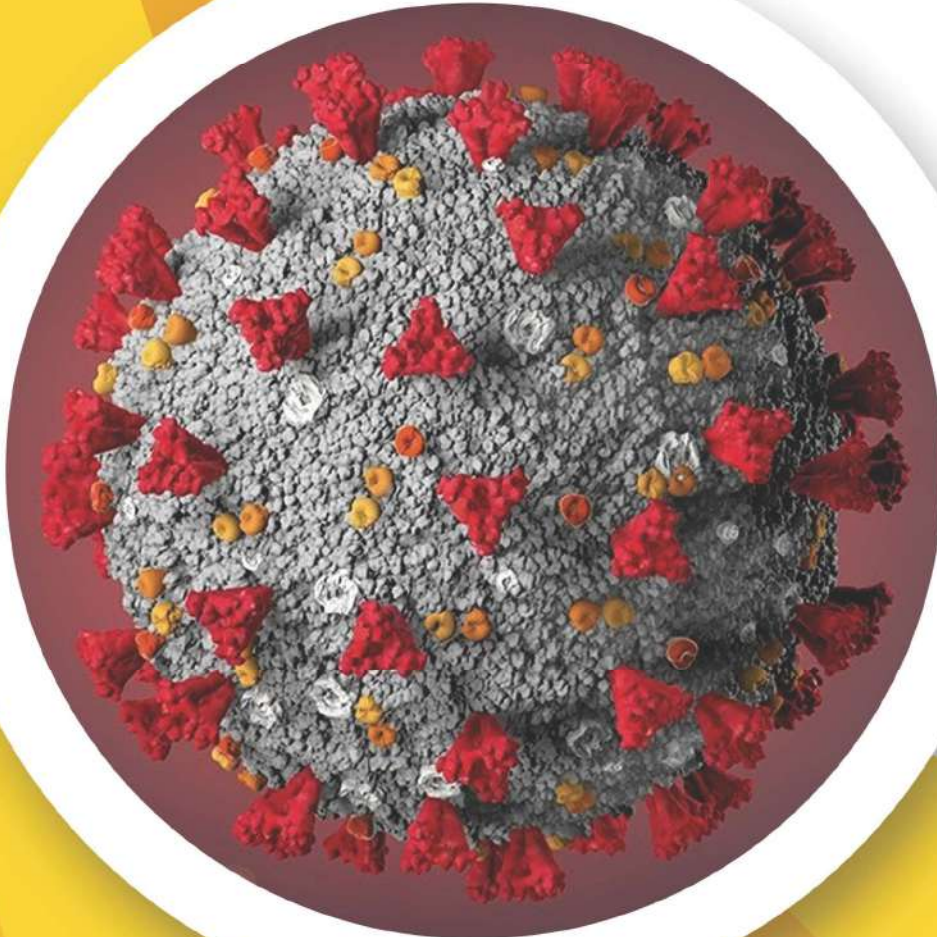




Bio Genomics Asia

LOCAL EXPERT, GLOBAL SOLUTIONS



OUR PRODUCTS

ANTIBODY | PROTEIN | ELISA | PCR CONSUMABLES | MOL BIO KITS | NGS KITS
PLASTICWARE | ORGAN ON A CHIP | 3D BIO PRINTER | BIO INKS | ECM | LIPIDS | BIOCHEMICALS

OUR SERVICES

CUSTOM ANTIBODY | PROTEIN | GENE SYNTHESIS | PEPTIDE
VECTORS | shRNA | CRISPR | VIRUSES



Exploring the Mysteries of Life Science with You

Reagents

ELISA Kit



3000+ ELISA kit / Multiplex assay kit

Protein



750+ Protein

- ◆ CD antigen
- ◆ Fc & Fc receptor
- ◆ Immune checkpoint
- ◆ Cytokines & Cytokine receptor

Molecular Biology



100+ Molecular enzymes

- ◆ RNA & DNA modifying enzymes
- ◆ PCR & RT-PCR & qPCR & RT
- ◆ Ligase & Endonuclease & seamless Cloning

NGS



Illumina / MGI platform

- ◆ DNA library Prep Kit / Adaptor
- ◆ RNA library Prep Kit / Adaptor

Antibodies



15000+ Antibodies

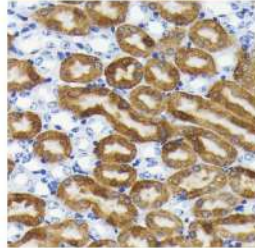
- ◆ Validated antibodies
- ◆ Rabbit mAb
- ◆ Rabbit pAb
- ◆ Mouse mAb
- ◆ Acetylated antibodies
- ◆ Methylated antibodies
- ◆ Phosphorylated antibodies
- ◆ Label Reference substance Secondary antibodies

In-house Validation for Multiple Applications

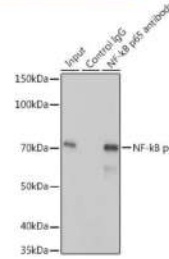
WB validation



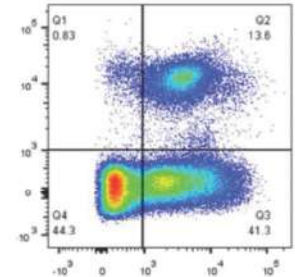
IHC validation



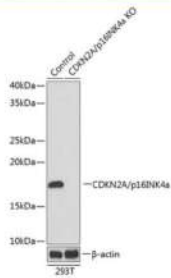
IP validation



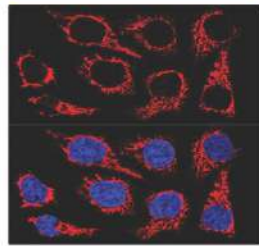
FC validation



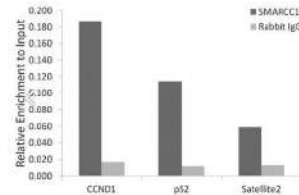
Validation with KO sample



IF validation



CHIP validation



Featured Products and Top-sellers Related Research Area

Cell Biology Research

- ◆ Cell type specific markers
- ◆ Organelle and subcellular markers
- ◆ Cell cycle and DNA damage
- ◆ Cell stress regulation
- ◆ Cytoskeleton

Cancer Research

- ◆ Cell adhesion molecules
- ◆ ECM & EMT
- ◆ Cancer metabolism
- ◆ Cancer biomarkers
- ◆ Cancer therapy targets

Immunology Research

- ◆ Immune phenotyping markers
- ◆ Rabbit mAb pairs for ELISA

Neurology Research

- ◆ Neural lineage markers
- ◆ Biomarkers for neural disorders

Metabolism Research

- ◆ Metabolic enzymes

Epigenetic and Transcriptomics

- ◆ RNA biology (m6A, RBP)
- ◆ Transcriptional factors

Antibody Library for Model organisms

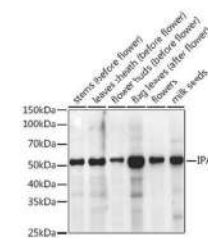
Specific antibodies for other model organisms (e.g. rice, corn, blue mustard, fruit flies, zebrafish) keep increasing and we have built antibody library for model organisms.

Note: Rice model organism antibody library is ready to proceed.

