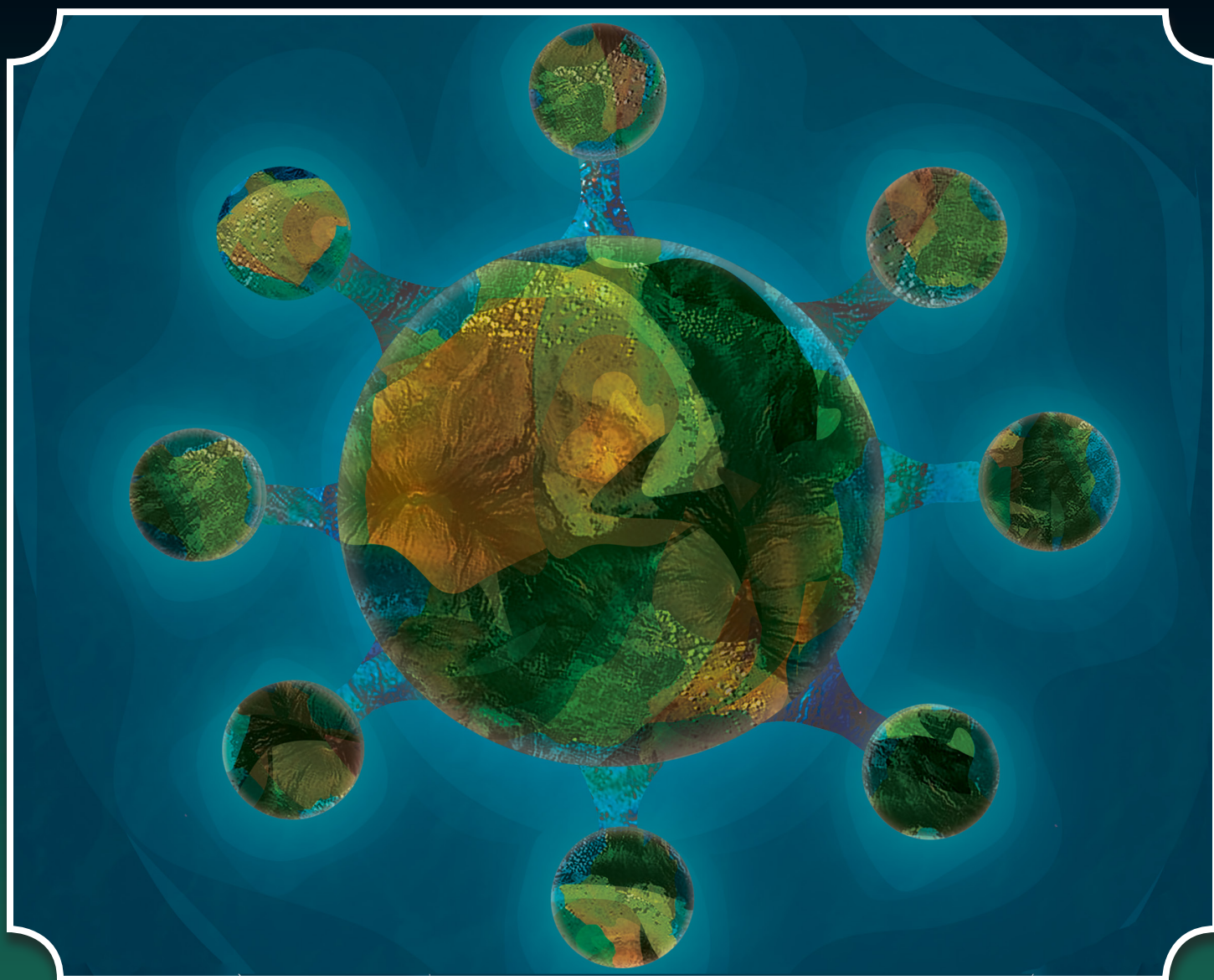


VIRUS-BASED TOOLS

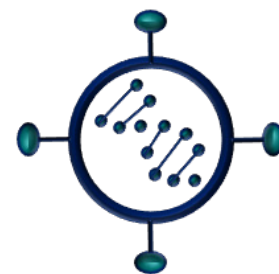
FOR DRUG DISCOVERY

Lentivirus | Vesicular Stomatitis Virus | Adeno-Associated Virus

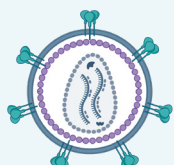


Optimized Viral Options

Virus-based tools such as Lentivirus, Adeno-Associated Virus (AAV), and Vesicular Stomatitis Virus (VSV) are critical for cell engineering and the study of viral infection. We have designed a suite of ready-to-use viral reagents to address a wide span of research areas including virology (particularly Coronaviruses), immunotherapy, CAR-T therapy, CRISPR, cell signaling, and more.

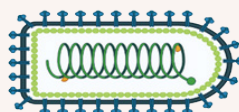


Lentivirus



Ideal for pseudotyping or engineering stable cell lines, lentiviruses deliver relatively large genes that can integrate into the host genome.

