Pre-made Lentiviral Expression Particles for Luciferase (Firefly, Gaussia, Renilla and Cypridina)

Cat#	Product Name	Amounts*
LVP326	Luciferase (firefly) (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP326-PBS	Luciferase (firefly) (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP325	Luciferase (firefly) (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP325-PBS	Luciferase (firefly) (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP283	Luciferase (firefly) (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP283-PBS	Luciferase (firefly) (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP323	Luciferase (firefly)-2A-**GFP** (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP323-PBS	Luciferase (firefly)-2A-**GFP** (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP020	Luciferase (firefly)-2A-**GFP** (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP020-PBS	Luciferase (firefly)-2A-**GFP** (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP403	Luciferase (firefly)-2A-**GFP** (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP403-PBS	Luciferase (firefly)-2A-**GFP** (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP009	Luciferase (firefly)-2A-**RFP** (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP009-PBS	Luciferase (firefly)-2A-**RFP** (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP324	Luciferase (firefly)-2A-**RFP** (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP324-PBS	Luciferase (firefly)-2A-**RFP** (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP402	Luciferase (firefly)-2A-**RFP** (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP402-PBS	Luciferase (firefly)-2A-**RFP** (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS

LVP433	EF1a-Luciferase (firefly) (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP433-PBS	EF1a-Luciferase (firefly) (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP434	EF1a-Luciferase (firefly) (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP434-PBS	EF1a-Luciferase (firefly) (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP435	EF1a-Luciferase (firefly) (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP435-PBS	EF1a-Luciferase (firefly) (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP436	EF1a-Luciferase (firefly)-2A-**GFP** (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP436-PBS	EF1a-Luciferase (firefly)-2A-**GFP** (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP437	EF1a-Luciferase (firefly)-2A-**GFP** (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP437-PBS	EF1a-Luciferase (firefly)-2A-**GFP** (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP438	EF1a-Luciferase (firefly)-2A-**GFP** (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP438-PBS	EF1a-Luciferase (firefly)-2A-**GFP** (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP439	EF1a-Luciferase (firefly)-2A-**RFP** (**Bsd**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP439-PBS	EF1a-Luciferase (firefly)-2A-**RFP** (**Bsd**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP440	EF1a-Luciferase (firefly)-2A-**RFP** (**Puro**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP440-PBS	EF1a-Luciferase (firefly)-2A-**RFP** (**Puro**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP441	EF1a-Luciferase (firefly)-2A-**RFP** (**Neo**)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP441-PBS	EF1a-Luciferase (firefly)-2A-**RFP** (**Neo**), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP304	**Luciferase**-2A-**NLS-CRE** (**Bsd**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP304-PBS	**Luciferase**-2A-**NLS-CRE** (**Bsd**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP409	**Luciferase**-2A-**NLS-CRE** (**Puro**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS

LVP409-PBS	**Luciferase**-2A-**NLS-CRE** (**Puro**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP410	**Luciferase**-2A-**NLS-CRE** (**Neo**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP410-PBS	**Luciferase**-2A-**NLS-CRE** (**Neo**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP411	**Luciferase**-2A-**NLS-CRE** (**GFP-Bsd**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP411-PBS	**Luciferase**-2A-**NLS-CRE** (**GFP-Bsd**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP412	**Luciferase**-2A-**NLS-CRE** (**GFP-Puro**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP412-PBS	**Luciferase**-2A-**NLS-CRE** (**GFP-Puro**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP413	**Luciferase**-2A-**NLS-CRE** (**RFP-Bsd**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP413-PBS	**Luciferase**-2A-**NLS-CRE** (**RFP-Bsd**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS
LVP414	**Luciferase**-2A-**NLS-CRE** (**RFP-Puro**) lentiviral particles	1x10^7 IFU/ml x 200ul in DMEM with 10% FBS
LVP414-PBS	**Luciferase**-2A-**NLS-CRE** (**RFP-Puro**) lentiviral particles, in vivo ready	5 x10^7 IFU/ml x 200ul In PBS

