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**Figure 1.** Mosaic symptom on the leaves of sugarcane cultivar ROC22. The healthy leaf was shown in (A) and the mosaic leaf was shown in (B).

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Table S1. Primers used in this study.

Genes	Primers	Primer sequences*	Strategy/Constructs
SCMV-6K2	6K2-F	5'-ATGGGAATGGATGCAACAGC-3'	pPOTO-6K2
	6K2-R	5'-CCCCTGGTGGCAGACGTTTGTGC-3'	
SCMV-6K2	pBT3-STE-6K2-F	5'-ATTACCAAGGCCATTACGGCCATGGGAATGGATGCAACAGC-3'	pBT3-STE-6K2
	pBT3-STE-6K2-R	5'-AACTGATTGGCCGAGGCGCCCCCTGGTGGCAGACGTTTGTGC-3'	
SCMV-6K2	Gateway-6K2-F	5'-GGGGACAAGTTTGTACAAAAAAGCAGGCTTCATGGGAATGGATGCAACAG-3'	pEarleyGate102-6K2
	Gateway-6K2-R	5'-GGGGACCACTTTGTACAAGAAAGCTGGGTCTGGTGGCAGACGTTTGTGC-3'	
	pPR3-N-F	5'-GTCGAAAATTCAAGACAAGG-3'	Yeast plasmid sequencing
	pPR3-N-R	5'-AAGCGTGACATAACTAATTAC-3'	
ScPsbS	ScPsbS-F	5'-ATGGCGCAGTCCATGCTCAT-3'	pPOTO-ScPsbS
	ScPsbS-R	5'-CTACTCTTCGTCCTCGCTGA-3'	
ScPsbS	pPR3-N-ScPsbS-F	5'-ATTAACAAGGCCATTACGGCCATGGCGCAGTCCATGCTCAT-3'	pPR3-N-ScPsbS
	pPR3-N-ScPsbS-R	5'-TTGACTAAGGCCGAGGCGCCGCTACTCTTCGTCCTCGCTGA-3'	
ScTMEM208	ScTMEM208	5'-ATGGCGAAGCAGGGGGCGAA-3'	pPOTO-ScTMEM208
	ScTMEM208	5'-TCAGCGAGTCCTAGTTTTGA-3'	
ScTMEM208	pPR3-N-ScTMEM208-F	5'-ATTAACAAGGCCATTACGGCCATGGCGAAGCAGGGGGCGAA-3'	pPR3-N-ScTMEM208
	pPR3-N-ScTMEM208-R	5'-TTGACTAAGGCCGAGGCGCCGTCAGCGAGTCCTAGTTTTGA-3'	
ScPIP1;2	ScPIP1;2-F	5'-ATGGAGGGGAAGGAGGAGGA-3'	pPOTO-ScPIP1;2
	ScPIP1;2-R	5'-TTAAGACCTGCTCTTGAAC-3'	
ScPIP1;2	pPR3-N-ScPIP1;2-F	5'-ATTAACAAGGCCATTACGGCCATGGAGGGGAAGGAGGAGGA-3'	pPR3-N-ScPIP1;2
	pPR3-N-ScPIP1;2-R	5'-TTGACTAAGGCCGAGGCGCCGTTAAGACCTGCTCTTGAAC-3'	
ScPsbR	ScPsbR-F	5'-ATGGCGGCCTCCATGATCTCGT-3'	pPOTO-ScPsbR
	ScPsbR-R	5'-TTAGCCGGAGAGGGCGCTG-3'	