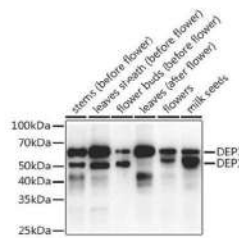
Type	Examples
Plant Architecture	SLR1, OsBZR1, OsRGA1, OsRGA1, NAL1, GID1, OsGSR1/GW6, IPA/OsSPL14, OsDLT, TE/TAD1, LIC1, DEP1, MOC1, SD1
Heading Date	DTH8, Ehd1, EL1/Hd16, Ghd7.1/DTH7, Hd1, Hd3a/OsFT, OsELF3, OsHAL3, OsMADS1, OsMADS15, Ghd7, OsFD1, OsGI
Stress Resistance	OsRDR6, OsWRKY28, OsRACK1A, OsRACK1B, OsNPR1, OsWRKY67, OsMAPK6, OsGSK2, GF14c/14-3-3-c, AET1, SNAC1, OsIRE1
Quality and Yield	qGL3/GL3.1, GL6, GL7, GW5, OsBip1/BiP3, qGC-6/GBSSI, Gn1a, OsAAP6,



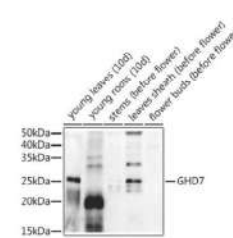
Oryza sativa



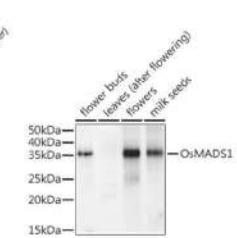
IPA1 Rabbit pAb (A17556)



DEP1 Rabbit pAb (A191R11)



GHD7 Rabbit pAb (A20327)

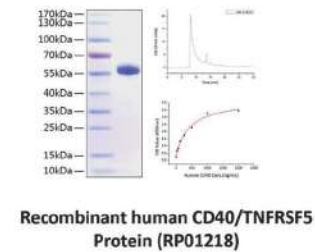
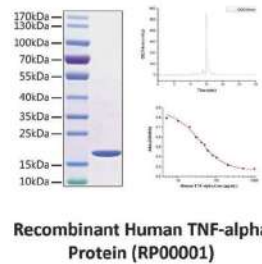
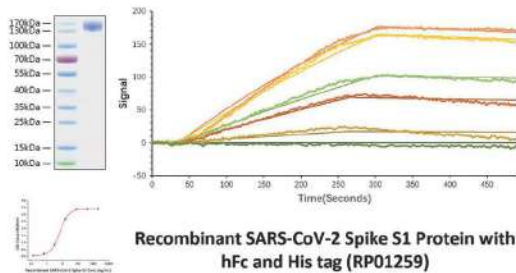


OsMADS1 Rabbit pAb (A20328)

Recombinant Protein

Over thousands of active recombinant proteins used for scientific research and in vitro diagnosis, **standard validations** including SDS-PAGE、SEC-HPLC、IC50、EC50、SPR .etc.

Type	Examples
Cytokines	TNF-alpha, IL-1beta, IL6, IL-18, IL-33, IL-36beta, IL-16, IL-11, IL-8, IL-17A, IL-28A VEGFA121, FGF21, FGF23, TNFSF15 , FGF12,LIF, SCF, Flt3 ligand, etc.
Immune Checkpoint	PD-1, PD-L1, TIGIT, TIM-3, B7-H5, 2B4, 4-BB, 4-BBL, CD28, B7-1, B7-H4, SIRP alpha, etc.
CD Antigen	CD33, CD38, CD5, CD83, CD93, CD58, CD28, CD86, CD89, CD29, CD123, CD200, CD66d, CD293, CD244, CD319, CD172a, CD13, CD119, CD2, CD54, CD137, CD46, etc.
Protease Enzyme	MMP-9, MMP1, MMP-3 , MMP-13 ,WFDC2, MAPK1, Leptin, CA2, etc.
Receptors	EPHA2, EPHA3, ERBB2, ERBB3, ERBB4, FGFR2, FGFR4, FGFR3, Flt4, KDR, NTRK3, PDGFRA, PDGFRB, TEK, FcgammaRIIA/CD32a, FcgammaRIIIA/CD16a
Sars-Cov-2	S1, RBD, S2, S1+S2 ECD, N, Papain-like protease, Envelope Protein, 3CLpro

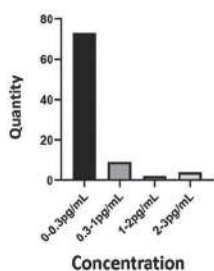


Featured ELISA Kits

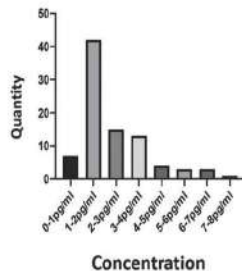
ELISA Kits Screening kit

Catalog No.	Indicators	Linear range (sensitivity)	Sensitivity (ultra-high)	Linear range (conventional)	Sensitivity(conventional)
RK00002	Human IL-2 ELISA Kit	0.78-50pg/mL	0.29pg/mL	7.8-500pg/mL	3.11pg/mL
RK04259	Human IL-10 ELISA Kit	3.12-200pg/mL	1.55pg/mL	31.2-2000pg/mL	6.15pg/mL
RK00004	Human IL-6 ELISA Kit	0.78-50pg/mL	0.32pg/mL	1.56-100pg/mL	0.74pg/mL

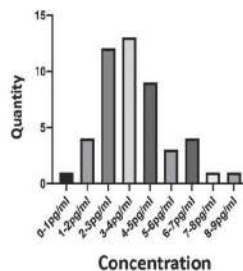
Human IL-2 Serum test



Human IL-6 Serum test

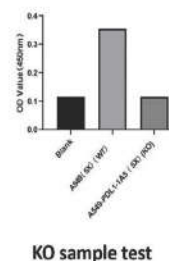


Human IL-10 Serum test

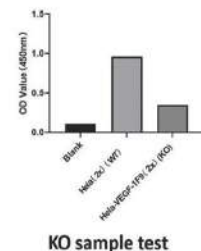


Knockout validated ELISA

H.PD-L1 ELISA kit KO validation results



H.VEGF ELISA kit KO validation results



Molecular Biology

Research Reagents

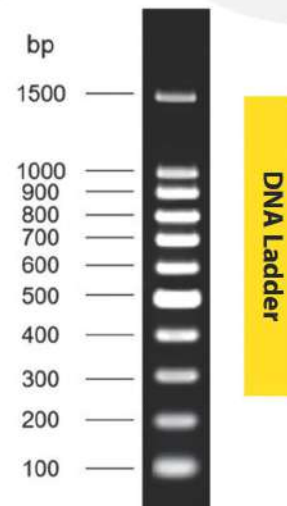
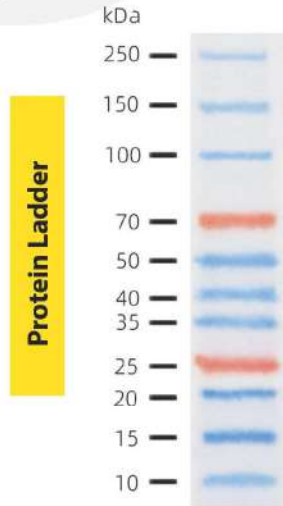
- ◆ Sample preparation
- ◆ PCR
- ◆ qPCR
- ◆ RT
- ◆ Cloning
- ◆ Endonuclease
- ◆ Molecular tool enzymes

High-throughput Sequencing Reagents

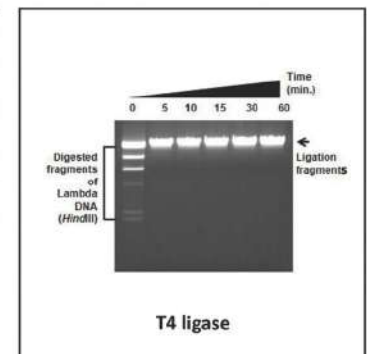
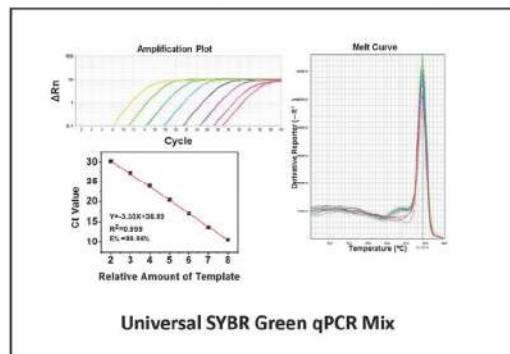
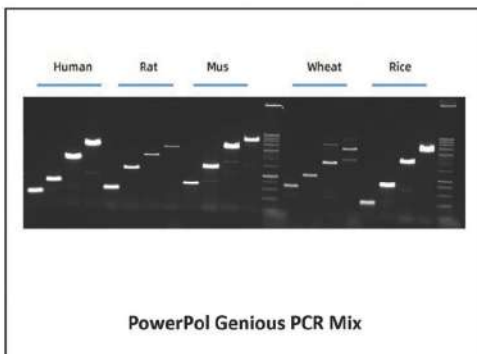
- ◆ Sample preparation
- ◆ Library preparation
- ◆ Capture
- ◆ Adapter, primer
- ◆ Biological information analysis

