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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	Published Application	WO 2023/235879	12/07/2023	2022-608

Additional Patent Pending

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OTHER INFORMATION

CATEGORIZED AS

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

RELATED CASES

2022-608-0