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Establishment of the TRV delivery system using Nicotiana benthamiana Cas9 over-expressing plants

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Clustered regularly interspaced palindromic repeats (CRISPRs)/CRISPR associated (Cas) is currently known as a very powerful genome editing technology, and it is also success in many plants. Here, we first made Cas9 overexpressing tobacco plants through agrobacterium-mediated transformation method. Tobacco Cas9 overexpressing plants confirmed the Cas9 expression level by RT-PCR analysis. PDS (positive control) and eIF4E genes infiltrated in tobacco plants systemically. Expression of PDS and eIF4E confirmed the time course (0, 6, 24, 48, 72 hrs) by RT-PCR analysis. We are produced the new tobacco plants using transient expressing leaf through tissue culture, and the seeds are harvested and then selected from the selective germination medium (with antibiotic). If these results are successful, the TRV (Tobacco Rattle Virus) delivery system will be able to be very efficiently in many plant species.

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