VSV



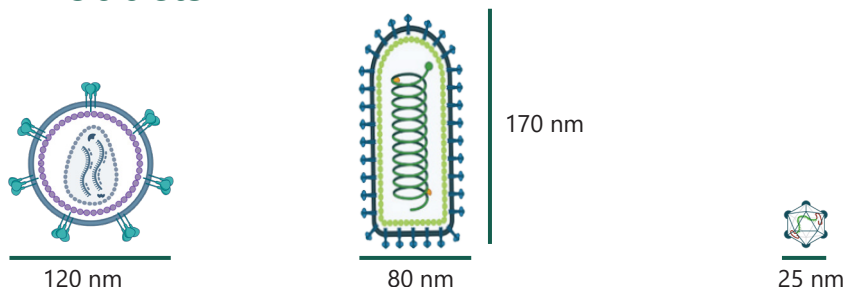
VSV is an excellent tool to model viral infection using pseudotyped viruses that replace the VSV-G protein with a desired viral protein of interest. Some cell infectivity models work best with VSV.

AAV



AAV is an ideal viral vector for delivery into primary cells both *in vitro* and *in vivo*. Its low immunogenicity and pathogenicity enable safe gene therapy.

Comparison of Viral Products



	HIV-based lentivirus	VSV Delta G	AAV
Genome size	9.7 kb	11 kb	4.7 kb
Suggested max insert size	10 kb	4.5 kb	2.5 kb
Genome type	ssRNA	ssRNA	ssDNA
Pseudotyping	Yes	Yes	No
Integration	Yes – stable (retrovirus)	No	No
Transduce exogenous gene of interest	Yes -stable	Yes - transient	Yes >6 months
Time to peak expression	72 hours	24-48 hours	7 days (2 weeks <i>in vivo</i>)
Biosafety level	2	2	1
<i>In vivo</i> use (animals)	Low efficiency	-	Most suitable
Immune response	Yes, medium	-	Ultra-low
Preferred applications	Gene transfer (<i>in vitro</i> , stable)	Model viral infection	Gene transfer (<i>in vitro</i> and <i>in vivo</i>)



Our Advantages



Produced In-House

- Made in the USA at our San Diego, CA laboratory
- Customized, personal support directly from our scientists



Committed to Excellence

- ISO 9001:2015-certified Quality Management System
- Lot-specific quality control testing



Expansive Portfolio

- Choose from over 140 ready-to-use lentivirus, AAV, and VSV vectors to study CAR-T, cell signaling pathways, coronavirus, CRISPR, and immunotherapy
- Long-term stable expression of a transgene with low immunogenicity, low toxicity, and high transduction efficiencies



Custom Services

- Design a custom virus with reporters and selection markers of your choice
- Utilize our cell line development services to generate overexpression and reporter cell lines
- Generate knock-out/knock-in cell lines or integrating/non-integrating viruses

Online Resources



Lentivirus Tools Webinar

<https://bpsbioscience.com/videos?topic=lentiviruses>



Lentivirus FAQs

<https://bpsbioscience.com/lentivirus-faq>



Lentiviruses for SARS-CoV-2 Research Tech Note

<https://bpsbioscience.com/pseudoviruses-sars-cov-2-research>



SARS-CoV-2 Pseudoviruses eBook

<https://bpsbioscience.com/ebooks?category=coronavirus>



Lentivirus Products

Lentiviruses are enveloped retroviruses that fuse with the target cell membrane, delivering genetic material into the cytoplasm of the cell. Our replication-incompetent lentiviruses have been VSV-G pseudotyped, making these virus particles safe, stable and especially useful to target a wide range of cell types. For infectivity assays, we have developed lentiviral products pseudotyped with SARS-CoV-2 spike proteins, specific to variant mutations. Our suite of over 120 lentivirus products enables studies across a wide range of research areas.

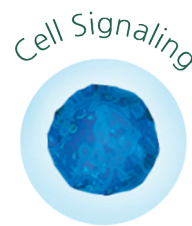
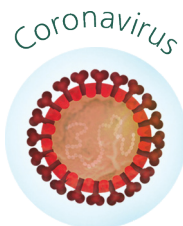
Applications

- Stable cell line generation
- Protein expression
- CRISPR/Cas9 knockout
- Generating cellular reporter assays (GFP, luciferase)
- Screen for neutralizing antibodies

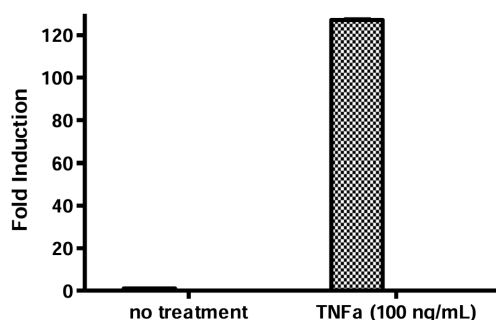
Advantages

- Can infect actively dividing and non-dividing cells
- Can infect a wide range of cell stages
- Size of inserted DNA can be up to 10 kb
- Long term stable expression of a transgene
- Low cellular toxicity
- High transduction efficiency

Research Areas

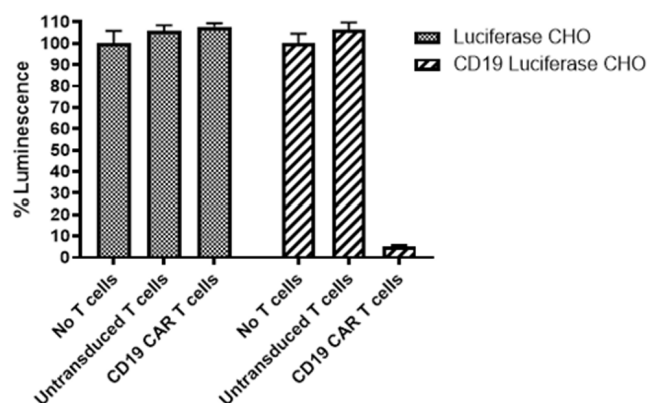


TNF α response of HEK293 cells transduced with NF- κ B luciferase reporter lentivirus (#79564)



HEK293 cells transduced with NF- κ B luciferase reporter lentivirus demonstrate induction of luciferase activity upon activation with TNF α . Fold induction was determined by comparing values against the control cells without TNF α treatment.

