



293TLV Lentiviral Packaging Cell Line Manual

Catalog Number	Amount	Storage
TLV-C	1 vial of cells (2×10^6 cells) in 80% DMEM, 10% FBS, 10% DMSO	Liquid nitrogen

Product Description

The 293 cell line is a permanent line established from primary human embryonal kidney transformed with sheared human adenovirus type 5 DNA. The expressed E1A adenovirus gene allows these cells to produce very high levels of protein. 293TLV cells were transformed from the 293 cell line. They have been transduced with SV40 large T antigen expression lentivirus under the CMV promoter and stably express the SV40 large T antigen gene.

SV40 large T antigen increases lentivirus production upon co-transfection of the packaging plasmid with a lentiviral vector embedded with an SV40 origin. This is an ideal lentiviral packaging cell line, demonstrating high levels of lentivirus production.

Culture procedures

1. Thaw the frozen vial of cells quickly in a 37 °C water bath (1-3min); decontaminate the outside of the vial with 70% ethanol.
2. Transfer the entire contents of the cryovial into a T-75 cm² flask containing 15 ml of pre-warmed complete medium. Incubate the cells overnight in a 37 °C incubator, 5% CO₂.
3. The following day, replace the medium with 15 ml of pre-warmed, complete medium.
4. Incubate the cells and monitor cell density.
5. Pass cells (1:10 dilution) when the culture reaches 80-90% confluent.
6. Freeze cells at a density of 3×10^6 cells/ml using 90% complete medium with 10% DMSO.

Complete medium

D-MEM (high glucose with sodium pyruvate)
4mM L-glutamine
10% Fetal Bovine Serum (FBS)
0.1 mM MEM Non-Essential Amino Acids (NEAA)
1% Pen-strep (optional)

Quality Control



Each vial contains $>2 \times 10^6$ cells with $>95\%$ viability before freeze. Cells are validated to be free of bacteria, viruses, and mycoplasma.

Warranty

This product is warranted to perform as described when used in accordance with this manual. GenTarget's sole remedy for breach of warranty should be, at the option of GenTarget, to repair or replace the product. **This product is for research use only.**

Attachment: GenTarget's pre-made lentivirus product categories.

Product Category	Product Description (please click into each category's page)
Pathway Reporter	Reporter Lentivirus for all kinds of pathway screening assays
Cell Immortalization	Lentivirus for cell immortalization: Large T-antigen, hTERT, EBNA1/EBNA2, HpV16-E6/E7, Adenovial E1A, Kras_G12V, HOXA9, et al.
ImmunoOncology Research	Lentivirus products for immuno therapy research: CAR and TCR; Assay Cell Lines for T-cell targeted killing assay and other cell-based assays; over-expression lentivirus products for the immune response targets; Cell surface antigens (CDs); immune checkpoint / Receptors; CRISPR gene Repair and knock-IN lentivirus; CRISPR knockout lentivirus;
CAR-T, TCR Lentivirus	CARs Lentivirus: Anti-CD19 /CD20 /CD22 /BCMA /hHER2 /HLA-A2 /TGF β ; TCRs : MART-1/ NY-ESO1/ CD1d- α -GalCer/ TR α V3-F2A-TR β V5-6;
CRISPR Gene Editing	Preamde lentivirus express humanized wild-type Cas9 endonuclease, the dCas9 , gRNAs, CRISPR gene editing research
Epigenomic: CRISPRi and CRISPRa	" dCas9-Protein " fusion Lentivirus for epigenomic modification, resulted in CRISPR interference (CRISPRi) or activation (CRISPRa).
Cell-Specific Reporter	a set of reporter lentiviruses to express a luminescence or fluorescent reporter (firefly Luciferase, Renilla luciferase, RFP or GFP fluorescent marker) under a tissue specific promoter
Infectious Antigens	Lentivirus that express all kinds of infectious antigens with C-term 6His-tag.



Product Category	Product Description (please click into each category's page)
Virus Like Particles (VLP)	Lentiviral Like Particles, pseudo-typed with a different envelope proteins.
Non-integrating LV	Integration Defective Lentivirus, express different targets for transient expression without the unwanted insertional mutagenesis.
shRNA Knockdown	Knockdown verified and customized shRNA lentivirus for target knockdown,
microRNA lentivirus	Premade lentivirus expression human or mouse precursor miRNA . And anti-miRNA lentivector and virus for human and mouse miRNA.
Anti-miNA lentivirus	Pre-made lentivirus expression a specific anti-miRNA cassette.
Human and mouse ORFs	Premade lentivirus express in a human, mouse or rat gene with RFP-Blasticidin fusion dual markers.
Luciferase expression	Premade lentivirus for all kinds of luciferase protein expression: firefly and Renilla, Red-Luc and more , with different antibiotic selection markers.
Fluorescent Markers	Lentivirus express all commonly used fluorescent proteins: GFP, RFP, CFP, BFP YFP, niRFP, unstable GFP and others.
Luminescent Imaging	Lentivirus express Nano-Latern as Bio-probes for in vivo imaging of sub-cellular structural organization and dynamic processes in living cells and organisms
Sub-cellular Imaging	Lentivirus contain a well-defined organelle targeting signal fused to a fluorescent protein, great tools for live-cell imaging and for dynamic investigation of sub-cellular signal pathways.
Cytoskeleton Imaging	A fluorescent marker (GFP, RFP or CFP) fusion with a cellular structure protein, provides a convenient tool for visualization of cytoskeletal structure
Unstable GFP	Lentivirus express the the destabilized GFP (uGFP) which provides fast turnover responses in signal pathway assay and in knockdown / knockout detection
near-infrared RFP	The near-infrared Red fluorescent (niRFP) expression Lentiviruses provides the whole-body images with better contrast and brighter images



Product Category	Product Description (please click into each category's page)
Fluorescent-ORF fusion	Pre-made lentivirus expression a " GFP/RFP/CFP-ORF " fusion target.
CRE recombinase	Premade lentivirus for expressing nuclear permeant CRE recombinase with different fluorescent and antibiotic markers.
CRE, Flp ColorSwitch	Lentivirus expressing "LoxP-GFP-Stop-LoxP-RFP" or "FRT-GFP-Stop-FRT-RFP" cassette, used to monitor the CRE or Flp recombination event in vivo.
SEAP Reporter	lentivirus expressing SEAP under different promoters (TetCMV, EF1a, CAG, Ubc, mPGK, Actin-beta or a signal pathway responsive promoter),
TetR Repressor	Premade lentivirus expressin TetR (tetracycline regulator) protein, the repressor protein for the inducible expression system.
rtTA Expression	rtTA binds to the tetracycline operator element (TetO) in the presence of doxycycline (Dox). Used for Tet-On /OFF inducible system.
iPS factors	Premde lentivirus for human and mouse iPS (Myc, NANOG, OCT4, SOX2, FLF4) factors with different fluorescent and antibiotic markers
LacZ expression	Express different full length β-galactosidase (lacZ) with different selection markers
Negative control lentiviruses	Premade negative control lentivirus with different markers : serves as the negative control of lentiviruses treatment, for validation of the specificity of any lentivirus target expression effects.
Other Enzyme expression	Ready-to-use lentivirus, expressing a specific enzymes with different selection markers.
Ultra titer lentivirus	Ultra-titer lentivirus used for the hard-to-transduced cells and for in vivo manipulation of sperm cells, or stem cells.