Molecular Diagnostic Reagents

- ◆ Taqman qPCR
- ◆ qPCR lyophilized product
- ◆ qPCR direct amplification



Type	Examples
PCR	Gloria Nova HS, PowerPol
qPCR	Universal series, Genius series
RT	Transcriptional Mix, Reverse transcriptional Kit
Cloning	seamless Cloning and assembly Kit, 2S Endonuclease, restriction Endonuclease, ligase
Nuclei acid extraction	Recycling, Plasmid extraction, DNA extraction, RNA extraction



CRO custom service



Custom service of polyclonal antibody

Whole process from antigen design to antibody purification

- ◆ Rabbit, mouse, rat, guinea pigs
- ◆ Service time: 10-14 weeks



Custom service of Mouse mAb

Optimized and stable mouse hybridoma-based antibody discovery and development platform

- ◆ Service time: 23-27 weeks



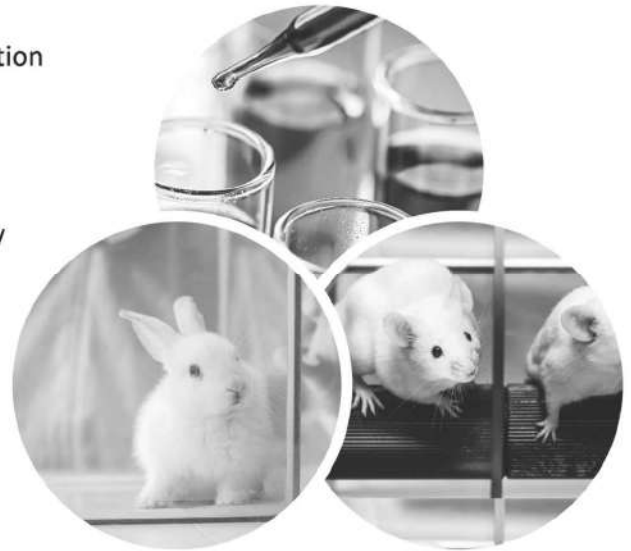
Custom service of Rabbit mAb

4th generation of rabbit mAb development

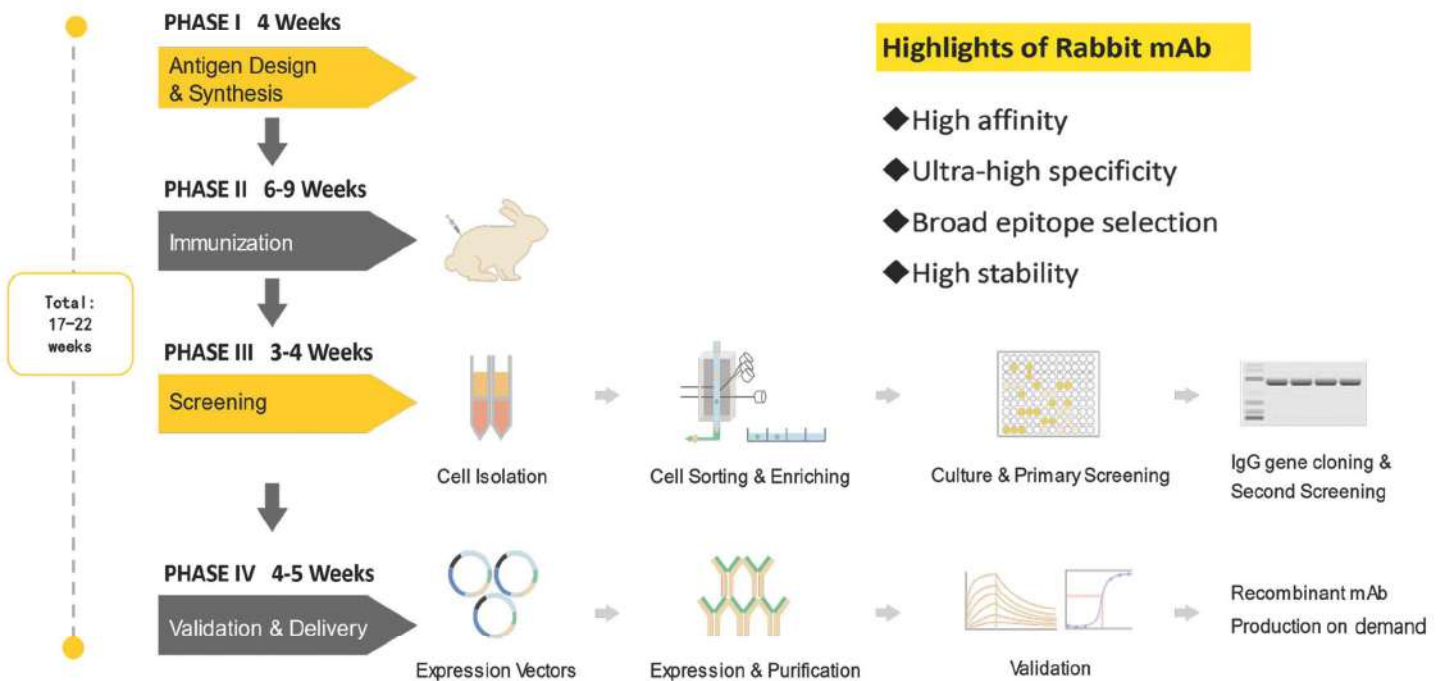


Custom Peptide Synthesis Service

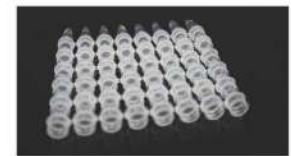
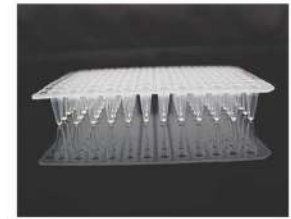
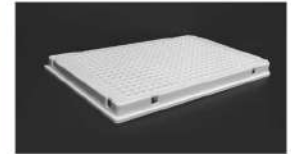
High success rate in peptide synthesis service



