sample: <a href="http://www.mirusbio.com/sample">www.mirusbio.com/sample</a>	2021

## Product Description

### *TransIT-VirusGEN® SELECT* Transfection Reagent

Designed to enhance delivery of viral vector DNA to suspension and adherent HEK 293 cells for high-titer production of recombinant lentivirus and adeno-associated virus (AAV). Includes quality documentation. Ideal for large-scale virus production and early-phase clinical trials.

PRODUCT NO. QUANTITY

MIR 6730 30 ml

**NEW!** MIR 6735 150 ml

Request a FREE sample of *TransIT-VirusGEN®* Transfection Reagent: [www.mirusbio.com/SELECT](http://www.mirusbio.com/SELECT)