



Pre-made Lentiviral Particles for Fluorescent-ORF fusions:

Catalog#	Product Name	Amounts
LVP442	GFP-RFP fusion control lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP443	CFP-RFP fusion control lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP399	RFP-LC3 fusion lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP444-G	GFP-Histone 2B fusion lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP444-R	RFP-Histone 2B fusion lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP444-C	CFP-Histone 2B fusion lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP445-G	GFP-Annexin5 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP445-R	RFP-Annexin5 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP445-C	CFP-Annexin5 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP446-G	GFP-Actin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP446-R	RFP-Actin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP446-C	CFP-Actin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP447-G	GFP-TAT fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP447-R	RFP-TAT fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP447-C	CFP-TAT fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP448-G	GFP-hp53 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP448-R	RFP-hp53 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP448-C	CFP-hp53 fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP449-G	GFP-Zyxin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
LVP449-R	RFP-Zyxin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul



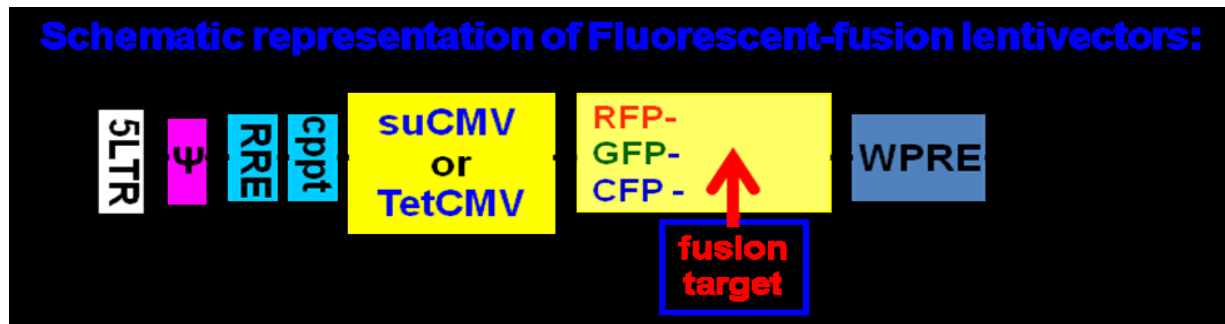
LVP449-C	CFP-Zyxin fusion Lentiviral particles	1x10 ⁸ IFU/ml x 200ul
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Storage: < -70 °C, avoid repeat freeze/thaw cycles. Stable for > 6 months.

Product Description:

Lentiviral system is a gene delivery tool using lentivectors for gene expression or knockdown. Lentivectors are HIV-1 (Human Immunodeficiency Virus 1) derived plasmids, used to generate lentiviral particles (lentivirus) that can be transduced into virtually all kinds of mammalian cell types or organs, including stem cells, primary cells and non-dividing cells both *in vivo* and in **cell culture** system. Particles stably integrate into the transduced cells' genome for long term expression. Therefore, lentivirus holds unique promise as gene transfer agents.

Pre-made lentiviral particles expressing "**GFP/RFP/CFP-Target**" fusion constructs are generated from GenTarget's **high expression lentiviral system**. A fluorescent protein, GFP, RFP or CFP was cloned in frame with a target (such as human or mouse ORF), expressed under a proprietary **suCMV promoter** that demonstrated the highest expression levels (3~10 fold higher than CMV promoter in pCDNA6.3 vector dependent upon cell types. Each fluorescent was codon optimized to generate brighter fluorescent signal. **They are great tools for:** 1) sub-cellular pathway studies, 2) in vivo signal transduction research, 3) living cell imaging, protein interaction studies and many other application. The positive transduced cells can be sorted out via the fluorescent signal. (See vector scheme below for vector structures).



Key features:

1. **High titer and robust:** Gentarget's premade lentiviral particles are best in the class, demonstrating the brightest fluorescent signal, strong transduction efficiency. Each particles was validated in lot by lot basis and its quality is guaranteed.
2. Deliver fluorescent labeled targets into hard transfected cell lines (like primary cells or neuron cells) for **long term expression**;
3. **Very easy to us:** Particles are provided in DMEM medium with 10% FBS and 60ug/ml polybrene as ready to use status. Simply add into your cell culture and visualize the fluorescent at 48-92 hours (No need for any additives, components or medium changes);
4. Different fluorescent labeled particles for **multi-color application** when multiple different particles used in the same cells;



For general questions about our ready-to-use lentiviral particles, please See [FAQ for pre-made lentiviral particles](#) (.pdf) on our website. (<http://www.gentarget.com/pdf/FAQ-Premade-Lentiviral-particles.pdf>).

If you want to label your specific target, Gentarget Inc also provides [lentiviral services](#) for cloning your gene of interest and generates ready-to-use viral particles with the best prices and fastest turnaround time. Please see [our website](#) for details.

Transduction Protocols:

Adhesive cells Transduction Protocols:

Note: A quick transduction protocol is: add 50ul virus into one well in 24-well-plate where cell density is at 50% ~ 75%. At 72 hours after virus added (no need to change medium), visualize the positive rate under fluorescent microscope. The positive transduced cells, than can be sorted via fluorescent signal.