The 4th generation of Rabbit mAb



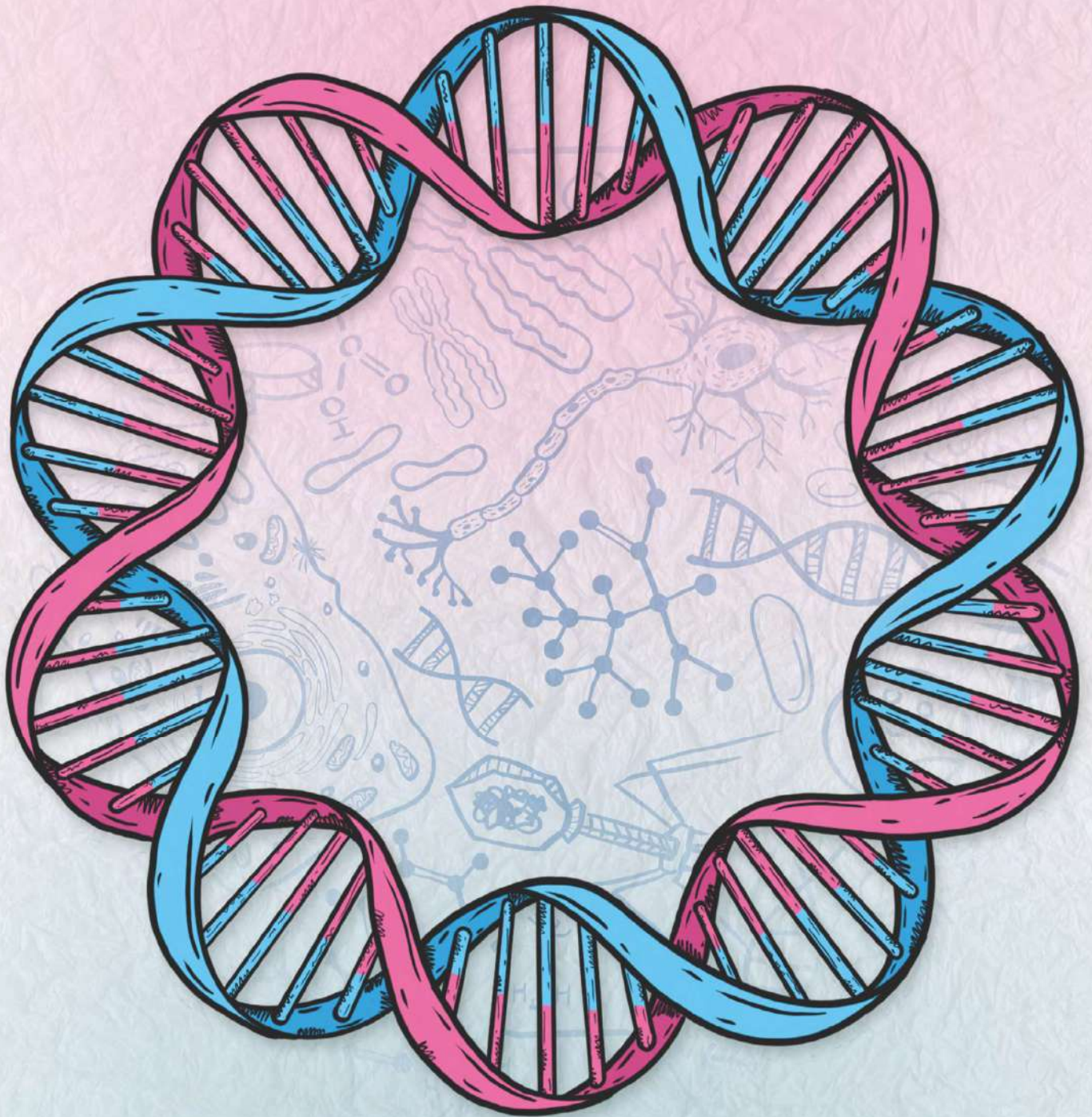
High Quality Filter Tips		Normal Quality Filter Tips	
AI10LFHL	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 10µL, 96 Tips/Rack, 10 Racks/Box	AI10CLFH	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 10µL, 10 racks/box
AI20FHL	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 20µL, 96 Tips/Rack, 10 Racks/Case	AI20CFH	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 20µL, 10 racks/box
AI200FHL	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 200µL, 96 Tips/Rack, 10 Racks/Case	AI200CFH	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 200µL, 10 racks/box
AI1000FHL	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 1000µL, 96 Tips/Rack, 10 Racks/Case	AI1000CFH	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 10µL, 10 racks/box
Non Filter Tips - Bag		Filter Tips - Bag	
AI10CP	Non Filter Pipette Tip, Sterile DNase/RNase-free 10µL, 1000/bags,	AI10CLFP	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 10µL, 1000 tips/bag
AI200CP	Non Filter Pipette Tip, Sterile DNase/RNase-free 200µL, 1000/bags,	AI20CFP	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Pipette Tip 20µL, 1000 tips/bag
AI1000CP	Non Filter Pipette Tip, Sterile DNase/RNase-free 1000µL, 1000/bags,	AI1000CFP	Low Retention Filtered Pipette Tip, Sterile DNase/RNase-free Long Low Retention Filtered Pipette Tip 1000µL, 1000 tips/bag
Micro Centrifuge Tube		Cryo Vials	
AI03002	Centrifuge Tube, Conical-Bottom Centrifuge Tube, Non-pyrogenic, 1.5mL, 500 Tubes/Bag	AI03033	Cryo Vials 1.8 ml for -98C 1000/bag
AI03003	Centrifuge Tube, V-Bottom Centrifuge Tube, 2.0mL, Non-pyrogenic, 500 Tubes/Bag	AI03023	Cryo Vials 1.8 ml for -198C 1000/ bag
qPCR Plates and Sealer		Serological Pipettes	
AI02001T	96-Well Plate, 96-well qPCR Plates, 0.1 mL, Non-Skirted, Clear, Cut Corners A12 and H12, 10 Pieces/Box, (For Diagnostic users only)	AI05001	Sterile DNase/RNase-free Serological Pipettes, Yellow Ring Mark, Individual Package, 1 mL, 50pcs/Bag
AI02003	96-Well Plate, 96-well qPCR Plates, 0.1 mL, Semi-Skirted, White, Cut Corner H12, 10 Pieces/Box, Compatible with Bio-Rad CFX96 and Roche Instruments	AI05002	Sterile DNase/RNase-free Serological Pipettes, Green Ring Mark, Individual Package, 2 mL, 50pcs/Bag
AI02002	96 well qPCR plate, 100 ul, White Non skirted, Cut Corners A12 & H12, 10 plate/box, Compatible with Bio-Rad CFX96 and Roche Instruments	AI05003	Sterile DNase/RNase-free Serological Pipettes, Blue Ring Mark, Individual Package, 5 mL, 50pcs/Bag
AI02005	96-Well Plate, 96-well qPCR Plates, 0.2mL, Semi-Skirted, Frosted, Cut Corner A12, 10 Pieces/Box, Compatible with ABI Quant Studio, 7500, 7900, VII 7 Instruments	AI05004	Sterile DNase/RNase-free Serological Pipettes, Orange Ring Mark, Individual Package, 10 mL, 50pcs/Bag
AI02007	96-Well Plate, 96-well qPCR Plates, 0.1mL, Semi-Skirted, Frosted, Cut Corner A1, 10 Pieces/Box, Compatible with ABI Quant Studio, 7500, 7900, VII 7 Instruments	AI05005	Sterile DNase/RNase-free Serological Pipettes, Red Ring Mark, Individual Package, 25 mL, 25pcs/Bag
AI02021S	Sealing Film, Pressure-sensitive qPCR Plate Sealing Film, 50 Sheets/Box	AI05006	Sterile DNase/RNase-free Serological Pipettes, Purple Ring Mark, Individual Package, 50 mL, 20pcs/Bag
Elisa Plates		PCR Trips	
AI04021	Detachable 8-Tube Strip in F Bottom, 96-Well Detachable Clear 8-Tube Strip in F Bottom, For ELISA, Medium Binding, White Frame, 10 Pcs/Bag, 20 Bags/Carton	AI02082	8-Strip PCR Tubes, 8-Tube Strip with Non-Attached Optical Flat Caps, 0.1mL, 125 Strips/Box,
AI04022	Detachable 8-Tube Strip in F Bottom, 96-Well Detachable Clear 8-Tube Strip in F Bottom, For ELISA, High Binding, White Frame, 10 Pcs/Bag, 20 Bags/Carton	AI02083	8-Strip PCR Tubes, 8-Tube Strip with Non-Attached Optical Flat Caps, White, 0.1mL, 125 Strips/Box,
AI04001C	Non Detachable Individually wrapped Clear ELISA plate with Lid 200 pcs/carton	AI02084	8-Strip PCR Tubes, 8-Tube Strip with Non-Attached Optical Flat Caps, 0.2mL, 125 Strips/Box,
Instruments		Normal PCR plate and Deepwell Plates	
AI30001	Mini Centrifuge-1 Set Abclonal Mini Centrifuge with 4*8*0.2ml Rotor for 8 strip PCR tubes and 8-Place Rotor for 0.2/0.5/1.5/2ml centrifugal tubes	AI02009C	96-Well Plate, 96-well PCR Plates, 0.2mL, Non-Skirted, Clear, Cut Corner H1, 10 Pieces/Box, 5 Boxes/Case
AI30011	Vortex-A Mini Vortex Mixer, Circular Oscillation, Power Input: AC100 240V; DC12V 5W	AI02033	1.1mL 96 Round Type Deep Well Microplates, U-Shaped Well Bottom, 5/Box, 10 Box/Case
Micro Pipettes			
AI20010P	0.5-10µL Single-channel Adjustable Volume Pipette	AI20200P	20-200µL Single-channel Adjustable Volume Pipette
AI20100P	10-100µL Single-channel Adjustable Volume Pipette	AI21000P	100-1000µL Single-channel Adjustable Volume Pipette



Volume Range	Increment	Maximum permissible systematic error (Inaccuracy)
0.5-10µL	0.01µL	1.00%
20-200µL	0.2µL	0.60%
100-1000µL	1µL	0.60%



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from Research to Therapy

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Common Mammalian Promoters

Ectoderm: Neural

Name	Tissue	Cell Type	Length (bp)	Name	Tissue	Cell Type	Length (bp)
Camk2a(long)	Forebrain	CA1 pyramidal cells of the hippocampus	8023	ProA1	Retina	Cone photoreceptor	2000
Camk2a(short)	Brain	Pyramidal neurons	1337	hRHO	Retina	Rod photoreceptor	839
Th	Brain	Dopaminergic neurons	3015	hBEST1	Retina	RPE	823
GFAP(long)	Brain	Astrocytes	2178	Hb9	Spinal cord	Motor neurons	4003
GFAP(short)	Brain	Astrocytes	681	NSE	Nervous system	Various neurons	1807
Iba1	Brain	Microglia	1889	Nes	Nervous system at embryonic stage	Neural stem/progenitor cells	1566
SYN1	Brain	Mature neurons	469	Cnp	Nervous systems, testis, and thymus	Oligodendrocytes and Schwann cells	3046
Pmp	Brain, hippocampus, cerebellum, retina	Various CNS neurons	8385	Tuba1a	Nervous systems at embryonic and early postnatal stages	Developing neurons but not astrocytes or oligodendrocytes	1121

