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
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Additional Patent Pending