

Methods of Genome Editing Oocytes

Tech ID: 33677 / UC Case 2022-608-0

ABSTRACT

Researchers at the University of California, Davis have developed a way to introduce large genetic modifications in livestock species, in a high throughput manner.

FULL DESCRIPTION

This platform technology reduces the overall steps and complexity of introducing genetic changes via microinjection into livestock, and instead utilizes a combination of techniques and chemically modified oocytes to produce up to 100 gene-edited zygotes in parallel; donor DNA templates of up to 4.7 kb are possible. This technology helps overcome challenges such as long generation intervals and linkage drag associated with traditional breeding approaches.

APPLICATIONS

- ▶ Introduction of beneficial traits in livestock species
- ▶ Elimination of detrimental traits in livestock species

FEATURES/BENEFITS

- ▶ Allows precise genetic alterations into livestock genomes
- ▶ Scalable and high-throughput production of gene-edited animals
- ▶ Eliminates the need for specialized equipment and personnel
- ▶ Bypasses slower traditional breeding processes
- ▶ Larger (up to 4.7kb) donor DNA templates possible

PATENT STATUS

Country	Type	Number	Dated	Case
Patent Cooperation Treaty	Reference for National Filings	WO 2023/235879	12/07/2023	2022-608

Patent Pending

CONTACT

Victor Haroldsen
haroldsen@ucdavis.edu
tel: 530-752-7717.



INVENTORS

- ▶ Lin, Jason
- ▶ Van Eenennaam, Alison

OTHER INFORMATION

CATEGORIZED AS

- ▶ **Agriculture & Animal Science**
 - ▶ Animal Science
 - ▶ Other
- ▶ **Veterinary**
 - ▶ Large Animal
 - ▶ Other

RELATED CASES

2022-608-0

University of California, Davis

Technology Transfer Office

1 Shields Avenue, Mrak Hall 4th Floor,
Davis,CA 95616

Tel:

530.754.8649

techtransfer@ucdavis.edu

<https://research.ucdavis.edu/technology-transfer/>

© 2024, The Regents of the University of California

[Terms of use](#)

[Privacy Notice](#)

Fax:
530.754.7620