ScPsbR	pPR3-N-ScPsbR-F	5'-ATTAACAAGGCCATTACGGCCATGGCGGCCTCCATGATCTCGT-3'	pPR3-N-ScPsbR
	pPR3-N-ScPsbR-R	5'-TTGACTAAGGCCGAGGCGGCCGTTAGCCGGAGAGGGGCGCTG-3'	
ScVAMP727	ScVAMP727-F	5'-ATGATGAACAGCAGCAAGCAG-3'	pPOTO-ScVAMP727
	ScVAMP727-R	5'-CTAACATTTGAATCCCCTGCA-3'	
ScVAMP727	pPR3-N-ScVAMP727-F	5'-ATTAACAAGGCCATTACGGCCATGATGAACAGCAGCAAGCAG-3'	pPR3-N-ScVAMP727
	pPR3-N-ScVAMP727-R	5'-TTGACTAAGGCCGAGGCGGCCGCTAACATTTGAATCCCCTGCA-3'	
ScVHA-C	ScVHA-C-F	5'-ATGTCGTCGGTATTCAGCG-3'	pPOTO-ScVHA-C
	ScVHA-C-R	5'-CTAATCTGCACGGGATTGG-3'	
ScVHA-C	pPR3-N-ScVHA-C-F	5'-ATTAACAAGGCCATTACGGCCATGTCGTCGGTATTCAGCG-3'	pPR3-N-ScVHA-C
	pPR3-N-ScVHA-C-R	5'-TTGACTAAGGCCGAGGCGGCCGCTAATCTGCACGGGATTGG-3'	
ScPIP2;7	ScPIP2;7-F	5'-ATGTCGAAGGATGACGTGGC-3'	pPOTO-ScPIP2;7
	ScPIP2;7-R	5'-TCACACCGTGGCGCTGGTGC-3'	
ScPIP2;7	pPR3-N-ScPIP2;7-F	5'-ATTAACAAGGCCATTACGGCCATGTCGAAGGATGACGTGGC-3'	pPR3-N-ScPIP2;7
	pPR3-N-ScPIP2;7-R	5'-TTGACTAAGGCCGAGGCGGCCGTCACACCGTGGCGCTGGTGC-3'	
ScBGLU31	ScBGLU31-F	5'-ATGGTGGAGCTGACACCGCGTG-3'	pPOTO-ScBGLU31
	ScBGLU31-R	5'-TCACTCCGAATAGGTGGAGC-3'	
ScBGLU31	pPR3-N-ScBGLU31-F	5'-ATTAACAAGGCCATTACGGCCATGGTGGAGCTGACACCGCGTG-3'	pPR3-N-ScBGLU31
	pPR3-N-ScBGLU31-R	5'-TTGACTAAGGCCGAGGCGGCCGTCACCTCCGAATAGGTGGAGC-3'	
ScGONST4	ScGONST4-F	5'-ATGGCAAAGCAGTATTACG-3'	pPOTO-ScGONST4
	ScGONST4-R	5'-TTAGGTTGTTCCATCAGGCT-3'	
ScGONST4	pPR3-N-ScGONST4-F	5'-ATTAACAAGGCCATTACGGCCATGGCAAAGCAGTATTACG-3'	pPR3-N-ScGONST4
	pPR3-N-ScGONST4-R	5'-TTGACTAAGGCCGAGGCGGCCGTTAGGTTGTTCCATCAGGCT-3'	
ScPMP22	ScPMP22-F	5'-ATGGCGGCGGCGTCGGCGTC-3'	pPOTO-ScPMP22
	ScPMP22-R	5'-CTATGTGGAGTTGTCCTTTG-3'	
ScPMP22	pPR3-N-ScPMP22-F	5'-ATTAACAAGGCCATTACGGCCATGGCGGCGGCGTCGGCGTC-3'	pPR3-N-ScPMP22
	pPR3-N-ScPMP22-R	5'-TTGACTAAGGCCGAGGCGGCCGCTATGTGGAGTTGTCCTTTG-3'	

ScVTE3	ScVTE3-F	5'-ATGCCCTCCACCTACGCGC-3'	pPOTO-ScVTE3
	ScVTE3-R	5'-TCAGATTGGCATGCCTTTTG-3'	
ScVTE3	pPR3-N-ScVTE3-F	5'-ATTAACAAGGCCATTACGGCCATGCCCTCCACCTACGCGC-3'	pPR3-N-ScVTE3
	pPR3-N-ScVTE3-R	5'-TTGACTAAGGCCGAGGCGGCCGTCAGATTGGCATGCCTTTTG-3'	
ScZIFL1	ScZIFL1-F	5'-ATGGCCGGCGGTGGCGGCGA-3'	pPOTO-ScZIFL1
	ScZIFL1-R	5'-TTATGAATGCCTCATTGAAT-3'	
ScZIFL1	pPR3-N-ScZIFL1-F	5'-ATTAACAAGGCCATTACGGCCATGGCCGGCGGTGGCGGCGA-3'	pPR3-N-ScZIFL1
	pPR3-N-ScZIFL1-R	5'-TTGACTAAGGCCGAGGCGGCCGTTATGAATGCCTCATTGAAT-3'	
ScTIP1;2	ScTIP1;2-F	5'-ATGCCGGTGAGCAGGATCG-3'	pPOTO-ScScTIP1;2
	ScTIP1;2-R	5'-TCAGTAGTCTGCGGTGGGCA-3'	
ScTIP1;2	pPR3-N-ScTIP1;2-F	5'-ATTAACAAGGCCATTACGGCCATGCCGGTGAGCAGGATCG-3'	pPR3-N-ScTIP1;2
	pPR3-N-ScTIP1;2-R	5'-TTGACTAAGGCCGAGGCGGCCGTCAGTAGTCTGCGGTGGGCA-3'	
ScTPT	ScTPT-F	5'-ATGTCGGCGCTCGGAACGCT-3'	pPOTO-ScTPT
	ScTPT-R	5'-TCATGCGCTCTTTTTCCTTT-3'	
ScTPT	pPR3-N-ScTPT-F	5'-ATTAACAAGGCCATTACGGCCATGTCGGCGCTCGGAACGCT-3'	pPR3-N-ScTPT
	pPR3-N-ScTPT-R	5'-TTGACTAAGGCCGAGGCGGCCGTCATGCGCTCTTTTTCCTTT-3'	
ScRNS4	ScRNS4 -F	5'-ATGGGAGGCCGCAGAACAAT-3'	pPOTO-ScRNS4
	ScRNS4 -R	5'-TGCTCCCCACTCAGACCATG-3'	
ScRNS4	pPR3-N-ScRNS4 -F	5'-ATTAACAAGGCCATTACGGCCATGGGAGGCCGCAGAACAAT-3'	pPR3-N-ScRNS4
	pPR3-N-ScRNS4 -R	5'-TTGACTAAGGCCGAGGCGGCCGTGCTCCCCACTCAGACCATG-3'	
ScSULTR3-3	ScSULTR3-3-F	5'-ATGGTGGGTATGAGAGGTGC-3'	pPOTO-ScSULTR3-3
	ScSULTR3-3-R	5'-TTAGGGTTTTGTCATCTTGG-3'	
ScSULTR3-3	pPR3-N-ScSULTR3-3-F	5'-ATTAACAAGGCCATTACGGCCATGGTGGGTATGAGAGGTGC-3'	pPR3-N-ScSULTR3-3
	pPR3-N-ScSULTR3-3-R	5'-TTGACTAAGGCCGAGGCGGCCGTTAGGGTTTTGTCATCTTGG-3'	
ScPPT2	ScPPT2-F	5'-ATGCAGAGCGCCGCGGCTCT-3'	pPOTO-ScPPT2
	ScPPT2-R	5'-TTAAGAAGTCTTCGGCTTGG-3'	