Cat#	Product Name	Amounts*
LVP361	Luciferase (Gaussia) (**RFP**-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP361-PBS	Luciferase (Gaussia) (**RFP**-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP362	Luciferase (Gaussia) (**GFP**-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP362-PBS	Luciferase (Gaussia) (**GFP**-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP363	Luciferase (Gaussia) (**RFP**-Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS

LVP363-PBS	Luciferase (Gaussia) (RFP-Puro), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP364	Luciferase (Gaussia) (Neo)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP364-PBS	Luciferase (Gaussia) (Neo), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP365	Luciferase (Gaussia) (Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP365-PBS	Luciferase (Gaussia) (Puro), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP366	Luciferase (Gaussia) (Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP366-PBS	Luciferase (Gaussia) (Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS

Cat#	Product Name	Amounts*
LVP367	Luciferase (Renilla) (RFP-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP367-PBS	Luciferase (Renilla) (RFP-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP368	Luciferase (Renilla) (GFP-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP368-PBS	Luciferase (Renilla) (GFP-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP369	Luciferase (Renilla) (RFP-Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP369-PBS	Luciferase (Renilla) (RFP-Puro), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP370	Luciferase (Renilla) (Neo)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP370-PBS	Luciferase (Renilla) (Neo), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP371	Luciferase (Renilla) (Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP371-PBS	Luciferase (Renilla) (Puro), in vivo ready	200ul, ~5 x 10^8 IFU/mL in PBS
LVP372	Luciferase (Renilla) (Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP372-PBS	Luciferase (Renilla) (Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS

Cat#	Product Name	Amounts*
LVP373	Luciferase (Cypridina) (RFP-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP373-PBS	Luciferase (Cypridina) (RFP-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP374	Luciferase (Cypridina) (GFP-Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP374-PBS	Luciferase (Cypridina) (GFP-Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP375	Luciferase (Cypridina) (RFP-Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP375-PBS	Luciferase (Cypridina) (RFP-Puro), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP376	Luciferase (Cypridina) (Neo)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP376-PBS	Luciferase (Cypridina) (Neo), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP377	Luciferase (Cypridina) (Puro)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP377-PBS	Luciferase (Cypridina) (Puro), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS
LVP378	Luciferase (Cypridina) (Bsd)	200ul, ~1 x 10^7 IFU/mL in DMEM containing 10% FBS
LVP378-PBS	Luciferase (Cypridina) (Bsd), in vivo ready	200ul, ~5 x 10^7 IFU/mL in PBS

*** Titers may vary lot to lot. Please refer to the titer stated on the packsize description of our website.**

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.

Luciferases are widely used in reporter assays for monitoring cellular events associated with gene expression. Firefly luciferase (**F-luc**) and Renilla luciferase (**R-Luc**) are used for end point analysis with different emission wavelength using different substrates, which common used for dual reporter assays. Gaussia luciferase (**G-luc**) and Cypridina luciferase (**C-Luc**) are two naturally secreted luciferases with

extremely high sensitivities and can be used for real-time and continuous monitoring of gene expression in living cells (measure luciferase activities without cell lysis).

Compare different luciferases:

Types	Substrate	Wavelength Peak	Secreted	Sensitivity	Require ATP	Measurement
F-luc (Firefly Luciferase)	D-Lucferin	562 nm	No	medium	Yes	Peaked at 2 seconds, last for ~10 seconds
G-luc (Gaussia Luciferase)	coelenterazine	480 nm	Yes	extreme	No	Measure luc activity from supernatant for living cells. Luc activity is stable at low pH; measure within 30 seconds
C-Luc (Cypridina Luciferase)	cypridina luciferin	465 nm	Yes	extreme	No	Measure luc activity from supernatant for living cells. Luc activity is inhibited by EDTA; Long half life at ~ 48 hours.
R-Luc (Renilla Luciferase)	coelenterazine	480 nm	No	medium	No	Peaked at 2 seconds, last for 10 second

Firefly Luciferase (F-Luc) is the most common used bioluminescence Reporter. The reaction has high sensitivity, low background and easy adaptation for high-throughput screening for both in vitro and in vivo assays.

