

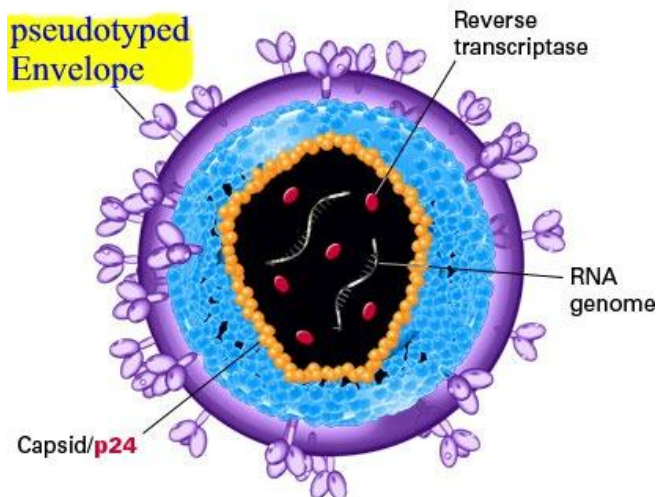


## Virus Like Particles for Different Viral Antigens (Envelope proteins)

Catalog#	Product Name	Amounts
<a href="#">VLP003</a>	COVID-19 S (6His) VLP	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP004</a>	HBsAg-6His Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP005</a>	Zika Envelope-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP006</a>	Rubella Envelope-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP007</a>	Dengue Envelope Protein (6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP008</a>	YFV Envelope-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP009</a>	Ebolavirus Glycoprotein-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP010</a>	HHV-5 Envelope B-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)
<a href="#">VLP011</a>	WNV Envelope-(6His) Viral Like Particles	<b>200ul</b> (1x10 <sup>8</sup> VP/ml)

**Storage:** < -70 °C, avoid repeat freeze/thaw cycles. Stable for > 6 months.

### What is Virus-Like Particles (VLP)?

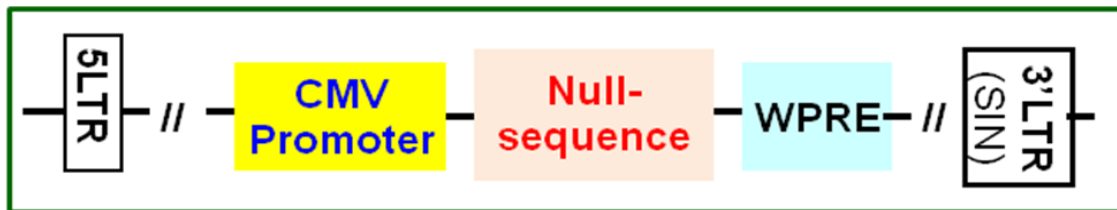




A viral envelope is the outermost layer of the virus, consist of the glycoproteins. It serves to bind the receptor on the host's cell membrane. When desired, the virus can be enveloped with a desired protein (so called pseudo-typing). The glycoproteins that able to maintain a viral particle structure, can be used for packaging VLP (pseudotyped viral particles).

### GenTarget's Lentivirus-Like Particles (VLP):

GenTarget developed the virus-like particle product line with different pseudo-typed envelope protein. They are pseudo-typed with a desired envelope protein **tagged by C-terminal 6His**. They are packaged with a Null genomic material as virion core (see the lentivector core structure scheme below).



Each VLP is pseudo-typed with one of the following envelope protein:

<a href="#">VLP003</a>	COVID-19 Full length Spike Protein (S)-(6His)
<a href="#">VLP004</a>	HBsAg-(6His)
<a href="#">VLP005</a>	Zika Envelope-(6His)
<a href="#">VLP006</a>	Rubella Envelope-(6His)
<a href="#">VLP007</a>	Dengue Envelope Protein-(6His)
<a href="#">VLP008</a>	YFV Envelope-(6His)
<a href="#">VLP009</a>	Ebolavirus Glycoprotein-(6His)
<a href="#">VLP010</a>	HHV-5 Envelope B-(6His)
<a href="#">VLP011</a>	WNV Envelope-(6His)



The VLPs are non-replicative, non-pathogenic and non-infectious to mammalian cells, or only transducer to the specific cell types that containing the corresponding receptor to the pseudo-typed envelope protein.

VLPs are provided in 200ul PBS solution at the concentrated titer of  $1 \times 10^8$  VP/ml. The density of envelope protein should much high that the particle titer because each particle contains many copies of the assembled envelope protein.

## Why use VLP?

### 1) Effective presentation of the desired envelope antigen at high density on the particle surface:

The pseudotyped VLPs mimic each envelope protein surface exposure, present the envelope protein on the VLP's surface in high density, and easier access to immune response or bind to the corresponding antibodies. They are highly immunogenic and more effectively activate the immune response. Therefore, the most effective antibodies can be raised from the VLP.

The VLPs can be used to study the structural properties of each envelope protein, and can be used for antibody development and validation, or can be used in platform for high through-put research in vaccine research, development and validation.

