

## **Find Plasmids for Your Research**

# **Over 40,000 plasmids:**

## **Expression Plasmids...**

Oncogenes/tumor suppressors Cell death genes Validated shRNAs Cell signaling factors



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## **Tool Plasmids...**

Viral packaging Biosensors Genome engineering iPSC generation Optogenetics Tetracycline inducible expression

### **Empty Backbones...**

Epitope tagging Fluorescent protein fusions Species-specific expression Viral expression

## CRISPR Plasmids at Addgene



CRISPR genome editing is a popular technology that uses a short guide gRNA to guide a nuclease to a DNA target. Advantages of the CRISPR technology over other genome editing methods include ease of implementation, speed, cost, and efficiency.

Addgene has assembled a collection of plasmids, kits, and resources from leading CRISPR labs to get you started using CRISPR/Cas9 technology in your own lab.

**Count on Quality:** 

Addgene conducts quality control on all available plasmids

Stay Organized: Access cloning information for all

Addgene plasmids online

Save Time: No need to create

every plasmid for your research

Get Help: Addgene's support

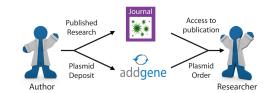
team answers questions about

your plasmid orders

# **Order Plasmids**

- 1. Visit www.addgene.org and browse for your favorite gene, lab, publication, or species
- 2. Submit your order online
- Typical orders are shipped within two business days of MTA approval

## **How Addgene Works**



Addgene helps researchers share their plasmids worldwide. Over 2,200 depositing labs from 515 institutions in 35 countries have helped us assemble a high-quality library of plasmids for use in research and discovery.

### www.addgene.org

Addgene is a nonprofit plasmid repository that stores, archives, and distributes plasmids to academic scientists around the world



#### Addgene

75 Sidney St, Suite 550A Cambridge, MA 02139 USA Tel: +1.617.225.9000

For questions about plasmids, shipping, or ordering, please contact help@addgene.org.

# **Addgene's Plasmid Collection**

Browse Addgene's plasmid library by plasmid collection, expression system, popular plasmids, depositing scientist, species of gene, and vector type. Visit www.addgene.org to find resources and plasmids for your research.