Activity of CD4/CD8 T cells transduced with anti-CD19 CAR Lentivirus (#78600)



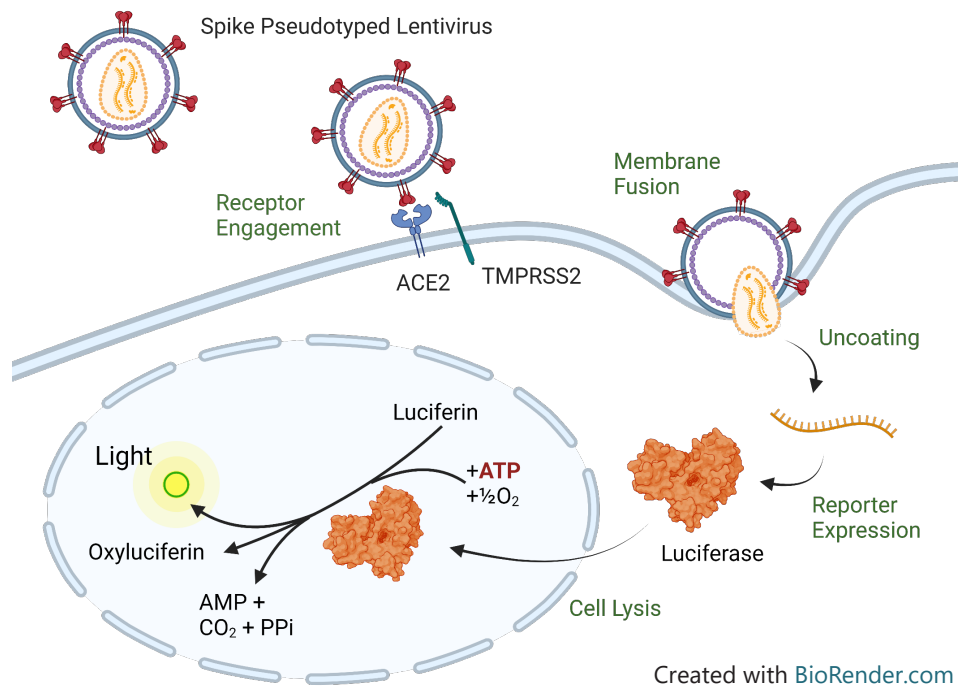
Anti-CD19 CAR Lentivirus-transduced T cells demonstrate specific killing of CD19/Luciferase CHO cells.



Pseudoviruses for Modeling Infection

Principle of the Assay

Lentivirus and VSV vectors can be pseudotyped, which involves replacing the native envelope protein with another viral protein of interest. For example, variant-specific SARS-CoV-2 Spike protein can be expressed on lentivirus or VSV delta G particles for infection of ACE2-expressing cells. The delivered genomes are engineered to express reporter genes such as luciferase or eGFP, enabling sensitive, quantitative readouts of infection. These systems serve as excellent models to screen for blocking antibodies or small molecule inhibitors of infection.



Created with BioRender.com

Options for Optimal Experimentation

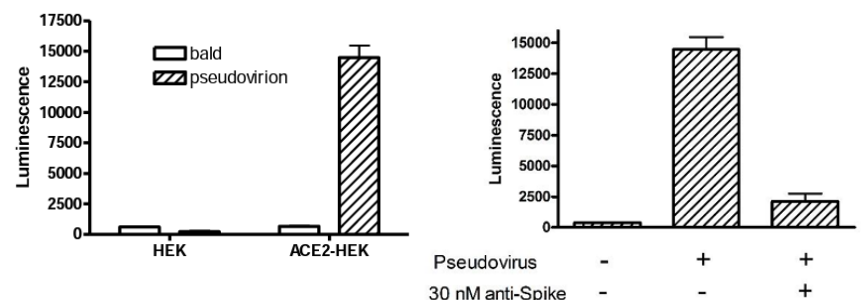
Virus Type	Reporters	Target Cell Types	Coronavirus Spike Variants
- Lentivirus - VSV delta G (preferred for Vero E6 infection)	- Luciferase - eGFP - Dual (Luc+eGFP)	- HeLa (ACE2) - CHO (ACE2) - HEK293 (ACE2) - Vero E6 (TMPRSS2)	- SARS-CoV-2 emerging variants: BA.4/5, BA.2, BA.1 - Previous variants of interest: B.1.621, B.1.617.2, B.1.617.1, and many more.

