CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF

Tech ID: 30175 / UC Case 2019-102-0

PATENT STATUS

Country	Type	Number	Dated	Case
United States Of America	Issued Patent	11,739,309	08/29/2023	2019-102
United States Of America	Issued Patent	11,685,909	06/27/2023	2019-102
Japan	Issued Patent	7239725	03/06/2023	2019-102
United States Of America	Issued Patent	11,578,313	02/14/2023	2019-102
United States Of America	Issued Patent	11,530,398	12/20/2022	2019-102
United Kingdom	Issued Patent	2595606	09/21/2022	2019-102
United States Of America	Issued Patent	11,377,646	07/05/2022	2019-102
Germany	Issued Patent	212020000516.8	01/17/2022	2019-102
Australia	Published Application	2023201675	05/09/2024	2019-102
United States Of America	Published Application	20240026321	01/25/2024	2019-102
United States Of America	Published Application	20230332123	10/19/2023	2019-102
United States Of America	Published Application	20230323321	10/12/2023	2019-102
United States Of America	Published Application	20230287375	09/14/2023	2019-102
China	Published Application	CN116732004A	09/12/2023	2019-102
European Patent Office	Published Application	4219700 A1	08/02/2023	2019-102
Japan	Published Application	2023-071855	05/23/2023	2019-102
Mexico	Published Application	MX/A/23/003255	05/15/2023	2019-102
United States Of America	Published Application	20220340889	10/27/2022	2019-102
Hong Kong	Published Application	40064319 A	06/30/2022	2019-102
European Patent Office	Published Application	3935156 A0	01/12/2022	2019-102
Mexico	Published Application	MX/A/21/010559	01/12/2022	2019-102
China	Published Application	CN113811607A	12/17/2021	2019-102
United States Of America	Published Application	20210324356	10/21/2021	2019-102
United States Of America	Published Application	20210324358	10/21/2021	2019-102
United States Of America	Published Application	20210254038	08/19/2021	2019-102
Australia	Published Application			2019-102
Canada	Published Application			2019-102

BRIEF DESCRIPTION

The CRISPR-Cas system is now understood to confer bacteria and archaea with acquired immunity against phage and viruses. CRISPR-Cas systems consist of Cas proteins, which are involved in acquisition, targeting and cleavage of foreign DNA or RNA, and a CRISPR array, which includes direct repeats flanking short spacer sequences that guide Cas proteins to their targets. Class 2 CRISPR-Cas are streamlined versions in which a single Cas protein bound to RNA is responsible for binding to and cleavage of a targeted sequence. The programmable nature of these minimal systems has facilitated their use as a versatile technology that is revolutionizing the field of genome manipulation. Current CRISPR Cas technologies are based on systems from cultured bacteria, leaving untapped the vast majority of organisms that have not been isolated. There is a need in the art for additional Class 2 CRISPR/Cas systems (e.g., Cas protein plus guide RNA combinations).

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OTHER INFORMATION

KEYWORDS

CRISPR, Cas 12, Cas12J, CasPhi

CATEGORIZED AS

» **Agriculture & Animal Science**
» Transgenics
» **Medical**
» Gene Therapy
» Research Tools
» Screening
» Therapeutics
» **Research Tools**
» Nucleic Acids/DNA/RNA
» **Veterinary**
» Diagnostics
» Therapeutics

RELATED CASES

2019-102-0

UC Berkeley researchers discovered a new type of Cas 12 protein, CasPhi. Site-specific binding and/or cleavage of a target nucleic acid (e.g., genomic DNA, ds DNA, RNA, etc.) can occur at locations (e.g., target sequence of a target locus) determined by base-pairing complementarity between the Cas12 guide RNA (the guide sequence of the Cas12 guide RNA) and the target nucleic acid. Similar to CRISPR Cas9, Cas12 enzymes are expected to have a wide variety of applications in genome editing and nucleic acid manipulation.

SUGGESTED USES

- Genome editing in plants
- Research tools

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
- A Dual-RNA Guided CasZ Gene Editing Technology
- Single-Stranded Nucleic Acid Detection And Imaging System Using Cas9
- CRISPR-CAS EFFECTOR POLYPEPTIDES AND METHODS OF USE THEREOF (“Cas-VariPhi”)
- Modifications To Cas9 For Passive-Delivery Into Cells
- A Protein Inhibitor Of Cas9
- RNA-directed Cleavage and Modification of DNA using CasX (CRISPR-CasX)
- Compositions and Methods for Genome Editing
- Split-Cas9 For Regulatable Genome Engineering
- 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
- Engineered/Variant Hyperactive CRISPR CasPhi Enzymes And Methods Of Use Thereof
- 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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