Nick A mutated "nickase" version of Cas9 generates a single-strand DNA break, instead of a double-strand break.   CRISPR/Cas9 Tools Interfere Catalytically inactive dCas9 knocks down gene expression by interfering with transcription.   Activate Catalytically inactive dCas9 fused to an activator peptide can activate or increase gene expression.   Empty gRNA Vectors Select a gRNA plasmid based on a variety of factors, such as selectable marker or cloning method.   Tag Find the tools for tagging your endogenous protein of interest.   Empty Backbones Fusing your protein of interest to a fluorescent protein allows you to understand its localization and/or funce   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular proce   Subcellular Localization Use these tools to assess whether your protein is targeted to the same structures as well-characterized prote   In Vivo Imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole marked the study individual plasmids or protein-protein of ORFs and empty backbones.	Plasmid Collection		Sample Collection Feature and Description
CRISPR/Cas9 Tools Interfere Catalytically inactive dCas9 knocks down gene expression by interfering with transcription.   Activate Catalytically inactive dCas9 fused to an activator peptide can activate or increase gene expression.   Empty gRNA Vectors Select a gRNA plasmid based on a variety of factors, such as selectable marker or cloning method.   Tag Find the tools for tagging your endegenous protein of interest.   Fluorescent Proteins Empty Backbones Fusing your protein of interest to a fluorescent protein allows you to understand its localization and/or func   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular proc   Subcellular Localization Use these tools for asses whether your protein is targeted to the same structures as well-characterized prot   In Vivo Imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole main Davidson FPs   Michael Davidson from Florida State University has contributed a collection of ORFs and empty backbones.   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein Understand the function of your favorite gene using an antibody against a fusion tag.   Viral Expression Viral packaging and expression wettors to create stable cell lines.   shRNA	CRISPR/Cas9 Tools	Cut	Wild type Cas9 efficiently generates double strand breaks (DSBs) at sequences homologous to co-expressed gRNA.
Activate Catalytically inactive dCas9 fused to an activator peptide can activate or increase gene expression.   Empty gRNA Vectors Select a gRNA plasmid based on a variety of factors, such as selectable marker or cloning method.   Tag Find the tools for tagging your endogenous protein of interest.   Fluorescent Proteins Biosensors   Genetically encoded biosensors allow you to understand its localization and/or function interactions and conformational changes within a protein.   Fluorescent Proteins Biosensors   Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular process whether your protein is targeted to the same structures as well-characterized protein in Vivo Imaging   In Vivo Imaging In Vivo Imaging   Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and more optical structures as self.   Optogenetics Tools Species-specific Expression   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein For gene silencing expression vectors to create stable cell lines.   shRNA Expression For gene silencing experiments.   Luciferase Plasmids Robust signal for use as a reporter gene. Empty backbones and premade reporters.   Stem Cell Plasmids for Reprogramming <td>Nick</td> <td>A mutated "nickase" version of Cas9 generates a single-strand DNA break, instead of a double-strand break.</td>		Nick	A mutated "nickase" version of Cas9 generates a single-strand DNA break, instead of a double-strand break.
Empty gRNA Vectors Select a gRNA plasmid based on a variety of factors, such as selectable marker or cloning method.   Tag Find the tools for tagging your endogenous protein of interest.   Empty Backbones Fusing your protein of interest to a fluorescent protein allows you to understand its localization and/or func   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular proc   Subcellular Localization Use these tools to assess whether your protein is targeted to the same structures as well-characterized prote   In Vivo Imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole mar   Optogenetics Tools Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and me   Empty Backbones Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein Understand the function of your favorite gene using an antibody against a fusion tag.   Viral Expression Viral packaging and expression vectors to create stable cell lines.   viral Expression For gene silencing experiments.   Luciferase Plasmids for Reprogramming   for Reprogramming Return fully-differentiated adult somatic cells to a pluripotent stem cell state (IP		Interfere	Catalytically inactive dCas9 knocks down gene expression by interfering with transcription.
Tag Find the tools for tagging your endogenous protein of interest.   Empty Backbones Fusing your protein of interest to a fluorescent protein allows you to understand its localization and/or func   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular proc   Subcellular Localization I/v vo imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole main   Optogenetics Tools Actuators Michael Davidson fPs Michael Davidson from Florida State University has contributed a collection of ORFs and empty backbones.   Empty Backbones Sensors Genetically encoded biosensors to monitor and measure fluctuations in molecular signals.   Empty Backbones Sensors Genetically encoded biosensors to monitor and measure fluctuations in molecular signals.   Empty Backbones Selectable Markers Plasmids with markers so that you can find or select only the cells that received the plasmid.   Viral Expression Viral packaging and expression vectors to create stable cell lines.   shRNA Expression For gene silencing experiments.   Luciferase Plasmids for Reprogramming   for Reprogramming Return fully-differentiated adult somatic cells to a pluripotent stem cells atta (iPSCs).   for Transdifferentiation Directl		Activate	Catalytically inactive dCas9 fused to an activator peptide can activate or increase gene expression.
