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APPLYICATION OF A CRISPR/CAS9 VECTOR IN A. CHINENSIS VAR. CHINENSIS TO INDUCE PSEUDOMONAS SYRINGAE PV. ACTINIDIAE RESISTANCE/TOLERANCE

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The bacterial canker of kiwifruit caused by *Pseudomonas syringae pv. actinidiae* (Psa) has spread worldwide from 2008 to the present. The strong virulence of some strains, the absence of resistant cultivars and the unknown genetic basis of the resistance have made it difficult to implement breeding programs for Psa resistance. Currently, Psa control is based on the use of chemical and agronomic approaches. To overcome these limitations, biotechnological approaches such as genome editing by modifying genes important in the plant-Psa interaction could be useful. A CRISPR/Cas9 vector was used for the transformation of tetraploid A. chinensis var. chinensis. A gene belonging to the transcription factors AP2/ERF named *ABR1* was selected as target sequence, from our previous RNAseq analyses. Leaf explants were used for *Agrobacterium tumefaciens* infection. The regenerated shoots were analysed and the presence of deletions due to the genomic editing event was found. Plantlet with two different alleles were obtained showing different susceptibility to Psa. This preliminary study provides insight into the feasibility of applying CRISPR/Cas9 vectors in this species to be used for approaches to induce Psa resistance/tolerance.