

COMPOSITIONS AND METHODS FOR TIGR-TAS MEDIATED TARGETING

Tech ID: 34603 / UC Case 2026-104-0

PATENT STATUS

Patent Pending

BRIEF DESCRIPTION

RNA-guided DNA targeting systems have fundamentally changed the landscape of genomic research and therapeutic development, yet the large size of traditional CRISPR tools creates a "delivery bottleneck" for therapeutic vectors. While the TIGR-Tas protein family offers a compact alternative for streamlined delivery, naturally occurring TasR proteins often lack the cleavage efficiency required for complex biological environments.

UC Berkeley researchers have overcome this by engineering high-performance variants of ParTasR. This system is approximately one-quarter the size of Cas9. The engineered proteins demonstrate significantly higher on-target cleavage activity than wild-type sequences, offering a potent and hyper-compact alternative for the next generation of in vivo genome editing.

SUGGESTED USES

- » Gene editing
- » Compact Delivery Systems
- » Targeted DNA Binding
- » Molecular Diagnostics

ADVANTAGES

- » Maximized On-Target Potency
- » Compact Delivery Profile
- » Optimized Targeting Precision
- » Versatile Modular Platform

ADDITIONAL TECHNOLOGIES BY THESE INVENTORS

- ▶ Rubisco Selection System
- ▶ Compositions and Methods for Genome Editing in Plants
- ▶ Compression of Genetic Information in Multiple Reading Frames
- ▶ Improving Photosynthetic Performance of Plants
- ▶ 2'-fluoro RNA Activators for Enhanced Activation of Csm6 in RNA Detection Assays
- ▶ Composition and Methods of a Nuclease Chain Reaction for Nucleic Acid Detection

CONTACT

Terri Sale
terri.sale@berkeley.edu
tel: 510-643-4219.



INVENTORS

- » Savage, David Frank

OTHER INFORMATION

CATEGORIZED AS

- » **Biotechnology**
- » Genomics
- » Health
- » **Medical**
- » Delivery Systems
- » **Research Tools**
- » Nucleic Acids/DNA/RNA

RELATED CASES

2026-104-0