Renilla Luciferase (R-Luc) a 36kDa monomeric enzyme, having many of the same properties as firefly luciferase (FLuc), and used for living cells assays. However, R-Luc catalyzes different substrate than firefly luciferase. R-Luc catalyzes the oxidation of coelenterazine to yield blue light of 480nm and does not require ATP for the reaction, whereas F-Luc catalyzes the oxidation of luciferin to yield longer wavelength light at 562nm.

Gaussia Luciferase (G-Luc) is a small (~20 kDa), nontoxic and naturally secreted monomeric protein, with flash bioluminescence characteristics similar to those of other coelenterazine luciferases. However, G-Luc generated over 1000-fold higher bioluminescent signal intensity compared to firefly (F-

Luc) and Renilla (R-Luc) luciferases. It demonstrates higher signal intensity, secretion, more stable, and ATP independence, thus being able to report from the cells and their environment in real time.

Cypridina Luciferase is another secreted luciferase with about 20 folds brighter than firefly luciferase and much more stable (long half life) assay condition.

Premade luciferase expression lentivirus:

AMSBIO provides pre-made lentiviral particles, expressing all kinds of **Luciferases (including firefly luciferase, Gaussia Luciferase, Renilla Luciferase and Cypridina Luciferase).** Particles were pseudotyped with VSVG envelope protein, produced in 293T cells. All particles were tested to be free bacterial and mycoplasma contamination. Virus titers were tested lot by lot.

Ready-to-use luciferase lentiviral particles are provided in two formats:

- Packaged in 10% of FBS in DMEM containing 10% FBS and 60ug/ml of polybrene (10x);
- Or concentrated and buffer exchanged in PBS without any human or animal origin components; The virus in PBS solution is good for any cell types that requires non-serum in the application.

For more details about premade particles, please see http://www.amsbio.com/FAQ-Premade-Lentiviral-particles.pdf.

We also provide lentiviral **services for cloning your gene or shRNA of interest** and generate ready-to-use viral particles with the best prices and the fastest turnaround time. Please visit http://www.amsbio.com/custom-lentivirus-service-expression-lentiviral.aspx for details.

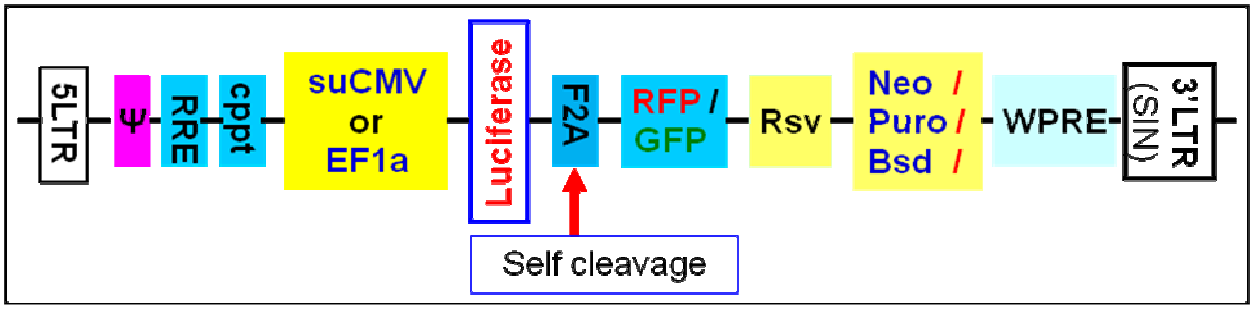
Luciferase lentivirus provided for two expression system:

1. **High constitutive expression**:

   The luciferase was expressed under either a super strong suCMV promoter or a re-engineered strong EF1a promoter. The **suCMV prompter** gives superior expression levels. The **engineered EF1a promoter** is non-tissue specific, highly expressed in all cell types, and less likely be silenced after long-term culture.