Advantages

- High titer
- Simple protocols, suitable for high throughput assays
- Bald Lentivirus and VSV delta G controls
- Lentiviruses to express receptors: ACE2, TMPRSS2
- Quickly customizable to address emerging variant mutations or new viruses

Example Data

Spike (SARS-CoV-2) Pseudotyped Lentivirus (Luc-eGFP Dual Reporter) (#79982) transduction of ACE2-HEK293 cells monitored by luciferase activity



AAV Gene Delivery and Reporter Vectors

Adeno-Associated Virus (AAV) is a small dependoparvovirus which was initially discovered as a contaminant in adenovirus preparations. AAVs are non-enveloped and consist of an icosahedral capsid containing a short, single-stranded DNA genome flanked by two Inverted Terminal Repeat sequences (ITRs).



Recombinant AAV used in gene therapy has been engineered to be integration-deficient and to deliver a gene of interest (up to ≤ 5 kb in length) in place of the viral genome. Inside the cell, the recombinant AAV vector exists as an episome and can result in sustained expression of the gene of interest for up to 6 months in non-dividing cells. Due to its low immunogenicity and lack of insertional mutagenesis, AAVs are safe for clinical use and are the vector of choice for many gene therapies currently in development.

AAV Serotypes

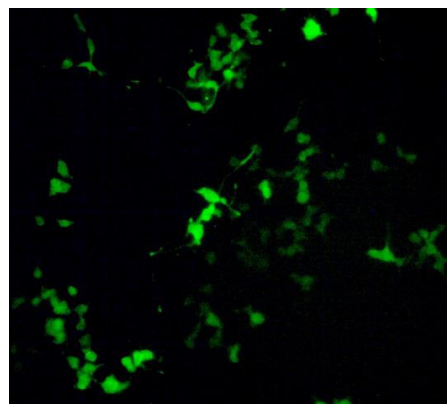
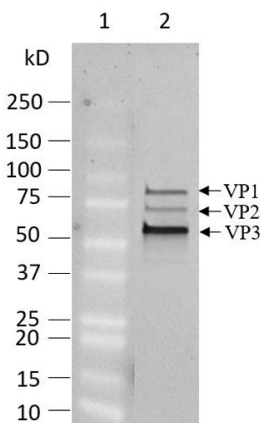
To date, 11 AAV serotypes have been characterized, each of these showing preferential binding for specific cell types and tissues. Thus, scientists can utilize this tropism to efficiently target specific cell types. In addition, several genetically engineered AAV serotypes have been developed to further increase tissue tropism and transduction efficiency for gene therapy purposes.

AAV1	CNS, Heart, Skeletal Muscle
AAV2	CNS, Kidney
AAV3	Liver
AAV4	CNS, Lung
AAV5	CNS, Lung
AAV6	Lung, Skeletal Muscle
AAV7	Liver, Skeletal Muscle
AAV8	CNS, Heart, Liver, Pancreas, Skeletal Muscle
AAV9	CNS, Heart, Liver, Lung, Skeletal Muscle

AAV Reporter Particles

Reporter proteins, such as luciferase or fluorescent markers, are ideal to visualize and/or quantify protein expression following AAV transduction. Luciferase, eGFP, ZsGreen, and mCherry-containing AAVs can be used to optimize transduction and experimental conditions, track transgene expression over time, or be used as internal controls.

Example data for AAV1 ZsGreen particles (#78443)



Left: Western blot of purified AAV1 ZsGreen particles display clear expression of AAV proteins: VP1, VP2, and VP3.

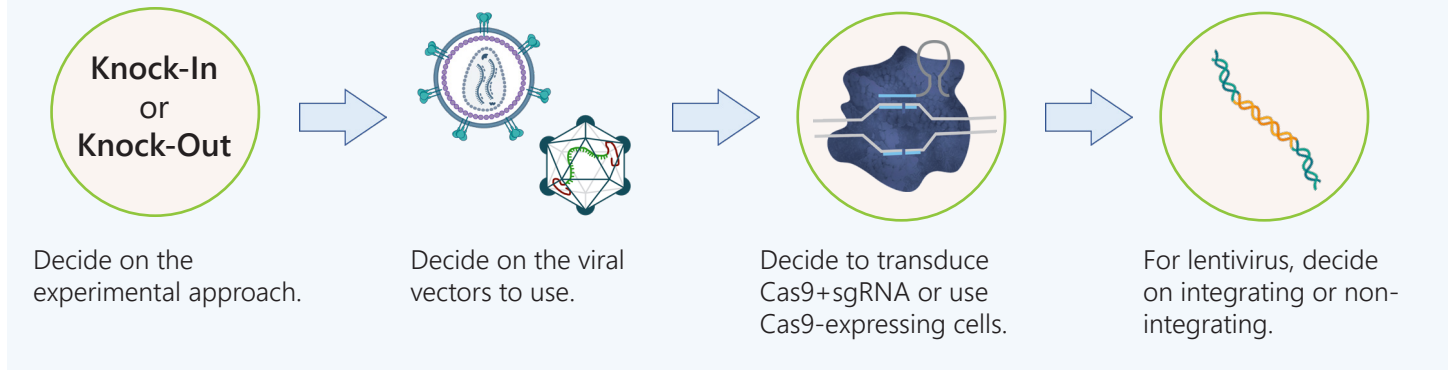
Right: Fluorescence microscopy of HEK293 cells 72 hours after transduction with AAV1 ZsGreen. ZsGreen expression was stable over time and still observed 30 days post transduction.