Ectoderm: Surface

Name	Tissue	Cell Type	Length (bp)
K14	Epidermis	Keratinocytes	2268
BK5	Epidermis	Keratinocytes	5200
mTyr	Epidermis	Melanocytes and melanoma cells	560
Col2a1	Cartilage	Chondrocytes	1033
Runx2	Bone	Early osteoblasts	2514
CD11b	Bone marrow	Mature myeloid cell lines	1795
Col1a1	Bone, tooth, and tendon	Osteoblasts and fibroblasts	3632
OC	Bone and cartilage	Osteoblasts, osteocytes and hypertrophic chondrocytes	2141
MMTV	Mammary gland	Ductal cells of the salivary gland, mammary epithelial cells	1315
Wap	Mammary gland	Alveolar epithelial cells of mammary tissue	2444

Endoderm

Name	Tissue	Cell Type	Length (bp)
Nanog	Embryonic inner cell mass	Pluripotent stem cells	1334
NPHS2	Kidney	Podocytes	2589
Alp	Liver	Hepatocytes	2810
Alb	Liver	Mature hepatocytes	2336
TBG	Liver	Hepatocytes	460
SPB	Lung	AT II cells and Clara cells	635
HiP	Pancreas	β cells	1867
Ins2	Pancreas	Pancreatic β cells	705
Pdx1	Embryonic developing pancreas and adult pancreatic islets	Pancreatic progenitor cells and pancreatic β cells	2930
CD144	Lung, heart, ovary, spleen, and kidney glomeruli	Vascular endothelial cells	1599

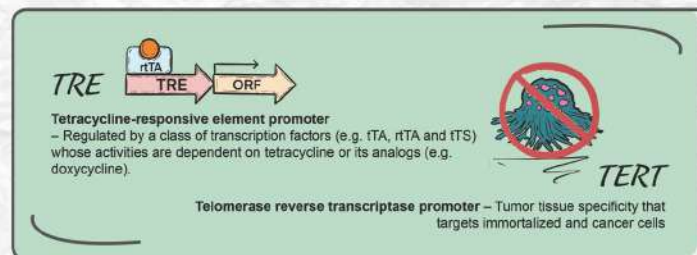
Mesoderm

Name	Tissue	Cell Type	Length (bp)	Name	Tissue	Cell Type	Length (bp)
CD68(long)	Blood	Monocytes and macrophages	3079	Hcn4	Embryonic heart	Cardiomyocytes	2780
CD68(short)	Blood	Monocytes and macrophages	659	aP2	Fat	Adipocytes	3708
Tie1	Blood vessel	Endothelial cells	1142	Adipoq	Fat	Adipocytes	5411
Cd144	Blood vessels	Vascular endothelial cells	2510	Myog	Muscle	Myoblasts	1139
cTnT	Heart	Cardiomyocytes	413	ACTA1	Muscle	Myoblasts	2162
αMHC(long)	Heart	Cardiomyocytes	5464	SM22a	Adult smooth muscle	Vascular smooth muscle cells	2960
αMHC(short)	Heart	Cardiomyocytes	2833	EnSM22a	Adult smooth muscle	Vascular smooth muscle cells	594
MHCK7	Mouse skeletal and heart muscle	Differentiated postmitotic striated muscle cells	771				

Mammalian Ubiquitous Promoters

Name	Application Notes	Length (bp)
CMV	<ul style="list-style-type: none"> Strong promoter; May have variable strength in some cell types 	589
CMV + intron	<ul style="list-style-type: none"> Strong promoter; May have variable strength in some cell types; Presence of the beta-globin intron facilitates the nuclear export of mRNA by splicing and is predicted to enhance gene expression in eukaryotes 	1242
EF1A	Strong promoter	1179
EFS	Medium-strength promoter	232
CAG	Strong promoter	1733
CBh	Strong promoter	789
GBA	Strong promoter	850
SFFV	<ul style="list-style-type: none"> Strong promoter; Drives high levels of gene expression, particularly in cell types of the myeloid lineage 	500
MSCV	<ul style="list-style-type: none"> Medium-strength promoter; Drives gene expression in most murine or human ES cell lines and other mammalian cell lines 	515
SV40	Medium-strength promoter	344
mPGK	Medium-strength promoter	511
hPGK	Medium-strength promoter	505
UBC	Weak promoter	1178

Miscellaneous



VectorBuilder's innovative online vector design platform enables researchers to create their custom vectors with just a few mouse clicks. We provide end-to-end solutions for all gene delivery needs spanning both research and therapy.

Revolutionize Gene Delivery

What Can You Do with VectorBuilder



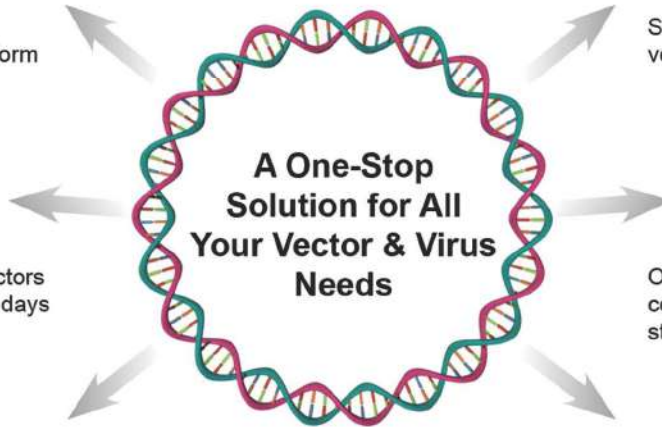
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Send design requests for complex vector designs or service needs



Order other services (e.g. library construction, BAC recombineering, stable cell line generation, etc.)



Learn to become a vector expert with free and unlimited access to our rich educational content

Highlights



Diverse vector systems: >700 vector backbones for various applications in multiple model organisms



Comprehensive collections of vector components: >400,000 promoters, ORFs, epitope tags, markers, linkers, peptide signals, and whole-genome shRNA and gRNA databases



Bioinformatic tools: codon optimization, sequence alignment, shRNA, and CRISPR target design



Streamlined online shopping experience: fast checkout, easy order tracking, versatile payment options, and dedicated customer service



Highly affordable prices and rapid turnaround



Robust production and comprehensive QC for release



How to Design a Vector on VectorBuilder



To design a vector, follow the simple steps below.

1 Go to the [VectorBuilder.com](https://www.vectorbuilder.com) homepage:

- Click **Design My Vector** to start designing your vector.
- If you can't design your desired vector, click **Send Design Request** to let our scientists create your vector for you.
- Click **Find Popular Vectors** to search for pre-designed and premade vectors for your genes of interest (GOIs).



2 Next, on the [Choose Vector System for Vector Design](#) page:

Choose from >200 vector systems for a wide range of applications in multiple model organisms.

- Overexpression, shRNA, CRISPR, enhancer/promoter testing, in vitro transcription, recombinant protein expression, homologous recombination, etc.
- Mammalian, zebrafish, Drosophila, plant, yeast, bacteria, etc.

Choose Vector System for Vector Design

[How to use this page?](#)

Expand All ▼ Fold All ▲

Mammalian Gene Expression Vectors			
• Regular plasmid	Guide	From \$159	Go to Design
• Lentivirus	Guide	From \$159	Go to Design
• Adenovirus	Guide	From \$159	Go to Design
• AAV	Guide	From \$159	Go to Design
• Chimeric baculovirus-AAV	Guide	From \$159	Go to Design
• MMLV retrovirus	Guide	From \$159	Go to Design
• MSCV retrovirus	Guide	From \$159	Go to Design
• VSV	Guide	From \$159	Go to Design
• PiggyBac	Guide	From \$159	Go to Design
• Sleeping Beauty	Guide	From \$159	Go to Design

Virus Packaging

VectorBuilder has developed a range of proprietary technologies and reagents that significantly improve virus packaging in terms of titer, purity, viability, and consistency. Our packaging protocols are also optimized for the viral vector systems used in our cloning services. As a result, we have a growing community of highly satisfied customers who repeatedly come back to us for their virus packaging needs.

