

Appendix A The conserved silencing suppressor gene regions of the mixed CTV stains and TR-L514 severe strain

>conserved p20 sequence used as 'inverted-repeat' cloned form mixed CTV strains

CGATCCCAGCGTAACTCTTGCGGAAGTGATGGACGAAATTAATGACTTTAACTCGTTTCTC
GCTTTGGTACACTCTATGAAGTCGGACATGAACGGCGATCATCAGGATGGTCACCACGAG
ATGGGTGAACACAAGTCTCGATTGTTGTGTAATATAGAGGCGAAACTGCGAATACTTCTC
GACATCATAAGACGTCGGTTTACTCGCGACAAGCTGCTCTGTACCAGCGCAACAGATGTC
ATGGGCTTCTTC

> conserved p25 sequence used as 'inverted-repeat' cloned form mixed CTV strains

TGAAGTGGATTTGTCTGACAAGCTTTGGACTGACGTCGTGTTTAACTCTAAGGGTATTGGT
AACCGTACTAATGCCCTTCGAGTCTGGGGTAGGACTAAGGATGCCCTTTATTTAGCTTTCT
GTAGACAGAATCGCAATTTGAGTTATGGTGGACGTCGCTAGATGCAGGGATTCCGGCTG
GATATCATTACCTATGTGCAGATTTCTTGACCGGAGCTGGCTTGACTGATTTAGAATGTGC
TGTGTACATAACAAGCTAAGGAACAATTGTTGAAGAAGCGAGGG

> conserved p23sequence used as 'inverted-repeat' cloned form mixed CTV strains

CAACAATACGCAGTGTCAGAACGAGGTGGCGCATATGTTAATGCACGACCCCGTTAAGTA
TTTAAATAAAGGAAAAGCTAGAGCCTTTTCTAACGCAGAGATGTTTGCGATCGACTTGTT
ATGCACACCAAAGAAAGGCAATTAGCGGTTGATTTGGCCGCTGAAAGGGAGAAGACGAG
ATTGGCTCGTAHACACCCCATGCTTTCTCCCGAAGAGACTCCGGACTATTATAAATTCGGT
ATGACTGCTAAGGCAATGTTACCGAACATCAACGCTGTAGACGTTGGTGATAACGAAGAT
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TCATCTGATTGAAGTGGACG

> conserved p20 sequence of TR-L514

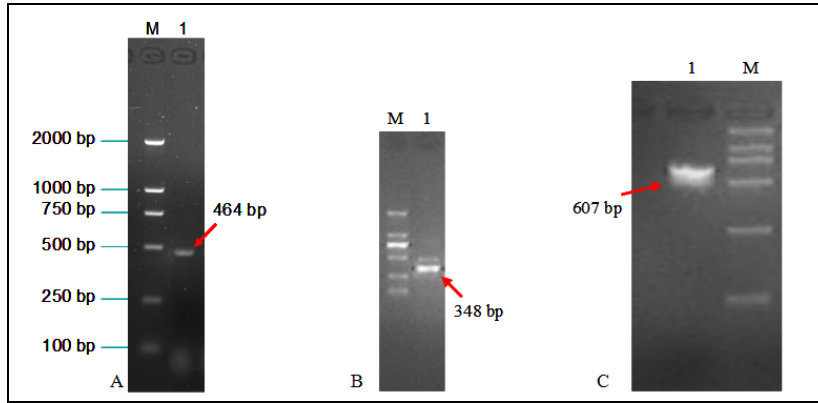
CGATCCCAGCGTAACTCTCACGGAAGTGATAGACGAAATTAAGTACTTTAACTCGTTTCTC
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ATGGGTGAACACAAGTCTCGATTATTATGCAATATAGAGGCGAAATTGCGAGTACTTCTC
GACGTTATAAGGCGTCGGTTTACTCGCGAAAAGCTGCTTTGTACCAGCGCGGTAGATGTC
ATGGGCTTCTTC

