



P11E

## Lentiviral system for gene transduction - Lenti shRNA & LentiORF

Lentivirus-based gene delivery, for gene expression or Knockout

+ **CRISPR gene editing**

The Lenti shRNA & LentiORF are based on a Lentiviral system for efficient DNA delivery

### What is Lentivirus and why use lentivirus to deliver DNA?

Lentiviral vectors as gene delivery tool are modified from HIV-1, with many of the viral genes removed. The lentiviral vector only contain the LTRs and the packaging signal,  $\Psi$ . Lentiviral packaging genes are provided on separate plasmids, so the pseudo lentiviral particles are replication deficient.

1. **Broad cell spectrum:** Lentivirus infect many cells, dividing & non-dividing, easy-to-transfect & hard-to-transfect cells.
2. **High transduction efficiency.**
3. **Convenience:** Minimal need for optimization.
4. **Safety:** 3<sup>rd</sup> generation system with improved biosafety. *More info on [Safety](#)*
5. **Legally licensed vendor for lenti products.**

#### Lenti-ORF



Plasmid



Lentiviral Particles

#### Lenti shRNA



Plasmid



Lentiviral Particles

#### CRISPR



Plasmid



Lentiviral Particles

### What is special about our lentiviral particles?

- Pre-titered, ready-to-use
- Titer guaranteed,  $>10^7$  TU/mL
- Provided in the proprietary [Lenti Stabilizer](#) Solution with >1 year infectivity

### Lenti Accessories

Ask for: Packaging kit | Control Particles | Concentrator | LentiVectors | LentiTiter Kit | Lenti Stabilizer

### Lentiviral System Resources <sup>□</sup>

- [Lenti protocol](#)
- [Recommended lentivirus MOI for common cell lines](#)
- [Does lentivirus work with neurons?](#)
- [Frequently asked questions about lenti](#)
- [How to make lentivirus?](#)
- [Webinar: How to make lentivirus](#)
- [Lenti webinar](#)
- [Lenti biosafety](#)

## Lenti-ORF clones, plasmid and lentiviral particles

- **Myc-DDK tagged or mGFP tagged, C-terminal**
- **Broad cell spectrum:** Lentivirus infect many cells, dividing & non-dividing, easy-to-transfect & hard-to-transfect cells.
- **High transduction efficiency**
- **Convenience:** Minimal need for optimization.
- **Safety:** 3rd generation system with improved biosafety.
- **Legally licensed vendor for lenti products.**

### Lenti-ORF clones offered in four lentiviral vectors

| Selection    | C-terminal Tag | Vector                                    |
|--------------|----------------|-------------------------------------------|
| No Selection | Myc-DDK Tag    | <p><b>pLenti-C-Myc-DDK</b><br/>6.4 kb</p> |
|              | GFP Tag        | <p><b>pLenti-C-mGFP</b><br/>7.1 kb</p>    |

| Selection | C-terminal Tag | Vector                                             |
|-----------|----------------|----------------------------------------------------|
| Puro      | Myc-DDK Tag    | <p><b>pLenti-C-Myc-DDK-P2A-Puro</b><br/>7.1 kb</p> |
|           | GFP Tag        | <p><b>pLenti-C-mGFP-P2A-Puro</b><br/>7.8 kb</p>    |

[Ask](#) for validation data <sup>0</sup>

Above 4 Lentiviral vectors, [inquire](#) for :

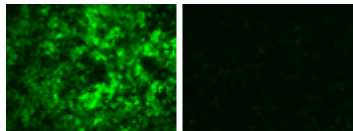
- ORF clones housed in a variety of lentiviral destination vectors. The ORF inserts of all TrueORF clones can be shuttled into destination vectors via a simple cut-and-ligate process (ask).
- cloning service when other destination vectors are preferred

## Lentiviral shRNAs, plasmid and lentiviral particles

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- **Potent shRNA design** [Ask](#) for more info<sup>0</sup>
- Genome-wide coverage: **Human, Mouse & Rat**
- **High transduction efficiency**
- 3rd Generation lentiviral vectors: **Safer**
- Lentiviral particles offered

The Lentiviral cassette contains three major functional elements, shRNA, a puromycin selection marker & a tGFP reporter.



Scramble

tGFP shRNA

[Ask](#) for Search Your Lentiviral shRNA Product ([browse all](#))

### Details of the lentiviral shRNA vectors

#### pGFP-C-shLenti vector

- Third generation Lentivector
- Chloramphenicol marker for bacterial selection
- Three major functional elements within the 5'LTR and 3'LTR. All of them can be packaged to viral particles and transduced to many cell lines.
  1. shRNA expression cassette under U6 promoter
  2. Puromycin resistant for mammalian cell selection
  3. tGFP gene as reporter.

#### The shRNA expression cassette

- 29mer hairpin with a 7bp loop.
- U6 driven expression
- A Pol III termination sequence (TTTTTT) immediately downstream of the hairpin.
- The gene-specific shRNA cassette is sequence-verified to ensure its match to the target gene.

Ask also for another Lentiviral shRNA vector, pRFP-CB-shLenti <sup>1</sup>

## CRISPR-Cas9 Vectors

Features of our CRISPR/Cas9 vectors for genome editing.