Viruses produced by VectorBuilder undergo a series of QC assays, including titration by qPCR or immunoassay,

sterility testing for bacteria and fungi, mycoplasma detection, transduction test for GOI expression, endotoxin assay (for ultra-purified virus), and SDS-PAGE analysis (for ultra-purified virus). Additional QC assays are available upon request (e.g. ddPCR, full/empty capsid ratio, TCID50, etc.).

*Detailed descriptions of our virus packaging services, including ordering information, are available on the VectorBuilder website under **Products & Services**.*



Virus packaging starts
as fast as 8 days



Lentivirus

Types of lentivirus offered

- VSV-G pseudotyped second and third-generation lentivirus
- Integrase-deficient lentivirus (IDLV)
- Coronavirus spike (S) protein pseudotyped lentivirus
- Bald lentivirus lacking viral envelope protein

Note: We also offer lentivirus pseudotyping services with other envelope proteins.

Highlights

- Permanent integration of vector DNA
- Very broad tropism targeting dividing and non-dividing cells
- High viral titer
- Customizable internal promoter
- Uniform transduction
- Effective gene delivery both in vitro and in vivo
- Minimal safety concern due to self-inactivating design

Adeno-Associated Virus (AAV)


















Types of AAV offered

- Second generation AAVs with AAV2 ITRs
- ssAAV (single-stranded AAV) and scAAV (self-complementary AAV)
- Available serotypes for ssAAV and scAAV: 1, 2, 3, 4, 5, 6, 6.2, 7, 8, 9, rh10, DJ, DJ/8, PHP.eB, PHP.S, AAV2-retro, AAV2-QuadYF, and AAV2.7m8
- Chimeric baculovirus-AAV (serotypes 1, 2, 5, 6, 8, and 9)

Highlights

- Non-pathogenic in human
- Low risk of host genome disruption
- Multiple serotypes with broad tropism
- High viral titer
- Effective gene delivery both in vitro and in vivo

Tissue tropism of popular AAV serotypes

Tissue type	 Smooth muscle	 CNS	 PNS	 Brain	 Retina	 Inner ear	 Spleen	 Liver
Recommended AAV serotypes	AAV1, 2, 3, 5, 6, 7, 8, 9, rh10	AAV1, 2, 4, 5, 7, 8, 9, rh10, PHP.eB	AAV-PHP.S	AAV1, 2, 5, 7, 8, DJ/8	AAV1, 2, 4, 5, 7, 8, 9, rh10, 2.7m8, AAV2-QuadYF	AAV1, 2, 6.2, 8, 9, 2.7m8	AAV-DJ, DJ/8	AAV1, 2, 3, 6, 6.2, 7, 8, 9, rh10, DJ, DJ/8
Tissue type	 Pancreas	 Heart	 Kidney	 Lung	 Testes	 Adipose	 Spinal nerves	 Endothelial cells
Recommended AAV serotypes	AAV1, 2, 6, 8, 9, rh10	AAV1, 4, 5, 6, 8, 9, rh10, DJ	AAV2, 4, 8, 9, rh10, DJ, DJ/8	AAV1, 3, 4, 5, 6, 6.2, 9, rh10	AAV2, 9	AAV6, 8, 9	AAV2-retro	AAV2-QuadYF

shRNA knockdown stable cell lines

VectorBuilder can custom-build shRNA knockdown stable cell lines for applications requiring long-term knockdown of your GOI. We identify the top three candidate shRNAs based on the knockdown score to ensure efficient knockdown of your GOI. We then use the shRNA with the

best knockdown efficiency to generate the stable cell line via lentivirus transduction. The knockdown level of the cell line is validated by RT-qPCR. Additionally, we perform a series of standard QC assays, such as sterility tests and mycoplasma detection, before releasing the final cell line products. (See page 26 for detailed information on our stable cell line generation services.)

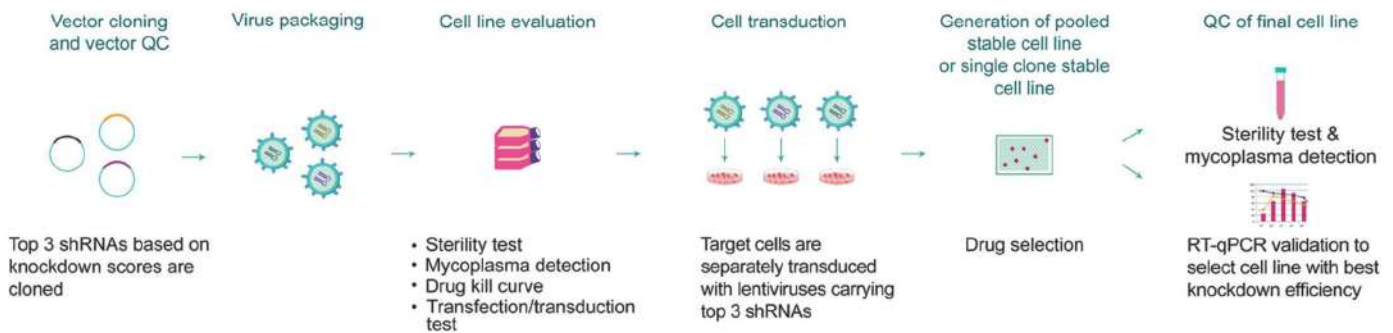


Figure 27. Workflow for our shRNA knockdown stable cell line generation process.

Inducible Gene Expression Solutions

VectorBuilder offers a comprehensive collection of Tet-inducible gene expression system reagents to help you achieve nearly complete silencing of your GOI in the absence of tetracycline or its analogs (e.g. doxycycline), and rapid, robust expression in response to the addition of tetracycline or its analogs.

induction in the presence of tetracycline and minimal leaky expression in its absence

Highlights

- Utilizes the rtTA/tTS fusion cassette to achieve maximal

- Available in dual-vector and all-in-one formats
- Low-leak, tissue-specific vectors available with minimal leaky expression in non-target tissues in the absence of tetracycline
- Available in a variety of backbones, including regular plasmid, lentivirus, AAV, adenovirus, and piggyBac

Our Tet-Inducible System Offerings

Custom Tet vectors

Vector Type	Price (USD)	Turnaround
All-in-one Tet-On vectors	From \$209	7-13 days
Tet regulatory protein expression vectors	From \$159	
TRE driven GOI expression vectors	From \$209	
Low-leak Tet-On vectors	From \$209	

shRNA Gene Knockdown Solutions

VectorBuilder offers a comprehensive collection of shRNA reagents to provide you with the ideal tools for your gene knockdown experiments. We can provide both U6-based and miR-30 based shRNA systems to give you the flexibility to control shRNA expression in different ways based on your experimental needs. Additionally, our online vector design tool is integrated with shRNA databases, enabling you to easily select suitable shRNA targeting your GOI while designing your shRNA vectors.

Highlights

- Free and intuitive vector design tool with integrated shRNA databases for human, mouse, and rat models
- Versatile control of shRNA expression by either U6 or miR30
- Vast collection of backbones, including regular plasmid, lentivirus, AAV, adenovirus, and piggyBac
- Premade and custom-made shRNA library options
- Powerful technical support for shRNA selection, vector design, and troubleshooting

Our shRNA Offerings

Custom shRNA vectors

Vector Type	Price (USD)	Turnaround
U6-based shRNA vectors	From \$99	7-12 days
miR30-based shRNA vectors	From \$259	12-18 days
U6-based inducible shRNA vectors	From \$99	7-12 days
shRNA sensor vectors (for testing shRNA efficiency)	Please inquire	

Popular shRNA vectors

Vector Type	Price (USD)
Scramble shRNA vectors	From \$99
Anti-EGFP shRNA vectors	
Anti-mCherry shRNA vectors	
Anti-luciferase shRNA vectors	
Anti-lacZ shRNA vectors	

Popular Tet Vectors

Vector Type	Price (USD)
Tet-inducible vectors for EGFP, mCherry, TagBFP, or luciferase	\$209
All-in-one Tet-On vectors for EGFP, mCherry, TagBFP, or luciferase	\$209
Tet regulatory protein expression vectors	\$159

Tet-inducible virus

VectorBuilder can design, construct, and package a variety of viral vectors expressing the components of the Tet-inducible system to help you achieve virus-mediated

inducible expression of your target genes in difficult-to-transfect cell lines. We can package recombinant lentivirus, AAV, adenovirus, MMLV, and MSCV retrovirus. (See page 29 for detailed information on our virus packaging services.)

