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Novel Agrobacterium Strains That Will Transiently Express But Not Integrate T-DNA

Optimize plant genetics with a new agrobacterium strain that achieves T-DNA transfer and gene expression without integrating into the host genome.

Researchers at Purdue University have developed a new agrobacterium strain for genetic transformation in plants. Agrobacterium is used to append a region of transfer DNA (T-DNA) of tumor-induced (Ti-)plasmid to a plant, and T-DNA is processed from virD1 and virD2 virulence proteins to achieve genetic transformation. Traditionally, this process often leads to undesired genetic alterations. Purdue researchers have optimized a process for synthesizing a new agrobacterium strain to transfer T-DNA without integrating it into the plant genome.

Advantages:

- Gene Expression Without Genome Integration
- T-DNA Transfer to Plants

Potential Applications:

- Plant Genetics
- Agrobiosciences

Technology Validation: New mutations of virD2 have been studied

Recent Publication:

Dr. Stanton Gelvin's Project Webpage

<https://www.bio.purdue.edu/People/faculty/gelvin/gelvinweb/completeproposal.html>

TRL: 2

Intellectual Property:

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Agriculture, Nutrition, &
AgTech/Precision Agriculture &
Smart Farming
Agriculture, Nutrition, &
AgTech/Crop Genetics &
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