CRISPR/Cas9 Cell Engineering

Lentivirus and AAV vectors can be used for CRISPR/Cas9-based cell engineering. Our off-the-shelf CRISPR lentiviruses are replication incompetent, HIV-based, VSV-G pseudotyped lentiviral particles that can transduce almost all types of mammalian cells, including primary and non-dividing cells. AAV can also be used to transduce primary cells, including *in vivo*, with SaCas9, derived from *Staphylococcus aureus*, which has high cutting efficiency in mammalian cells.

The Logic Flow



Integrating vs Non-Integrating Lentiviruses

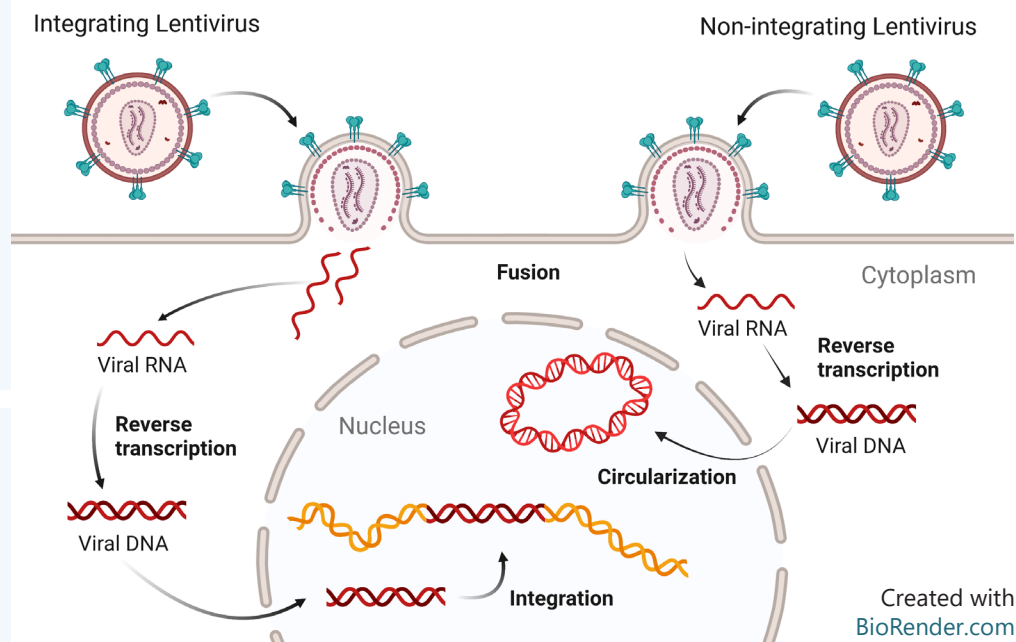
Lentiviruses are typically constructed to include the wild-type integrase enzyme that will integrate the Cas9 and sgRNA genes into the host genome. Alternatively, a non-active mutant integrase can be used, resulting in a non-integrating virus. Each has benefits and limitations which are compared below.

Integrating

- Puromycin selection increases knock-out efficiency by ensuring high expression of Cas9 and the sgRNA
- Generates higher knock-out efficiencies in a cell pool
- Increased risk of off-target gene disruptions

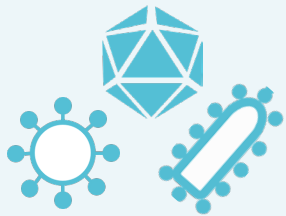
Non-Integrating

- Transient expression of Cas9 and sgRNA*
- Prolonged puromycin selection not required
- Eliminates risk of off-target effects
- Overall percentage of knockouts may be lower, so limiting dilution is required

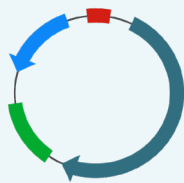


*Note that although non-integrating lentiviruses only transiently express Cas9 and sgRNA, they can still be used to generate stable cell lines because the changes in the genomic DNA from the Cas9 nuclease activity and NHEJ repair are permanent.

Custom Virus Services



We can develop custom viruses for your research needs.



We can engineer your virus and cell lines with reporters, selection markers, variants, and specific mutations.



We can generate custom stable overexpression, knockout, or reporter cell lines using your virus.



Choose integrating or non-integrating lentiviruses for cellular protein knock-out or knock-in.

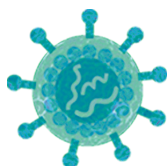
Our Milestone-Measured Process for Virus-Based Cell Engineering



1

Molecular Biology

Viral vectors are generated using available clones, or through the use of synthetic DNA.



2

Virus Production

The custom virus is manufactured for development of the stable cell line.



3

Selection and Pool Generation

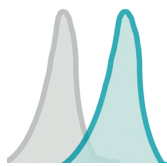
Parental cells are transduced with virus. The cell pool is selected for using antibiotics.



4

Limiting Dilution and Clonal Selection

Based on the results of the initial pool testing, the cell pool is diluted and single cell-derived clones are selected.



5

Confirmation of Expression

The expression level of the target protein is analyzed via Western blot or flow cytometry.



6

Functional Validation

Cells are treated with a reference control compound to obtain dose-response titration data.



7

Stability Testing

The desired number of clones are selected for passage stability testing. Mycoplasma testing and cell banking services are also available.

Why choose BPS Bioscience for your custom projects?

- We have extensive expertise and experience in developing and manufacturing custom and off-the-shelf viral products.
- We have helped accelerate projects across large pharma, vaccine developers, biotech and basic research institutions.
- Our high quality custom products have returned excellent customer satisfaction scores.