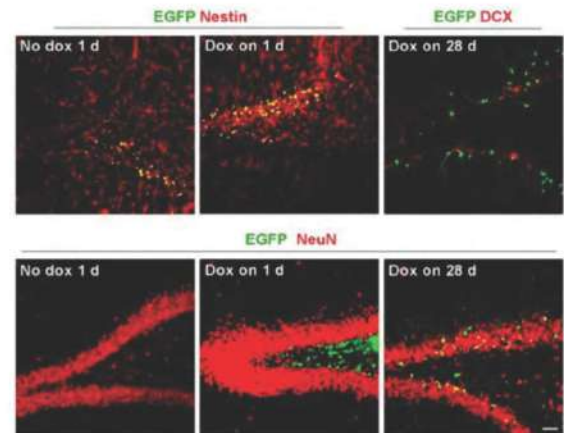
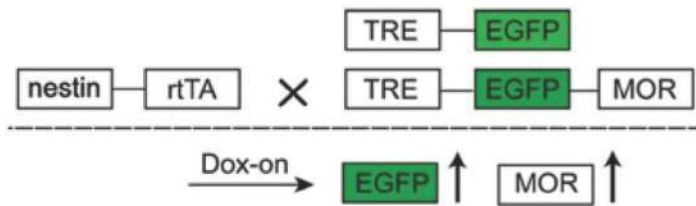


Figure 28. Lentivirus-mediated Tet-inducible EGFP expression in neural stem cells. (Sci Rep. 2019; 9: 1471)

Tet-inducible stable cell lines

VectorBuilder can custom-build Tet inducible gene expression stable cell lines with minimal background expression and high induction of your GOI(s). Additionally, we can generate Tet regulatory protein expression stable cell lines (e.g. rtTA, tTS/rtTA, etc.) which can then be transfected

and transduced with plasmids and viruses carrying TRE-driven GOI(s) for flexible experimental design and reliable Tet inducible gene expression. For Tet-On stable cell lines, induction of the GOI is validated by RT-qPCR. What's more, a series of standard QC assays, such as sterility tests and mycoplasma detection, are performed before releasing the final cell line products.

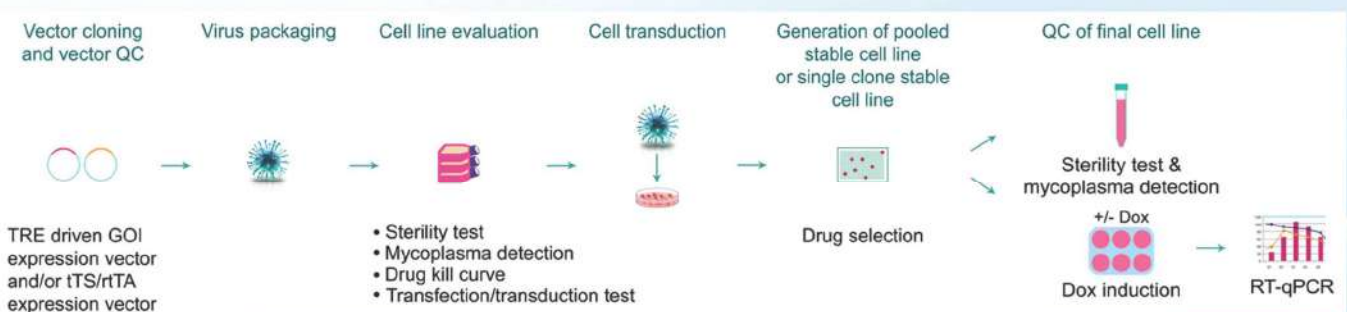


Figure 29. Workflow for Tet inducible cell line generation process.

Introducing NEW 4D Bio Printing
Dr INVIVO 4D6
Next Generation Bioprinting is here



- Built in cell incubator & liquid handling functions
- 6 modular print heads
- 20X built in scope
- Medical device standard sterilization
- Smart User Interface
- Built-in Cell Incubator CO₂ level control
- Clean Chamber Sterilization Particle control system
- Auto Bed Leveling & Nozzle End Alignment
- Ultrasonic sensor
- MODULAR Printheads 1 interchangeable dispenser + 5 rotary biodispersers
- VISUALIZATION Optical microscope
- Multi Platform Printing Bed Well plates, culture dish

Introducing Dr. INVIVO 4D6
MINIMUM REQUIREMENTS FOR ORGAN REGENERATION

<p>REQUIREMENT 1</p> <p>IN-SITU 4D PRINTING</p>	<p>The human body is a curved surface. The direct application of biomaterials to a curved surface of the body to create or repair living tissues should be easy, so you could have a rapid wound coverage and recovery.</p>	
<p>REQUIREMENT 2</p> <p>STERILIZATION</p>	<p>Treating all substances as potentially infectious, the device should be able to sterilize itself as well as implantable devices it creates.</p>	
<p>REQUIREMENT 3</p> <p>INCUBATION</p>	<p>Mammalian cells grow best at their native conditions, temperature and in vivo pH, similar to CO₂ tension in the bloodstream. High humidity prevents evaporation of growth media. All these parameters work together for healthy cells which express proper protein profiles.</p>	

3D Bio Printer

Pneumatic Dispenser (Premium)

Nozzle Size : 100~400µm (optional)
High-Viscosity Material Fabricating
High Temperature : ~350°C
Pressure : Up to 900kPa

Extruder

Nozzle Size: 200~400µm (optional)
Stainless Steel Nozzle

Bio Filament

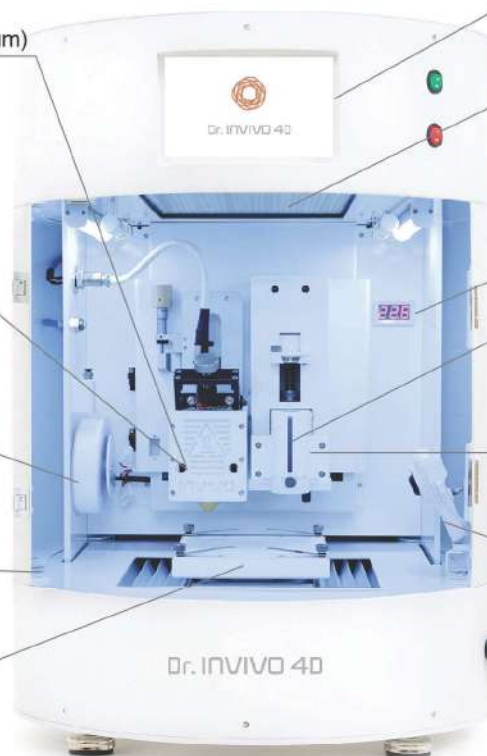
Detachable Magnetic Slot for Bio-filaments

Bioink Warmer

Upgrade & Premium

Temperature Control Bed

Upgrade & Premium : -4°C~60°C



LCD Touch Screen

Android OS

Clean Bench System

H14 HEPA Filter
Sterilizing UV Lamp

Thermometer

Upgrade & Premium

Syringe Dispenser

Nozzle Size : 100~400µm (optional)
Temperature Control System
Upgrade & Premium: -4°C~60°C

UV LED

Photo Curing
Wavelength : 365nm / 405nm (optional)
Upgrade & Premium

Wi-Fi Camera

Upgrade & Premium

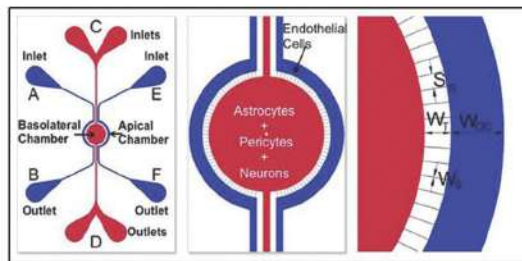
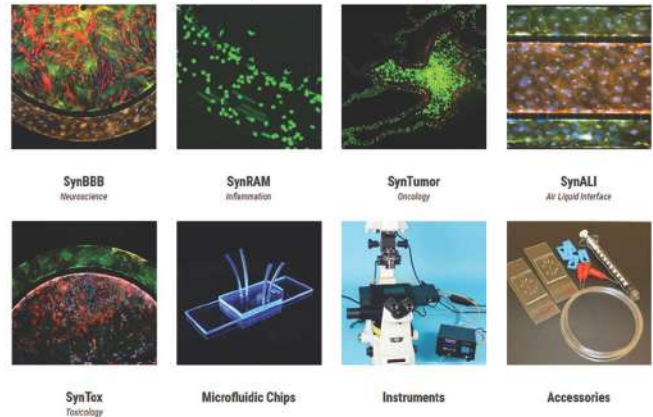
Emergency Switch

3D Tissue and Organ-on-Chip Models

SynVivo® is a cell-based microfluidic platform that provides a biologically realistic microenvironment for the analysis of cellular behavior, drug delivery and drug discovery. SynVivo 3D Tissue and organ-on chip models recreate complex in vivo microenvironments including scale, morphology, hemodynamics, and cellular interactions. Validated Models include SynBBB Blood Brain Barrier, SynTumor for Oncology applications, SynRAM for Inflammation, SynALI Air-Liquid Interface for Lung and SynTox for Toxicology applications.