Empty Backbones Fusing your protein of interest to a fluorescent protein allows you to understand its localization and/or func   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular proc   Subcellular Localization In Vivo Imaging Use these tools to assess whether your protein is targeted to the same structures as well-characterized prote   In Vivo Imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole main   Optogenetics Tools Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and more genetically encoded biosensors to monitor and measure fluctuations in molecular signals.   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein Understand the function of your favorite gene using an antibody against a fusion tag.   Viral Expression Selectable Markers   Viral Expression Viral packaging and expression vectors to create stable cell lines.   shRNA Expression For gene silencing experiments.   Luciferase Plasmids Rebust signal for use as a reporter gene. Empty backbones and premade reporters.   for Reprogramming Return fully-differentiated adult somatic cells to a pluripotent stem cell state (iPSCs).   Dir		Empty gRNA Vectors	Select a gRNA plasmid based on a variety of factors, such as selectable marker or cloning method.
FRET FRET is often used to study protein-protein interactions and conformational changes within a protein.   Fluorescent Proteins Biosensors Genetically encoded biosensors allow you to monitor small biomolecules or physiological intracellular procession within a protein.   Subcellular Localization Use these tools to assess whether your protein is targeted to the same structures as well-characterized protein In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole main Davidson FPs   Michael Davidson FPs Michael Davidson from Florida State University has contributed a collection of ORFs and empty backbones.   Optogenetics Tools Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and more genetically encoded biosensors to monitor and measure fluctuations in molecular signals.   Empty Backbones Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Empty Backbones Selectable Markers Plasmids with markers so that you can find or select only the cells that received the plasmid.   Viral Expression Viral packaging and expression vectors to create stable cell lines. For gene silencing experiments.   Luciferase Plasmids for Reprogramming Return fully-differentiated adult somatic cells to a pluripotent stem cell state (iPSCs).   Stem Cell Plasmids for Differentiation Directly differentiate one		Тад	Find the tools for tagging your endogenous protein of interest.
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Subcellular Localization Use these tools to assess whether your protein is targeted to the same structures as well-characterized protein in Vivo Imaging   In Vivo Imaging In vivo imaging is used to study individual plasmids or protein-protein interactions in organs and whole main the vico of QRFs and empty backbones.   Optogenetics Tools Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and more services as seed.   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein Understand the function of your favorite gene using an antibody against a fusion tag.   Viral Expression Viral packaging and expression vectors to create stable cell lines.   shRNA Expression For gene silencing experiments.   Luciferase Plasmids Robust signal for use as a reporter gene. Empty backbones and premade reporters.   Stem Cell Plasmids for Reprogramming for Ulty-differentiated adult somatic cells to a pluripotent stem cell state (iPSCs).   Directly differentiate iPSCs into specific somatic stem cells or fully differentiated cell types.   or Transdifferentiation Directly differentiate one differentiated somatic cell into another.		FRET	FRET is often used to study protein-protein interactions and conformational changes within a protein.
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Davidson FPs Michael Davidson from Florida State University has contributed a collection of ORFs and empty backbones.   Optogenetics Tools Actuators Microbial opsins and tools for protein localization, to control gene expression and neuronal activity, and models of the sensors   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Epitope Tag or Fusion Protein Understand the function of your favorite gene using an antibody against a fusion tag.   Viral Expression Viral packaging and expression vectors to create stable cell lines.   ShRNA Expression For gene silencing experiments.   Luciferase Plasmids Robust signal for use as a reporter gene. Empty backbones and premade reporters.   Stem Cell Plasmids for Reprogramming for Differentiation for Differentiate iPSCs into specific somatic cells to a pluripotent stem cell state (IPSCs). Directly differentiate iPSCs into specific somatic cell into another.		Subcellular Localization	Use these tools to assess whether your protein is targeted to the same structures as well-characterized proteins.
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Optogenetics Tools Sensors Genetically encoded biosensors to monitor and measure fluctuations in molecular signals.   Species-specific Expression Drive gene expression with plasmids that will be functional in your host organism.   Empty Backbones Selectable Markers Plasmids with markers so that you can find or select only the cells that received the plasmid.   Viral Expression Viral packaging and expression vectors to create stable cell lines.   yiral Expression For gene silencing experiments.   Luciferase Plasmids Robust signal for use as a reporter gene. Empty backbones and premade reporters.   Stem Cell Plasmids for Reprogramming for Differentiation for Transdifferentiation Return fully-differentiated adult somatic cells to a pluripotent stem cell state (iPSCs).   Directly differentiate iPSCs into specific somatic stem cells or fully differentiated cell types. Directly differentiate one differentiated somatic cell into another.		Davidson FPs	Michael Davidson from Florida State University has contributed a collection of ORFs and empty backbones.
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Synthetic Biology Cloning and genomic tools for studying metabolism, networks, sensing, signaling, and gene regulation.		for Transdifferentiation	Directly differentiate one differentiated somatic cell into another.
	Synthetic Biology		Cloning and genomic tools for studying metabolism, networks, sensing, signaling, and gene regulation.
Expression Plasmids   ORFs for human pathways and ORFs tagged with a variety of fluorescent proteins.	Expression Plasmids		ORFs for human pathways and ORFs tagged with a variety of fluorescent proteins.

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