

# PTD-DRBD AND DSRNAS TRANSIENTLY CO-EXPRESSED IN POTATO PLANTS ENHANCE INSECT TOXICITY IN COLORADO POTATO BEETLE LARVAE

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**S**ilencing of genes by RNAi (RNA interference) technology provides an alternative, selective to species level, environmentally friendly strategy to combat insect pests. Double-stranded RNA molecules (double-stranded RNAs, dsRNAs) targeting important developmental genes are taken up by the digestive tract of the targeted insect species and induce RNAi, which results in inhibition of growth, development and reproduction of the targeted insect species. *Agrobacterium* mediated transient co-expression of the chimeric protein PTD-DRBD (peptide transduction domain-dsRNA binding domain) and insect specific dsRNAs in potato plants increased lethality of Colorado potato beetle larvae after in planta bioassays. Our results showed that PTD-DRBD and dsRNA co-expression in plant tissues could be used as an alternative approach for constructing genetically modified plants resistant to Colorado potato beetle.

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