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METHODS OF USE OF CAS12L/CASLAMBDA IN PLANTS

Tech ID: 32524 / UC Case 2022-026-0

PATENT STATUS

Country	Туре	Number	Dated	Case
United States Of America	Published Application	20250129388	04/24/2025	2022-026

BRIEF DESCRIPTION

UC researchers have discovered a novel use of proteins denoted CasLamda/Cas12L

within the Type V CRISPR Cas superfamily distantly related to CasX, CasY and other published type V sequences. These CasLamda/Cas12L proteins utilize a guide RNA to perform RNA-directed cleavage of DNA. The researchers have developed compounds and structures for use in in editing plant cells.

SUGGESTED USES

- » Targeted genome editing of plant cells
- $\ensuremath{\hspace{.05em} \mathcal{V}}$ Targeting of proteins bound to CasLamda/Cas12L to a specific locus of a genome

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INVENTORS

» Doudna, Jennifer A.

OTHER INFORMATION

KEYWORDS

CRISPR, Cas12L, CasLambda

CATEGORIZED AS

- » Agriculture & Animal Science
 - >> Other
 - >> Transgenics
- » Research Tools
 - » Nucleic Acids/DNA/RNA

RELATED CASES

2022-026-0

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
- ▶ Tissue-Specific Genome Engineering Using CRISPR-Cas9
- ▶ Type III CRISPR-Cas System for Robust RNA Knockdown and Imaging in Eukaryotes
- ► Cas9 Variants With Altered DNA Cleaving Activity
- ► 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
- Miniature Type VI CRISPR-Cas Systems and Methods of Use
- ▶ 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
- ▶ Methods and Compositions for Modifying a single stranded Target Nucleic Acid

- ► A Dual-RNA Guided CasZ Gene Editing Technology
- ▶ CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF ("Cas-VariPhi")
- ► A Protein Inhibitor Of Cas9
- ▶ RNA-directed Cleavage and Modification of DNA using CasX (CRISPR-CasX)
- ► Compositions and Methods for Genome Editing
- ▶ IS110 and IS1111 Family RNA-Guided Transposons
- Methods to Interfere with Prokaryotic and Phage Translation and Noncoding RNA
- ▶ Variant Cas12a Protein Compositions and Methods of Use
- ▶ In Vitro and In Vivo Genome Editing by LNP Delivery of CRISPR Ribonucleoprotein
- ► 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
- ▶ Type V CRISPR/CAS Effector Proteins for Cleaving ssDNA and Detecting Target DNA
- ▶ THERMOSTABLE RNA-GUIDED ENDONUCLEASES AND METHODS OF USE THEREOF (GeoCas9)
- ► Variant TnpB and wRNA Proteins
- ▶ Efficient Site-Specific Integration Of New Genetic Information Into Human Cells
- ▶ Class 2 CRISPR/Cas COMPOSITIONS AND METHODS OF USE
- ▶ Compositions and Methods of Use for Variant Csy4 Endoribonucleases
- ▶ Methods and Compositions for Controlling Gene Expression by RNA Processing



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