>conserved p23 sequence TR-L514

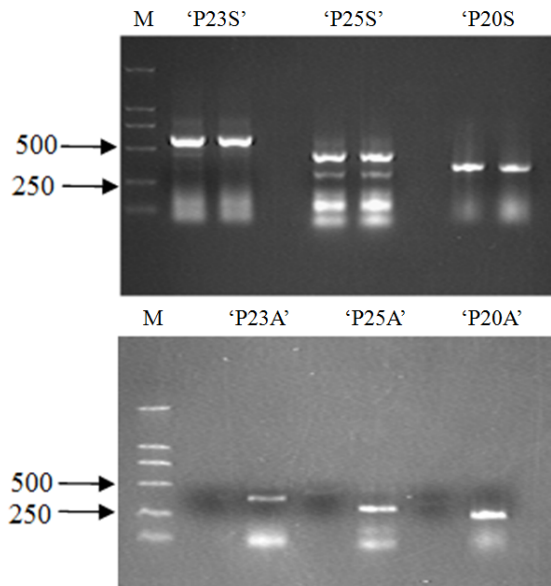
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TAAGTACACCAAGGAAAAGCAGTTGGCGGTTAAATTGGCCGCTGAAAGGGAGAAGACGA
GACTGGCTCGTAAACACCCGATGCGTTCTCCGGAAGAACTCCGGAATTTCTATAAATTCG
GTATAACTGCTAAAGCAATGTTACCGAACATCAACGCTGCGGACGTTGGTGATAACGAGG
ACACTTCGTCGGAGTACCCAGTGAGTCTGAGTGTTCGACGGAGTTCTCCGTGAACACCA
CTTCATCTGATTGAAGTGGACG

>conserved p25 sequence of TR-L514

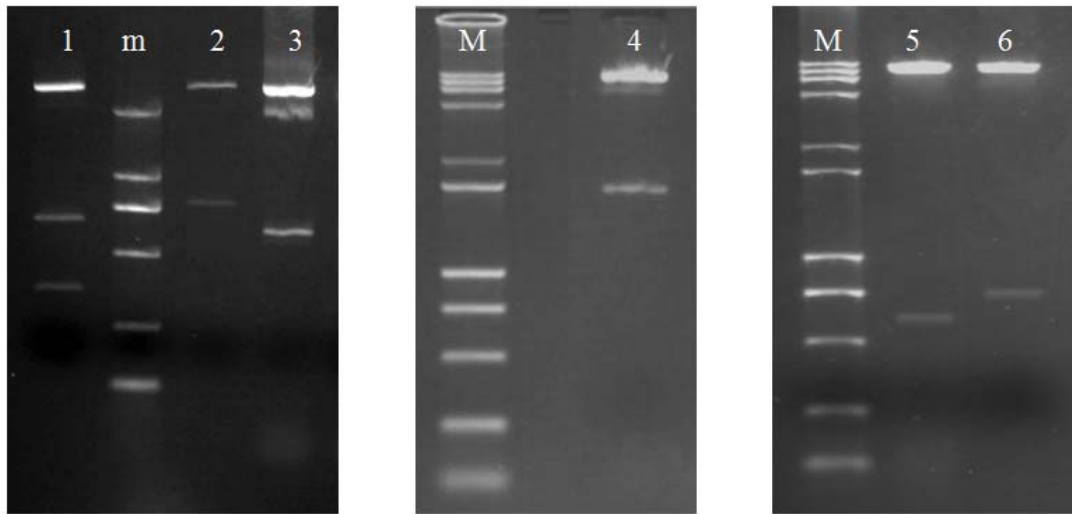
TGAAGTGGAGTTGTCTGACAAACTTTGGACAGACATTGTGTTTAACTATAAGGGTATTGGTA
ACCGTACTAACGCCCTTCGAGTGTGGAGTAGAACTAACGATGCCCTTTATTTGGTTTTTTGT
AGACAGAACCGCAACTTGAGTTATGGTGGACGTCGTTAGATGCAGGAATTCCAGCCGGGT
ATCAGTACCTGTGTGCAGATTTCTTGACCGGAGCTGGCTTGACTGATTTAGAATGTGCTGTG
TACATAACAAGCTAAGGAACAATTGTTGAAGAAGCGAGGG



Appendix B Electrophoresis of 'P25' (A), 'P20' (B) and 'P23' (C) PCR amplified products. M: DL 2000 marker (from bottom to top: 100, 250, 500, 750, 1000 and 2000bp); 1: PCR products.



Appendix C. Electrophoresis of RT-PCR and nested PCR products. M: DL2000 marker



Appendix D Electrophoresis results of restriction enzyme digested products of the plasmids generated in this study using *Sac* I and *Bam* HI. m: DL2000 marker; M: DL15000 marker (from bottom to top: 100, 250, 500, 750, 1000, 2000, 2500, 5000, 7500, 10000 and 15000bp); 1-6: double digestion identification of pTZ57R-hp23, pTZ57R-hp25, pTZ57R-hp20, pCAMBIA2301G, pCAMBIA2301G-hp20, and pCAMBIA2301G-hp25.