Give us a try today.



Lentiviruses	Catalog#
ACE2 Lentivirus	79944
Anti-BCMA CAR Lentivirus (Clone C11D5.3 ScFv-CD8-4-1BB-CD3ζ)	78655
Anti-BCMA CAR Lentivirus (VHH1/VHH2 ScFv-CD8-4-1BB-CD3ζ)	78783

Lentiviruses	Catalog#
Anti-CD19 CAR Lentivirus (CD19 ScFv-CD8-4-1BB-CD3ζ)	78600
Anti-CD19 CAR Lentivirus (CD19 ScFv-CD8-4-1BB-CD3ζ, eGFP)	78775
Anti-CD19 CAR Lentivirus (CD19 ScFv-CD8-4-1BB-CD3ζ, PuroR)	78602
Anti-CD19 CAR Lentivirus (CD19 ScFv-CD8-4-1BB-CD3ζ; SIN Vector)	78601
Anti-CD19/CD22 Bispecific CAR Lentivirus (Clones FMC63/m971 ScFv-CD8-4-1BB-CD3ζ)	78609
Anti-CD20 CAR Lentivirus (Clone Leu-16 ScFv-CD8-4-1BB-CD3ζ)	78606
Anti-CD22 CAR Lentivirus (Clone m971 ScFv-CD8-4-1BB-CD3ζ)	78608
Anti-Mesothelin CAR Lentivirus (P4 ScFv-CD8-4-1BB-CD3ζ)	78703
AP1 eGFP Reporter Lentivirus (JNK Signaling Pathway)	78680
AP1 Luciferase Reporter Lentivirus (JNK Signaling Pathway)	79823
ARE Luciferase Reporter Lentivirus	79869
ATF6 Luciferase Reporter Lentivirus (ATF6 Pathway)	78667
B2M (Human) CRISPR/Cas9 Lentivirus (Integrating)	78340
B2M (Human) CRISPR/Cas9 Lentivirus (Non-Integrating)	78341
B7-H4 Lentivirus	78727
Bald Lentiviral Pseudovirion (eGFP Reporter)	79987
Bald Lentiviral Pseudovirion (Luc-eGFP Dual Reporter)	79988
Bald Lentiviral Pseudovirion (Luciferase Reporter)	79943
BCMA CRISPR/Cas9 Lentivirus (Integrating)	78893
BCMA CRISPR/Cas9 Lentivirus (Non-Integrating)	78894
BCMA Lentivirus	78714
Cas9 Lentivirus (Hygromycin Selection)	78067
Cas9 Lentivirus (Inducible Tet-On)	78794
Cas9 Lentivirus (Neomycin Selection)	78432
Cas9 Lentivirus (Puromycin Selection)	78066
CBL-B (Human) CRISPR/Cas9 Lentivirus (Integrating)	78343
CBL-B (Human) CRISPR/Cas9 Lentivirus (Non-Integrating)	78344
CD19 Lentivirus	78657

Lentiviruses	Catalog#
CD20 Lentivirus	78658
CD22 Lentivirus	78659
CD40 Ligand (CD40L) Lentivirus	78931
CD47 CRISPR/Cas9 Lentivirus (Integrating)	78056
CD47 CRISPR/Cas9 Lentivirus (Non-Integrating)	78063
CD5 (Human) CRISPR/Cas9 Lentivirus (Integrating)	78119
CD5 (Human) CRISPR/Cas9 Lentivirus (Non-Integrating)	78198
CD8a Lentivirus	78648
CD8a/CD8b Lentivirus	78650
CEACAM5 Lentivirus	78719
CEACAM6 Lentivirus	78720
CIITA (Human) CRISPR/Cas9 Lentivirus (Integrating)	78435
CIITA (Human) CRISPR/Cas9 Lentivirus (Non-integrating)	78434
Claudin-3 Lentivirus	78722
Claudin-4 Lentivirus	78723
Claudin-9 Lentivirus	78721
CRBN CRISPR/Cas9 Lentivirus (Integrating)	78517
CRBN CRISPR/Cas9 Lentivirus (Non-Integrating)	78518
CRE/CREB eGFP Reporter Lentivirus	78153
CRE/CREB Luciferase Reporter Lentivirus	79580
CRISPR/Cas9 Kinase Knockout Lentivirus Library (Array Format)	78487
CSL (CBF1/RBP-Jk) Luciferase Reporter Lentivirus (Notch Signaling Pathway)	78746
CTLA4 CRISPR/Cas9 Lentivirus (Integrating)	78054
CTLA4 CRISPR/Cas9 Lentivirus (Non-Integrating)	78061
Cyno EpCAM Lentivirus	78978
DLL1 Lentivirus	82340
DLL3 Lentivirus	78909
DLL4 Lentivirus	82341