Day 0: Seed the desired cells in complete medium at appropriate density incubate overnight. (Note: at the time of transduction, it grow to 50% ~75% confluent.) For example, plate HEK 293 cells at $0.5 \times 10^5/\text{ml} \times 0.5\text{ml}$ in a well of a 24-well plate;

Day 1: Thaw the Pre-made lentiviral stock at room temperature. Add appropriate amount of virus stock to obtain the desired MOI. Return cells to 37°C/CO2 incubator.

Day 3: At the time of ~72hr after transduction, Check the transduction rate via fluorescence image with a suitable filter under fluorescent Microscope, or calculate the exact transduction % rate via Flow Cytometry System (FACS) or any flow cytometry (such as Quava machine).

Day 3: Transduced cells can be sorted out by FACS, prepared for further in vivo application.

(**Note:** leftover particles can be frozen down for future uses. But try to avoid freeze/thaw cycles by making aliquots).

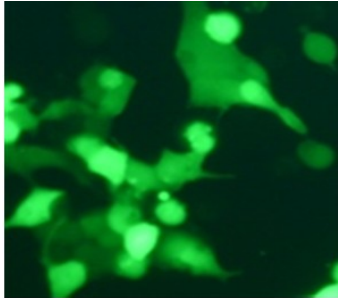
Suspension cells transduction Protocols:

1. Grow your cell in your completed suspension culture medium, in CO2 incubator;
2. Measure cell density. When cell grow to $\sim 3 \times 10^6$ cell/ml, measure cell viability (should > 90%), then diluted cells into 1×10^6 cell/ml in completed medium;
3. Transduction: thaw lentiviral particles at room temperature. Simply add premade lentiviral particle into the diluted cells at ratio of: **100ul virus per 0.5ml cells** (Note: depend upon the cell types; you may need to use more or less viruses). Grow cells in CO2 incubator.

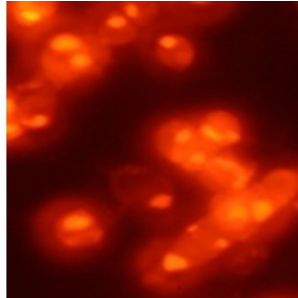


- At 72 hours after transduction, check fluorescence under microscope or calculate the transduction efficiency using cell sorting machine (like FACS or Guava machine).
- You can sort the fluorescent positive cells if applicable.

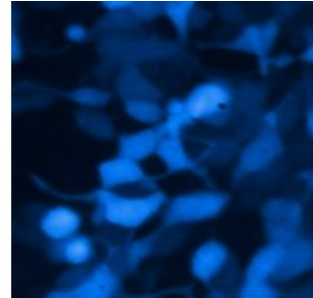
Quick transduction examples:



**LVP442 (50ul)
(GFP filter)**



**LVP447-R (50ul)
RFP filter**



**LVP448-C (50ul)
CFP filter**

Add 50ul each lentivirus into one well in 24-well-plate where cell density is at 50% ~ 75% in different cell types (HEK293, A549, PC3 from left to right). Image taken at ~72 hours after virus added (no medium changed). **Result:** The positive >90%.

Note: Filter wavelength settings:

GFP filter: ~Ex450-490 ~Em525;
 RFP filter: ~Ex545 ~Em620;
 CFP filter: ~Ex436 ~Em480;
 YFP filter: ~Ex500 ~Em535; (has overlapped spectrum with GFP)

Related Products:

Product Category	Product Description (please click links below to see product pages)
nuclear permeable CRE	Premade lentivirus for expressing nuclear permeable CRE recombinase with different fluorescent and different antibiotic selection markers.
Luciferase expression	Premade lentivirus for firefly-luciferase II, Renilla-luciferase, Gaussia-luciferase and Cyprinda-luciferase with all different fluorescent and antibiotic markers.
iPS factors	Premade lentivirus for human and mouse iPS (Myc, NANOG, OCT4, SOX2, FLF4) factors with different fluorescent and antibiotic markers
Human and mouse ORFs	Premade lentivirus for hundred of human and mouse ORFs with RFP-Blastididin fusion dual markers.



Live-cell imaging	Pre-made lentivirus particles for Cell Organelle imaging for Nucleus, Cytoplasm, Endoplasmic Reticulum, Golgi, Mitochondria, Nuclear membrane, Peroxisome, Plasma membrane, Microtubule, Chromatin, and more.
shRNA lentivirus	Premade shRNA lentivirus for knockdown a specific genes (P53, LacZ, Luciferase and more).
Negative controls	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.

Safety Precaution:

Gentarget lentiviral particles adapt must advanced lentiviral safety features (using the third generation vectors with self-inactivation SIN-3UTR), and the premade lentivirus is replication incompetent. However, please use extra caution when using lentiviral particles. Use the lentiviral particles in Bio-safety II cabinet. Wear glove all the time at handling Lentiviral particles! Please refer CDC and NIH's guidelines for more details regarding to safety issues.

References:

1. J Virol. 2000 November; 74(22): 10778–10784.
2. Hum Gene Ther (2003) 14: 1089-105.
3. Mol Ther (2002) 6: 162-8.
4. NIH Guidelines for [Biosafety Considerations for Research with Lentiviral Vectors](#). (Link).

Warranty:

This product is for research use only. It is warranted to meet its quality as described when used accordance with its instructions. Gentarget disclaims any implied warranty of this product for particular application. In no event shall GenTarget be liable for any incidental or consequential damages in connection with the products. Gentarget's sole remedy for breach of this warranty should be, at Gentarget's option, to replace the products.