- Side by side architecture
 - Develop complex co-culture morphology while maintaining real time visualization and quantification and quantitation.
- In vivo like vascular morphology with fully formed lumen
 - Deliver drugs in biologically realistic conditions
- Real time monitoring of cellular responses
 - Analyze Cell-Drug and Cell-Cell interactions in a controlled environment

Organ on a Chip

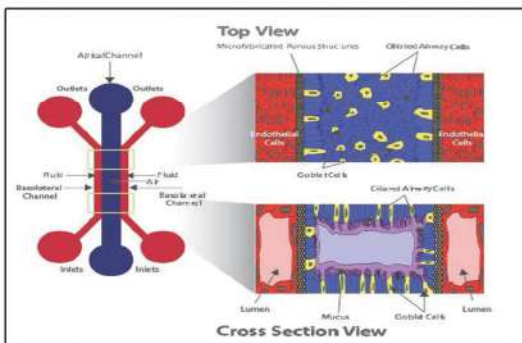
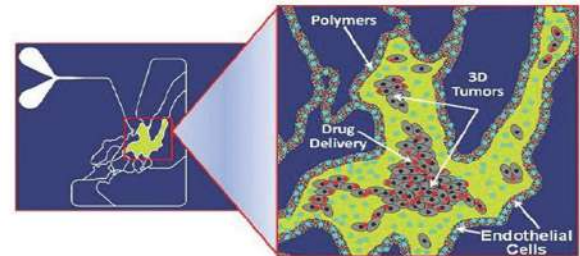


BBB Model Benefits

- Accurate in vivo hemodynamic shear stress
- Real-time visualization and quantitation of cellular and barrier functionality
- Significant reduction in cost and time
- Robust and easy to use protocols

syn Tumor benefits

- Side by side architecture enables quantitative real-time visualization
- Physiological leaky vasculature with engineered porous structures
- Morphologically realistic in vivo based architecture
- Physiologically realistic convective and diffusive transport
- Microfluidic platform with ultra-low consumable volumes..



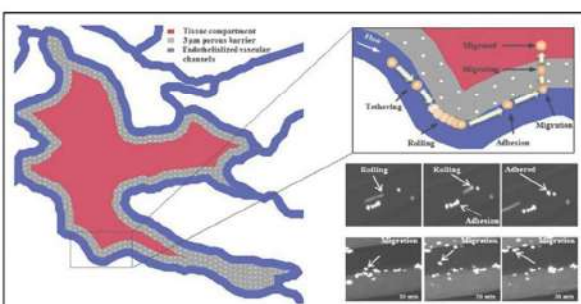
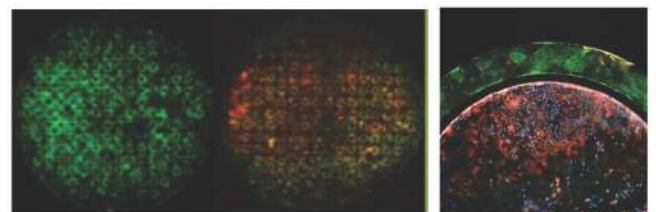
Synvivo lung benefits

Unique Features include:

- Morphologically realistic airway structure and environment
- Air Liquid Interface (ALI) across the epithelium and endothelium
- In-Vivo hemodynamic shear stress
- Real-time visualization of cellular and barrier functionality including mucus, ciliary beating, immune cell interactions, and therapeutic screening
- Robust and easy to use protocols.

Synvivo SynTox 3D Toxicology Model benefits

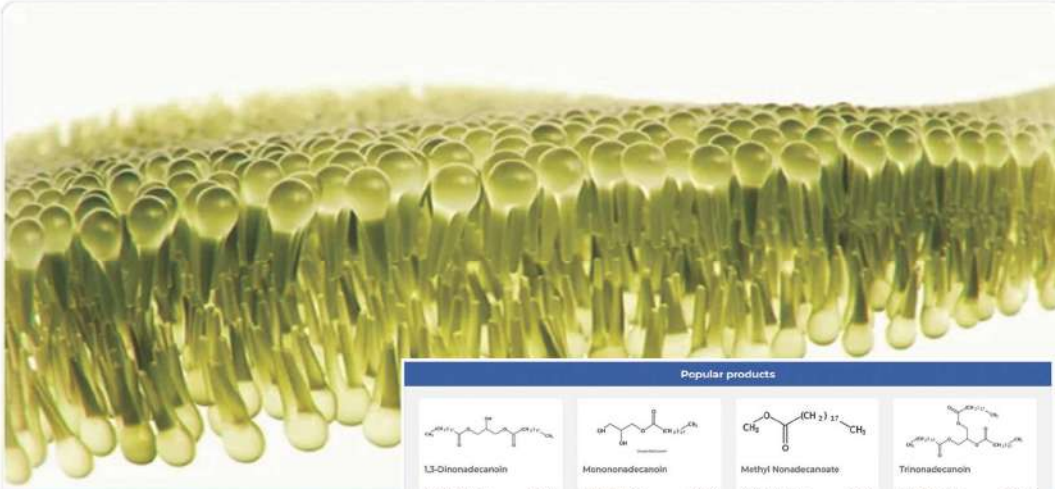
- Physiologically realistic morphological, fluidic and 3D cellular conditions
- Universal platform with architecture-specific of the desired organ
- Significant reduction in cost and time
- Robust and easy to use protocols
- Compatible with standard analytical instruments for both on-chip and off-chip assays including omic methodologies for systems biology and bioinformatic analysis.



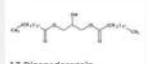
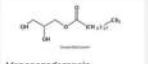
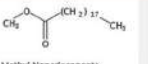
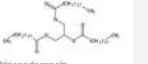
The SynRAM 3D inflammation model provides a realistic testing environment including:

- Physiological shear stress within a microvascular environment
- In vivo like vascular morphology with fully enclosed lumen
- Co-culture capability for cell-cell interactions
- Quantitative real-time rolling, adhesion, and migration data from a single experiment

Larodan manufactures high purity lipids for use as reference standards, reagents and ingredients. Our comprehensive catalog of compounds includes most classes of lipids – from fatty acids and oxylipins to glycerides and phospholipids.



Popular products

			
13-Olinonadecanoin	13-Olinonadecanoin	Methyl Nonadecanoate	Trinonadecanoin
Product number: 22-1903 CAS number: 370400-74-2	Product number: 22-1900 CAS number: 102340-30-4	Product number: 20-1900 CAS number: 1731-94-8	Product number: 23-1900 CAS number: 26330-31-0

Fatty acids | Fatty acid methyl esters | Carnitines | Coenzyme A and CoA esters | Wax Esters | Fatty Alcohols | Saturated Hydrocarbons | **Oxylipins** | Octadecanoids | Eicosanoids | Prostaglandins | **Glycerides** | Monoglycerides | Diglycerides | Triglycerides | Single and mixed fatty acids | **Phospholipids** | Natural and Synthetic | PC | PG | PE | PS | PI | **Sphingolipids** | Sphingosines | Ceramides | Phosphosphingolipids | Spingomyelins | Glycosphingolipids | Cerebrosides | Sulfatides | Gangliosides | **Sterols** | Polyprenols and Dolichols | Polyprenyl Phosphate | MCPD | Glycines



OUR OUTREACH





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Our Principals :



VectorBuilder



**ROKIT
HEALTHCARE**

