

# A PROTEIN INHIBITOR OF CAS9

Tech ID: 29638 / UC Case 2019-008-0

## PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,795,208	10/24/2023	2019-008
United States Of America	Published Application	20210340199	11/04/2021	2019-008

## BRIEF DESCRIPTION

Clustered Regularly Interspaced Short Palindromic Repeat (CRISPR)/Cas9 nucleases, when complexed with a guide RNA, effect genome editing in a sequence-specific manner. RNA-guided Cas9 has proven to be a versatile tool for genome engineering in multiple cell types and organisms. There is a need in the art for additional compositions and methods for controlling genome editing activity of CRISPR/Cas9.

UC Berkeley researchers have discovered a new protein that is able to inhibit the Cas9 protein from Staphylococcus aureus (SauCas9). SauCas9 is smaller than the frequently used Cas9 from Streptococcus pyogenes, which has a number of benefits for delivery. The inhibitor is a small protein from a phage and is capable of strongly inhibiting gene editing in human cells.

## SUGGESTED USES

» Gene editing

## ADVANTAGES

» Limiting off-target editing, or other applications where reduced activity or rapid inhibition is desired

## ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- COMPOSITIONS AND METHODS FOR IDENTIFYING HOST CELL TARGET PROTEINS FOR TREATING RNA VIRUS INFECTIONS
- Genome Editing via LNP-Based Delivery of Efficient and Stable CRISPR-Cas Editors
- Type III CRISPR-Cas System for Robust RNA Knockdown and Imaging in Eukaryotes
- Cas12-mediated DNA Detection Reporter Molecules
- Improved guide RNA and Protein Design for CasX-based Gene Editing Platform
- Cas13a/C2c2 - A Dual Function Programmable RNA Endoribonuclease
- RNA-directed Cleavage and Modification of DNA using CasY (CRISPR-CasY)
- CasX Nickase Designs, Tans Cleavage Designs & Structure
- In Vivo Gene Editing Of Tau Locus Via Liponanoparticle Delivery

## CONTACT

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## INVENTORS

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## OTHER INFORMATION

### CATEGORIZED AS

- » **Materials & Chemicals**
- » Biological
- » **Medical**
- » Gene Therapy
- » **Research Tools**
- » Nucleic Acids/DNA/RNA

### RELATED CASES

2019-008-0

- ▶ [A Dual-RNA Guided CasZ Gene Editing Technology](#)
- ▶ [CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF \(“Cas-VariPhi”\)](#)
- ▶ [Modifications To Cas9 For Passive-Delivery Into Cells](#)
- ▶ [RNA-directed Cleavage and Modification of DNA using CasX \(CRISPR-CasX\)](#)
- ▶ [Compositions and Methods for Genome Editing](#)
- ▶ [Split-Cas9 For Regulatable Genome Engineering](#)
- ▶ [NANOPORE MEMBRANE DEVICE AND METHODS OF USE THEREOF](#)
- ▶ [Methods to Interfere with Prokaryotic and Phage Translation and Noncoding RNA](#)
- ▶ [CRISPR CASY COMPOSITIONS AND METHODS OF USE](#)
- ▶ [Single Conjugative Vector for Genome Editing by RNA-guided Transposition](#)
- ▶ [Improved Cas12a Proteins for Accurate and Efficient Genome Editing](#)
- ▶ [CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF](#)
- ▶ [Engineered/Variant Hyperactive CRISPR CasPhi Enzymes And Methods Of Use Thereof](#)
- ▶ [Engineering Cas12a Genome Editors with Minimized Trans-Activity](#)
- ▶ [Methods Of Use Of Cas12L/CasLambda In Plants](#)
- ▶ [Type V CRISPR/CAS Effector Proteins for Cleaving ssDNA and Detecting Target DNA](#)
- ▶ [THERMOSTABLE RNA-GUIDED ENDONUCLEASES AND METHODS OF USE THEREOF \(GeoCas9\)](#)
- ▶ [Structure-Guided Methods Of Cas9-Mediated Genome Engineering](#)
- ▶ [Endoribonucleases For Rna Detection And Analysis](#)
- ▶ [Efficient Site-Specific Integration Of New Genetic Information Into Human Cells](#)
- ▶ [CRISPR-Cas Effector Polypeptides and Methods of Use Thereof](#)
- ▶ [Class 2 CRISPR/Cas COMPOSITIONS AND METHODS OF USE](#)
- ▶ [Compositions and Methods of Use for Variant Csy4 Endoribonucleases](#)
- ▶ [Identification Of Sites For Internal Insertions Into Cas9](#)
- ▶ [Methods and Compositions for Controlling Gene Expression by RNA Processing](#)



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