   A fluorescent marker (GFP or RFP) is included and is bicistronically expressed under the same promoter as that for luciferase, mediated by a F2A element. Each particle also contains an antibiotic, Blasticidin, Puromycin or Neomycin under a RSV promoter. See vector map below.

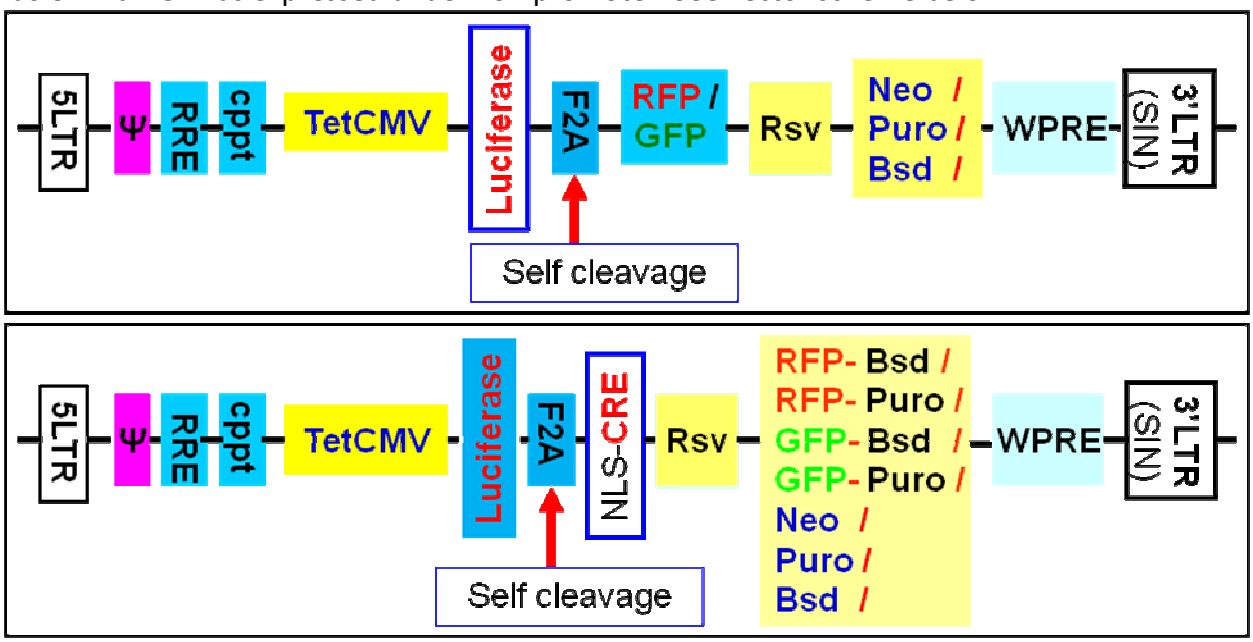
Vector map scheme 1: Constitutive expression lentivectors:



2. **Optional tetracycline inducible expression**:

Particles are generated from an **optional tetracycline inducible** lentiviral vector system. A fluorescent marker is bicistronically expressed under the same promoter, mediated by a F2A element. Each particle also contains an antibiotic, Blasticidin, Puromycin or Neomycin under a RSV promoter.

For Luciferase and CRE recombinase double expression lentivirus, Luciferase and CRE were bicistronically expressed under the same promoter, and the fluorescent and antibiotic **dual fusion marker** was expressed under RSV promoter. See vector scheme below.



