

UCLA CRISPR Licensing Program

A major challenge in CRISPR-based gene editing is efficient delivery of the editing system to target cells. UCLA has filed patents on plant viral delivery vectors expressing highly miniaturized CRISPR systems that may overcome these challenges.

The technology is based on recent work from the Jacobsen (UCLA) and Doudna (UC Berkeley) laboratories, in which a modified plant RNA virus called Tobacco Rattle Virus (TRV) is used to deliver a tiny TnpB CRISPR protein and its guide RNA (gRNA). It was shown that TRV encoding TnpB and gRNAs can induce efficient somatic genome editing in the model plant *Arabidopsis thaliana*. It was also shown that genome edits were transmitted to progeny plants, and that the resulting edited plants were virus free.

The system therefore represents a potential one-step virus induced genome editing system that does not require plant transformation or plant regeneration and may be applicable to a variety of crop plants and other systems.

This work was recently published in Nature Plants, and is publicly available on *bioRxiv* (<https://www.biorxiv.org/content/10.1101/2024.07.17.603964v2>).

In order to lower the financial and paperwork hurdles to widespread use of this technology, UCLA is offering licenses to this technology under a short ready to sign license agreement with a simplified financial structure as described below.

For companies in the **agriculture** space:

- non-exclusive license
- straight 1% royalty rate on products (such as engineered plants, seeds, etc.)
- \$5K annual license fee (companies with under 100 employees), \$10K annual license fee (companies with more than 100 employees)

For companies wanting to sell to the **research market**:

- non-exclusive license
- straight 1% royalty rate on products (such as kits, reagents and other tools)
- \$5K annual license fee (companies with under 100 employees), \$10K annual license fee (companies with more than 100 employees)

For companies in **human or animal therapeutics**:

- we recognize that some degree of exclusivity may be needed. Please contact Earl Weinstein (eweinstein@tdg.ucla.edu) to discuss this further. Please note that consistent with practices at peer institutions, we will not license the technology for any clinical use of human germline editing.

For inquiries, please contact Earl Weinstein (eweinstein@tdg.ucla.edu).