Novel Agrobacterium Strains that will Transiently Express but not Integrate T-DNA

Engineered Agrobacterium transiently expresses T-DNA in plants without genomic integration.

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:

Technology ID

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Category

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