



Modular Vector for one-step Assembly of Intron Containing Hairpin RNA For High Throuput Gene Silencing in Plants

Technology Description

- § RNAi mediated gene silencing requires synthesis/introduction of dsRNA in the cells, this requires assembly of intron containing hairpin (IHP) RNA constructs.
- § This is a cumbersome process needing multiple steps of PCR, cloning etc.
- § The current technology highly simplifies the process of IHP assembly and requires just a single steps of PCR, restriction, ligation and transformation, thus minimizing the effort, cost and time required for the IHP assembly.

Benefits / Utility

Savings in terms of effort (no. of steps), time and cost by using the modular vector compared to conventional and commercial

Country

India

Scalability

The technology has been proven at least six times and is validated. Four different transgenic tomato events have been developed and functionally validated by Q-RT-PCR and other means.



Business and Commercial Potential

IHP constructs can be assembled conventionally using multiple, tedious steps of PCR, restriction digestion, cloning etc. and commercially available Gateway technology can also be employed to achieve the similar ends. However, a Considerable savings 40-75% in time, effort and costs in high-throughput assembling of ihp by employing the one-step modular vector.Savings in terms of effort (no. of steps), time and cost by using the modular vector compared to conventional and commercial (Gateway) technology



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Potential investors to this technical innovation

Research laboratories working on RNAi, Public institutes and Private firms involved in high-throughput functional genomics

Target Market / Customer

Research laboratories working on RNAi

Social impact of the technology

§ Savings in terms of effort (no. of steps), time and cost by using the modular vector compared to conventional and commercial (Gateway)



Name Of institute:
Indian Institute of Horticultural Research,
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Stage of development:
Ready for commercialization
Patent status: Filed

Scientific Experts:
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