Lentiviruses	Catalog#	Lentiviruses	Catalog#
Dominant Negative TGF- β Receptor Type II (TGF- β RII) Lentivirus	78928	HSE Luciferase Reporter Lentivirus (Heat Shock Response)	78669
eGFP Lentivirus (Inducible TET On)	78629	Human CD4 Lentivirus (Hygromycin)	78987
EGR1 Promoter Luciferase Reporter Lentivirus	78664	IL-2 Promoter Luciferase Reporter Lentivirus	79825
Enhanced GFP Lentivirus (G418, Hygromycin and Puromycin)	78639	IL-8 Promoter Luciferase Reporter Lentivirus	79827
EpCAM Lentivirus	78718	IL15/IL15Ra Lentivirus	78938
Expression Negative Control Lentivirus (EF1A Promoter/Hygromycin, Puromycin, or G418)	82212	ISRE Luciferase Reporter Lentivirus (JAK/STAT Signaling Pathway)	79824
Expression Negative Control Lentivirus (G418 or Hygromycin or Puromycin)	79902	Kinase (Human) CRISPR/Cas9 Lentivirus (Integrating)	78488
FcER1G Lentivirus	79878	KRAS G12D-Specific TCR Lentivirus (Clone 10)	78937
FCGR2A CRISPR/Cas9 Lentivirus (Integrating)	78537	KRAS G12D-Specific TCR Lentivirus (Clone 9c)	78936
FCGR2A CRISPR/Cas9 Lentivirus (Non-Integrating)	78538	LAG3 CRISPR/Cas9 Lentivirus (Integrating)	78053
FcGR1B (CD32B) Lentivirus	79877	LAG3 CRISPR/Cas9 Lentivirus (Non-Integrating)	78060
FcGR1IA (CD16a) Lentivirus	79876	LAIR1 Lentivirus	78903
FcRL5 Lentivirus	78715	LYPD1 Lentivirus	78724
FcRL5 Lentivirus (Macaca fascicularis/Cynomolgus)	78781	MAGE-A1-Specific TCR Lentivirus (Clone 1367)	78934
Firefly Luciferase Lentivirus (EF1A Promoter/Geneticin, Hygromycin, or Puromycin)	78740	MAGE-A4 Specific TCR Lentivirus	78935
Firefly Luciferase Lentivirus (G418, Hygromycin and Puromycin)	79692	MART-1-Specific TCR Lentivirus (Clone DMF4)	78678
Firefly Luciferase Lentivirus (UbC Promoter)	79880	MART-1-Specific TCR Lentivirus (Clone DMF5)	78679
Firefly Luciferase-eGFP Lentivirus (EF1A Promoter/Geneticin, Hygromycin, or Puromycin)	78741	mCherry Lentivirus (Hygromycin or Puromycin)	78932
Firefly Luciferase-eGFP Lentivirus (G418) or (Puromycin)	79980	Membrane-Bound TNF α (mTNF α) Lentivirus	78955
FOLR1 Lentivirus (Macaca fascicularis/Cynomolgus)	78778	Myc Luciferase Reporter Lentivirus	78628
GAL4 DBD-GR Lentivirus	78632	Nectin-4 Lentivirus	78712
GAS Luciferase Reporter Lentivirus (IFN- γ /JAK/STAT1 Pathway)	78653	Negative Control eGFP Reporter Lentivirus	79927
GPC3 Lentivirus	78711	Negative Control Luciferase Lentivirus	79578
GPRC5D Lentivirus	78716	NF- κ B eGFP Reporter Lentivirus	79926
GPRC5D Lentivirus (Macaca fascicularis/Cynomolgus)	78780	NF- κ B Luciferase Reporter Lentivirus	79564
HLA-C*08:02 Lentivirus	78930	NFAT eGFP Reporter Lentivirus	79922
HLA-E Lentivirus	78929	NFAT Luciferase Reporter Lentivirus	79579
HRE Luciferase Reporter Lentivirus	78668	NFAT Luciferase-eGFP Reporter Lentivirus	78656

Lentiviruses	Catalog#	Lentiviruses	Catalog#
NFAT Luciferase-RFP Reporter Lentivirus	78617	Spike (B.1.1.7, Alpha Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78112
NKp46 Lentivirus	78717	Spike (B.1.351, Beta Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78160
NKp46 Lentivirus (Macaca fascicularis/Cynomolgus)	78779	Spike (B.1.351, Beta Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78142
NLRP3 CRISPR/Cas9 Lentivirus (Integrating)	78545	Spike (B.1.429, Epsilon Variant) Pseudotyped Lentivirus (Luc Reporter)	78172
NLRP3 CRISPR/Cas9 Lentivirus (Non-Integrating)	78546	Spike (B.1.617 Variant) Pseudotyped Lentivirus (Luc Reporter)	78204
NLRP3 Human shRNA Lentivirus	82122	Spike (B.1.617.1, Kappa Variant) Pseudotyped Lentivirus (Luc Reporter)	78205
Non-secreted Gaussia Luciferase Lentivirus (CMV Promoter)	79893-C	Spike (B.1.617.2.1; Delta Plus Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78219
Notch1dE Lentivirus	78747	Spike (B.1.617.2.1; Delta Plus Variant) Pseudotyped Lentivirus (Luc Reporter)	78218
Nuclear eGFP Lentivirus (Puromycin)	78976	Spike (B.1.617.2; Delta Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78216
NY-ESO-1-Specific TCR Lentivirus (Clone 1G4)	78675	Spike (B.1.617.2; Delta Variant) Pseudotyped Lentivirus (Luc Reporter)	78215
NY-ESO-1-Specific TCR Lentivirus (Clone c259)	78676	Spike (B.1.618 Variant) Pseudotyped Lentivirus (Luc Reporter)	78206
p53 Luciferase Reporter Lentivirus	78666	Spike (B.1.621, Mu Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78618
PD-1 (Human) sgRNA-MS2 Lentivirus (Integrating)	78190	Spike (BA.1.1, Omicron Variant R346K) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78624
PD-1 CRISPR/Cas9 Lentivirus (Integrating)	78052	Spike (BA.1.1, Omicron Variant R346K) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78623
PD-1 CRISPR/Cas9 Lentivirus (Non-Integrating)	78059	Spike (BA.2, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78626
PD-L1 CRISPR/Cas9 Lentivirus (Integrating)	78057	Spike (BA.2, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78625
PD-L1 CRISPR/Cas9 Lentivirus (Non-Integrating)	78064	Spike (BA.2.12.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78646
PD-L1 Lentivirus	78925	Spike (BA.2.12.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78645
PRAME-Specific TCR Lentivirus	78959	Spike (BA.2.86, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78982
PSMA Lentivirus	78726	Spike (BA.2.86, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78980
Renilla Luciferase Lentivirus (G418 or Puromycin)	79565	Spike (BA.4/5, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78652
Renilla Luciferase-eGFP Lentivirus (Hygromycin or Puromycin)	78958	Spike (BA.4/5, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78651
RFP Lentivirus	78347-P	Spike (BF.7, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78702
SBE Luciferase Reporter Lentivirus (TGFβ/SMAD Pathway)	79806	Spike (BF.7, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78699
Secreted Gaussia Luciferase Lentivirus CMV Promoter or EF1A Promoter	79892	Spike (BQ.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78700
Spike (B.1.1.529 BA.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78349	Spike (BQ.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78697
Spike (B.1.1.529 BA.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78348	Spike (BQ.1.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78701
Spike (B.1.1.7, Alpha Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78158	Spike (BQ.1.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78698