- **All-in-One vectors:** Contain both gRNA and Cas9 expression (lenti option available).
- **T7 vectors:** For in vitro production of gRNA and Cas9 mRNA
- **Cas9 Nickase:** Decrease off-targeting
- variety of CRISPR/Cas9 vectors

### CRISPR/Cas9-genome editing products

|                                | SKU                      | Name                         | Vector Type | Mammalian Selection |
|--------------------------------|--------------------------|------------------------------|-------------|---------------------|
| All-in-One CRISPR/Cas9 vectors | <a href="#">GE100001</a> | pCas-Guide Cloning Kit       | Non-viral   |                     |
|                                | <a href="#">GE100002</a> | pCas-Guide                   | Non-viral   |                     |
|                                | <a href="#">GE100018</a> | pCas-Guide-EF1a-GFP          | Non-viral   |                     |
|                                | <a href="#">GE100022</a> | pCas-Guide-EF1a-CD4          | Non-viral   |                     |
|                                | <a href="#">GE100009</a> | pLenti-Cas-Guide-Cloning Kit | Lentiviral  |                     |
|                                | <a href="#">GE100010</a> | pLenti-Cas-Guide             | Lentiviral  |                     |
|                                | <a href="#">GE100045</a> | pLenti-EF1a-Cas-Guide        | Lentiviral  |                     |
|                                | <a href="#">GE100003</a> | pCas-Scramble                | Non-viral   |                     |
| gRNA only vectors              | <a href="#">GE100021</a> | pCas-Scramble-EF1a-GFP       | Non-viral   |                     |
|                                | <a href="#">GE100042</a> | pGuide                       | Non-viral   |                     |
|                                | <a href="#">GE100044</a> | pGuide-EF1a-GFP              | Non-viral   |                     |
| Cas9 only vectors              | <a href="#">GE100032</a> | pLenti-Guide-Puro            | Lentiviral  | Puromycin           |
|                                | <a href="#">GE100037</a> | pAAVS1-Cas9-Puro-DNR         | Non-viral   | Puromycin           |
|                                | <a href="#">GE100039</a> | pAAVS1-Cas9-BSD-DNR          |             |                     |
|                                | <a href="#">GE100028</a> | pLenti-Cas9                  | Lentiviral  |                     |
|                                | <a href="#">GE100029</a> | pLenti-Cas9-IRES-Puro        | Lentiviral  | Puromycin           |
|                                | <a href="#">GE100030</a> | pLenti-EF1a-Cas9-IRES-Puro   | Lentiviral  | Puromycin           |
|                                | <a href="#">GE100031</a> | pLenti-Cas9-P2A-tGFP         | Lentiviral  |                     |
| CRISPR/Cas9 T7 vectors         | <a href="#">GE100025</a> | pT7-Guide-IVT                | Non-viral   |                     |
|                                | <a href="#">GE100014</a> | pT7-Cas9                     | Non-viral   | Neomycin            |
| Cas9 Nickase                   | <a href="#">GE100019</a> | pCas-Guide-Nickase (D10A)    | Non-viral   |                     |
|                                | <a href="#">GE100020</a> | pT7-Cas9-Nickase (D10A)      | Non-viral   | Neomycin            |
| Accessories                    | <a href="#">GE100007</a> | Annealing Buffer             |             |                     |
|                                | <a href="#">GE100008</a> | CF3 Primer                   |             |                     |
|                                | <a href="#">GE100017</a> | pCMV6-Entry-Cre              | Non-viral   | Neomycin            |

### Other CRISPR Products

gRNA Cloning | CRISPR Knockout Kits | AAVS1 Transgen Insertion |  
Cas9 Nuclease | Cas9 Ab | Synthetic gRNA

## Related Products/documents

- Other transfection reagents:

[UptiFectin transfection reagents](#): nice for routine applications, and many difficult ones!

BB219f

– new synthetic derivative of natural compound forming liposomes

[Viromer transfection technology](#), nice for difficult applications

BD103v, BD103v

– non-lipidic polymer reagent, neutral, with unique transfert/release mechanism

[HilyMax transfection reagent](#) - cationic polymer, nice for Cell Signaling Research and Insects

BD103h

[TurboFect transfection reagent](#) - cationic polymer, for DNA vectors&plasmids, in-vivo

BD103t

back to Genomics > [Transfection](#)<sup>[1]</sup> Proteomics > [Silencing](#)<sup>[1]</sup>

[DNA Transfection](#)<sup>[1]</sup>, [RNA Transfection/Silencing](#)<sup>[1]</sup>, [Other](#)<sup>[1]</sup>.

●Associated products

Review of Luciferase Reporters

Human in vitro Transcription Kits and Reagents

[EtBr Destroyer](#) (bags and spray to neutralize EtBr liquids and decontaminate surfaces)

BD089d

[Ribozol RNA extraction solutions](#)

BD008a

back to [Products HighLights Overview](#)

See also in [Recombinant protein expression](#)<sup>[1]</sup> pages:

> [Protein Reporter Assays](#)<sup>[1]</sup>, i.e.Luciferase reporter vectors > [Silencing](#)<sup>[1]</sup>, > [Protein Array Assays](#)<sup>[1]</sup>,

## Information inquire

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Reply by Fax : +33 (0) 4 70 03 82 60 or email at [interbiotech@interchim.com](mailto:interbiotech@interchim.com)

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