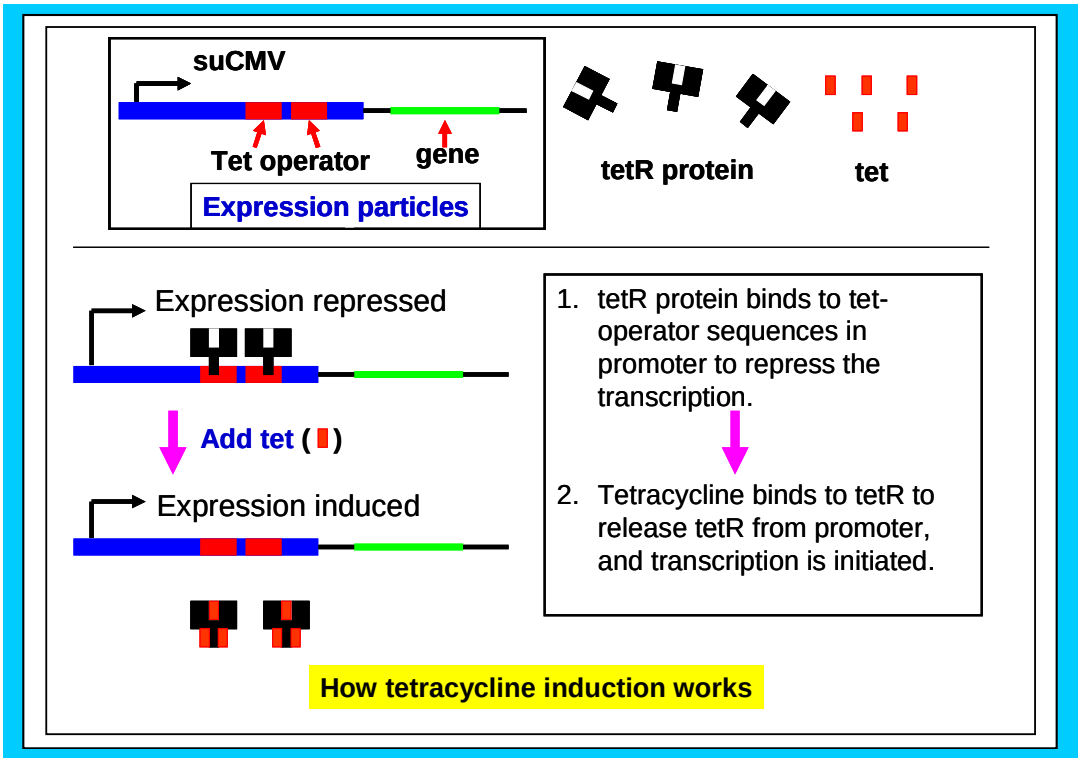
About the inducible expression:

Luciferase was expressed under a tetracycline inducible suCMV promoter. All ready-to-used expression luciferase particles can be used for constitutive high expression of luciferase without using any induction. However, the particles can be **optionally** used as tetracycline induced expression when the tetracycline regulator protein (tetR) is present in advance. The tetR must be expressed in advance to stop the particles' transcription, and the expressed was activated by adding tetracycline (see the picture below for details). This inducible expression is tetracycline's

dose dependent. In general, the amount of tetracycline is used at 1ug/ml final concentration. The image below illustrates how the inducible expression works.

If inducible expression is desirable, the repressor regulator (tetR) expression must be delivered in advance or at the same time for transduction. The presence of tetR can be achieved by the following methods:

- tetR is already expressed in a **TetR stable cell line** that constantly express tetR protein in advance; (note: AMSBIO provides **premade TetR stable cell line** with different selection markers);
- Transfect a tetR expression plasmid before transduce lentiviral particles;
- Co-transduce both the tetR repressor particles and the gene expression particles into the sample cells. The double transduced cells can be selected by double antibiotics, and then used for inducible expression. (Note: AMSBIO provides "**premade tetR particles**" with different antibiotics for double selecting the transduced cells).