Lentiviruses	Catalog#	Lentiviruses	Catalog#
Spike (D614G) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78035	TEAD Luciferase Reporter Lentivirus	79833
Spike (D614G) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78028	TGFBR2 CRISPR/Cas9 Lentivirus (Integrating)	78535
Spike (JN.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78983	TGFBR2 CRISPR/Cas9 Lentivirus (Non-Integrating)	78536
Spike (JN.1, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78981	TIGIT CRISPR/Cas9 Lentivirus (Integrating)	78058
Spike (K417T, E484K, N501Y) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78143	TIGIT CRISPR/Cas9 Lentivirus (Non-Integrating)	78065
Spike (P.1, Gamma Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78159	TMPRSS2 Lentivirus	78011
Spike (P.1, Gamma Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luc Reporter)	78144	TNFR2 Lentivirus	78765
Spike (SARS-CoV-1) Pseudotyped Lentivirus (eGFP Reporter)	78633	Trop2 Lentivirus	78710
Spike (SARS-CoV-1) Pseudotyped Lentivirus (Luc Reporter)	78614	Trop2 Lentivirus (Macaca fascicularis/Cynomolgus)	78776
Spike (SARS-CoV-2) Lentivirus	78010	UAS Luciferase Reporter Lentivirus	78631
Spike (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	79981	ULBP2 Lentivirus	78744
Spike (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	79942	ULBP2 Lentivirus (Macaca fascicularis/Cynomolgus)	78777
Spike (XBB.1.16, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78785	VSIG4 Lentivirus	78902
Spike (XBB.1.16, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78784	Vy4V61 TCR Lentivirus	78986
Spike (XBB.1.5, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (eGFP Reporter)	78737	Vy9V62 TCR Lentivirus	78985
Spike (XBB.1.5, Omicron Variant) (SARS-CoV-2) Pseudotyped Lentivirus (Luciferase Reporter)	78736	XRE Luciferase Reporter Lentivirus (AhR Signaling)	78672
Spike Variants (SARS-CoV-2) Pseudotyped Lentivirus Pack (Luciferase Reporter)	78616	YFP (Topaz) Lentivirus	79989
Spike(SARS-CoV-2) Pseudotyped Lentivirus (Luc-eGFP Dual Reporter)	79982		
SRE Luciferase Reporter Lentivirus	78627	VSVs	Catalog#
SRE TurboRFP Reporter Lentivirus (Hygromycin)	82310	Bald VSV Delta G (Luciferase Reporter)	78636
STAT3 eGFP Reporter Lentivirus	78197	Spike (B.1.617.2, Delta Variant) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78640
STAT3 Luciferase Reporter Lentivirus	79744	Spike (BA.1.1, Omicron Variant) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78641
STAT5 Luciferase Reporter Lentivirus	79745	Spike (BA.2, Omicron Variant) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78635
STAT6 Luciferase Reporter Lentivirus (STAT6 Signaling Pathway)	78799	Spike (BA.2.12.1, Omicron Variant) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78643
TCF/LEF Luciferase Reporter Lentivirus (Wnt/ β -catenin Signaling Pathway)	79787	Spike (BA.4/5, Omicron Variant) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78644
TCR Activator Lentivirus (CMV Promoter/Puromycin) or (EF1A Promoter/Puromycin) or (EF1A Promoter/Hygromycin)	79894	Spike (D614G) (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78642
TCR CRISPR/Cas9 Lentivirus (Integrating)	78055	Spike (SARS-CoV-2) Pseudotyped VSV Delta G (Luciferase Reporter)	78637
TCR CRISPR/Cas9 Lentivirus (Non-Integrating)	78062	VSV-G Pseudotyped VSV Delta G (Luciferase Reporter)	78634



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