METHODS OF USE OF CAS12L/CASLAMBDA IN PLANTS

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

PATENT STATUS

Country	Type	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
- 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

- Next-Generation Lipid Nanoparticles for Precision Nucleic Acid Delivery
- 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
- Targeted Nucleic Acid Editing via Cas9-Deaminase Fusion Proteins
- 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
- Compositions and Methods for Delivering Molecular Cargo to Cells
- 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)

- Generation of Chimeric RNA with Type III CRISPR-Cas
- CasX Nickase Designs, Tans Cleavage Designs & Structure
- Methods and Compositions for Modifying a single stranded Target Nucleic Acid
- Genetically Encoded, Biologically Responsive, And Programmable Bispecific Aptames As Therapeutic Protein Degraders
- A Dual-RNA Guided CasZ Gene Editing Technology
- 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
- 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
- CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF
- Compositions and Methods for VIPR-Based Nucleic Acid Targeting
- Precision-Engineered Cas12a: Eliminating Collateral DNA Cleavage for Next-Generation Genome Editing
- Selective Cell Elimination using RNA-guided Chromatin Shredding
- 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
- Immune Cell-Mediated Intercellular Delivery Of Biomolecules
- Methods and Compositions for Controlling Gene Expression by RNA Processing

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