### 2) Easy to use:

Those VLPs are premade, ready to use. No need antigen purification or sample preparation. You simply coat the VLP as antigen, onto wells in ELISA plate, for its antibody / vaccine detection or validation. They can response to or be detected by the envelope specific antibody and by anti-C-term 6His antibody.

## Safety Precaution:

GenTarget lentiviral particles adapts 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 when handling Lentiviral particles! Please refer CDC and NIH's guidelines for more details regarding to safety issues.

## Warranty:

**This product is for research use only.** It is warranted to meet its quality as described when used in accordance with its instructions. GenTarget disclaims any



implied warranty of this product for 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.

## Related Products: GenTarget's Pre-made lentivirus Products:

<b>Lentivirus Category</b> (click to see)	<b>Product Description</b>
<a href="#">Target Expression</a>	Premade lentivirus express a <b>human, mouse or rat</b> gene with Fluorescent-Antibiotic fusion dual selection.
<a href="#">Luciferase expression</a>	Premade lentivirus express all kinds of luciferase: <b>firefly; Renilla; Cypridina; Red-Luc; Nano-Luc</b> , with different fluorescent and antibiotic selection.
<a href="#">Fluorescent markers</a>	Preamde lentivirus express human codon optimized fluorescent protein, <b>GFP / RFP / CFP / BFP / YFP/niRFP /unstable GFP, etc.</b>
<a href="#">Cytoskeleton Imaging</a>	Fluorescent ( <b>GFP / RFP/ CFP</b> ) labelled cell skeleton protein (Actin; Tubulin; Paxillin; Vimentin)
<a href="#">Cell Organelle imaging</a>	Premade lentivirus for cell organelle imaging. The fluorescent labelled cell organelle lentivirus for living cell imaging.
<a href="#">CRISPR /hu CAS9</a>	Preamde lentivirus express humanized wild-type <b>Cas9</b> endonuclease for genomic editing by <b>CRISPR</b>
<a href="#">Fluorescent Fusion target</a>	Lentivirus express the " <b>Fluorescent-Target</b> " fusion proteins. A desired target is fused to <b>Green, Blue, Red</b> , or <b>Cyan</b> Fluorescent Protein, demonstrating the target's functionality and localization
<a href="#">CRE recombinase</a>	Premade lentivirus for expressing <b>nuclear permeant CRE</b> recombinase with different fluorescent and antibiotic markers.
<a href="#">LoxP ColorSwitch</a>	Premade lentivirus expressing "LoxP- <b>GFP-Stop-LoxP-RFP</b> " cassette, used to monitor the CRE recombination event in vivo.
<a href="#">SEAP Reporter</a>	<b>SEAP</b> (Secreted Embryonic Alkaline Phosphatase) secreted expression lentivirus under different promoter.
<a href="#">TetR repressor expression</a>	Premade lentivirus expressin <b>TetR</b> (tetracycline regulator) protein, the repressor protein for the inducible expression system.



<a href="#">rtTA Expression</a>	Lentivirus express the reverse tetracycline transcription activator gene, rtTA-M2 with different selection.
<a href="#">Pathway Reporter</a>	Different Report lentivirus ( <b>Luc, RFP, GFP, SEAP</b> ) under a pathway specific response promoter.
<a href="#">Cell Immortalization</a>	Comprehensive lentivirus for cell immortalization, for different cell types.
<a href="#">Cell Specific reporter</a>	Different Report lentivirus driven by cell specific promoter.
<a href="#">Infectious Antigens</a>	Lentivirus express all kinds of infectious antigens.
<a href="#">Viral Like Particle (VLP)</a>	Lentiviral particles pseudo-typed with high density of surface envelope protein.
<a href="#">Immuno Therapy</a>	Lentivirus products for Immuno Therapy application.
<a href="#">iPS factors</a>	Premade lentivirus for human and mouse iPS ( <b>Myc, NANOG, OCT4, SOX2, FGF4</b> ) factors with different fluorescent and antibiotic markers
<a href="#">LacZ expression</a>	Express different full length <b><math>\beta</math>-galactosidase (lacZ)</b> with different selection markers
<a href="#">Anti-miRNA lentivirus</a>	Pre-made lentivirus expression a specific <b>anti-miRNA</b> cassette.
<a href="#">Pre-made shRNA lentivirus</a>	Premade shRNA lentivirus for knockdown a specific genes ( <b>P53, LacZ, Luciferase</b> and more).
<a href="#">microRNA and anti-microRNA lentivirus</a>	Premade lentivirus expression human or mouse <b>precursor miRNA</b> . And <b>anti-miRNA</b> lentivector and virus for human and mouse miRNA.
<a href="#">Negative control lentiviruses</a>	Premade <b>negative control lentivirus with different markers</b> : serves as the negative control of lentivirus treatment, for validation of the specificity of any lentivirus target expression effects.
<a href="#">Other Enzyme</a>	Ready-to-use lentivirus, expressing <b>specific enzymes</b> with different selection markers.