Key features:

1. High luciferase expression level and high viral titer;
2. Used as constitutive expression, or optionally as tetracycline inducible expression;
3. Easy transduction monitoring via the fluorescent signal (not for all particles);
4. Dual markers and wide antibiotic marker selection: transduced cells can be sorted via a fluorescent signal or selected via antibiotics;

5. **The lentivirus are ready and easy to use, simply add 50ul into one well of your cell culture in 24-well plate. The luciferase expression peaks at 3 days post virus transduction.** (**Note**: dependent upon your specific needs, you may design the transduction with different MOI for different levels of expression.)

Transduction Protocols (for common cell lines):

1. Adhesive cells Transduction Protocols:

Note: A quick application 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), pass cell into antibiotic containing medium, or sort the cells 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 10% ~50% confluent.)
For example, seed Hela cells at 0.5 x 10^5/ml x 0.5ml in a well of a 24-well plate;

Day 1: Remove the culture medium from the cells. Add fresh, warmed, complete medium (0.5ml). 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 + (optional): Transduced cell can be sorted out via FACS. Or you can select transduced stable cell line by its specific antibiotics (dependent upon the antibiotic types). A pilot experiment should be done to determine the antibiotic's kill curve for your specific cell line. (Refer to any literatures about How to generate stable cell lines.)

2. Suspension cells transduction Protocols:

1. Grow your cell in your completed suspension culture medium, shaking in flask in CO2 incubator;
2. Measure cell density. When cell grow to ~3 x 10^6 cell/ml, measure cell viability (should > 90%), then diluted cells into 1 x 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: **200ul virus per 2ml cells** (Note: depend upon the cell types; you may need to use more or less viruses). Grow cells in flask, shaking in CO2 incubator.
4. At 24 hour after transduction, add equal amount of fresh medium containing related antibiotics (Note: each particles contain an antibiotic marker and the antibiotic amounts to use is depend upon cell types). Grow cell shaking in CO2 incubator.

5. At 72 hours after transduction, check fluorescence under microscope or calculate the transduction efficiency using cell sorting machine (like FACS or Guava machine).
6. You can sort the fluorescent positive cells or keep selection the antibiotic resistant cell to generate a stable cell lines.

(Note: GFP filter wavelength: Ex450-490 ~Em525; RFP filter: ~Ex545/~Em620. Fusion marker has slightly shifted wavelength, but no need for filter changes.).

Safety Precaution:

Those lentiviral particles adapts must advanced lentiviral safety features (using the third generation vectors with self-inactivation SIN-3UTR), and the ready-to-use lentiviral particles are 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 when handling Lentiviral particles!

Please refer CDC and NIH's guidelines for more details regarding to safety issues:
http://oba.od.nih.gov/rdna_rac/rac_guidance_lentivirus.html

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

Warranty:

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

For general information about our

ready-to-use or custom made lentiviral particles, please consult:

http://www.amsbio.com/Lentivirus.aspx

Related products :

Product Category	Product Description
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 **Cypridina**-luciferase with all different fluorescent and antibiotic markers
iPS factors	Premade lentivirus for human and mouse iPS **(Myc, NANOG, OCT4, SOX2, KLF4**) 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
Living cell imaging	Premade lentivirus particles for Cell Organelle imaging including **Nucleus, Cytoplasm, Endoplasmic Reticulum, Golgi, Mitochondria, Nuclear membrane, Peroxisome, Plasma membrane, Microtubule, Chromatin, Annexin, Actin, Connexin**, and more
shRNA lentivirus	Premade shRNA lentivirus for knockdown a specific genes (**P53, LacZ, Luciferase** and more). Consult our custom service page to have your own shRNA lentivirus made: http://www.amsbio.com/custom-lentivirus-service-inducible-shRNA-lentivirus.aspx
Negative controls	Premade **negative control lentivirus with different markers**: serves as the negative control of lentivirus treatment, for validation of the specificity of any lentivirus target expression effects

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