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***Citrus tristeza virus*-based RNA-interference (RNAi) vector and its potential in combating citrus Huanglongbing (HLB)**

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Citrus tristeza virus (CTV), a plus-sense ssRNA virus, is member of the genus Closterovirus, family *Closteroviridae*. RNA viruses are inducers as-well-as targets of gene silencing defense mechanism of host plants and this has been exploited as a tool in functional genomics. CTV was developed into virus-induced gene silencing (VIGS) or RNA-interference (RNAi) vector, which interferes with expression of endogenous genes in citrus or GFP-transgene in *Nicotiana benthamiana* (16c) in a sequence specific manner. Photobleaching phenotype indicative of silencing of endogenous gene, phytoene desaturase in citrus, and red color under UV indicative of silencing of transgene GFP in *N. benthamiana* (16c) was observed using CTV-RNAi vector. CTV-RNAi vector has great potentials in combating huanglongbing (HLB) disease through (1) enhancing basal defense of citrus by silencing of auxin signaling F-Box receptor genes while simultaneously overexpressing microRNAs; (2) down-regulation of overexpressed genes, callose synthase and phloem protein-2, responsible for phloem-plugging in citrus by HLB; (3) expressing dsRNA specific to essential genes of insect vector psyllid (*Diaphorina citri*) to disable transmission of 'Candidatus' Liberibacter asiaticus pathogen. Simultaneous silencing of multiple endogenous genes of a metabolic pathway is possible through tandem engineering of potential siRNA eliciting regions in CTV-RNAi vector.