ScPPT2	pPR3-N-ScPPT2-F	5'-ATTAACAAGGCCATTACGGCCATGCAGAGCGCCGCGGCTCT-3'	pPR3-N-ScPPT2
	pPR3-N-ScPPT2-R	5'-TTGACTAAGGCCGAGGCGGCCGTTAAGAAGTCTTCGGCTTGG-3'	
ScCAB1	ScCAB1-F	5'-ATGCAGAGCGCCGCGGCTCT-3'	pPOTO-ScCAB1
	ScCAB1-R	5'-TCACTTGCCGGGCACGAAGT-3'	
ScCAB1	pPR3-N-ScCAB1-F	5'-ATTAACAAGGCCATTACGGCCATGCAGAGCGCCGCGGCTCT-3'	pPR3-N-ScCAB1
	pPR3-N-ScCAB1-R	5'-TTGACTAAGGCCGAGGCGGCCGTCACTTGCCGGGCACGAAGT-3'	
ScNCX	ScNCX-F	5'-ATGTCGACTCGCCGGCAGCA-3'	pPOTO-ScNCX
	ScNCX-R	5'-CTATGACCAGCCAAAGACAT-3'	
ScNCX	pPR3-N-ScNCX-F	5'-ATTAACAAGGCCATTACGGCCATGTCGACTCGCCGGCAGCA-3'	pPR3-N-ScNCX
	pPR3-N-ScNCX-R	5'-TTGACTAAGGCCGAGGCGGCCGCTATGACCAGCCAAAGACAT-3'	
ScSERINC3	ScSERINC3-F	5'-ATGTGGGCGGCGTCGTGCCT-3'	pPOTO-ScSERINC3
	ScSERINC3-R	5'-CTAGAATTCCTGTCAGGAA-3'	
ScSERINC3	pPR3-N-ScSERINC3-F	5'-ATTAACAAGGCCATTACGGCCATGTGGGCGGCGTCGTGCCT-3'	pPR3-N-ScSERINC3
	pPR3-N-ScSERINC3-R	5'-TTGACTAAGGCCGAGGCGGCCGCTAGAATTCCTGTCAGGAA-3'	
ScULP5	ScULP5-F	5'-ATGATCGAGGTGGTGCTGAACGA-3'	pPOTO-ScULP5
	ScULP5-R	5'-CTAGTTGTAGTAGAGCTCGAGCC-3'	
ScULP5	pPR3-N-ScULP5-F	5'-ATTAACAAGGCCATTACGGCCATGATCGAGGTGGTGCTGAACGA-3'	pPR3-N-ScULP5
	pPR3-N-ScULP5-R	5'-TTGACTAAGGCCGAGGCGGCCGCTAGTTGTAGTAGAGCTCGAGCC-3'	
ScHTA2	ScHTA2-F	5'-ATGGCCGGGAGAGGTAAGGCGATC-3'	pPOTO-ScHTA2
	ScHTA2-R	5'-CTAGTCCTCATCGCCAGCCGCGGCCTT-3'	
ScHTA2	pPR3-N-ScHTA2-F	5'-ATTAACAAGGCCATTACGGCCATGGCCGGGAGAGGTAAGGCGATC-3'	pPR3-N-ScHTA2
	pPR3-N-ScHTA2-R	5'-TTGACTAAGGCCGAGGCGGCCGCTAGTCCTCATCGCCAGCCGCGGCCTT-3'	
ScTSPAN18	ScTSPAN18-F	5'-ATGGCGCGTCGCCGGAGCAG-3'	pPOTO-ScTSPAN18
	ScTSPAN18-R	5'-TCACTGAGACGGTGCTGCAT-3'	
ScTSPAN18	pPR3-N-ScTSPAN18-F	5'-ATTAACAAGGCCATTACGGCCATGGCGCGTCGCCGGAGCAG-3'	pPR3-N-ScTSPAN18
	pPR3-N-ScTSPAN18-R	5'-TTGACTAAGGCCGAGGCGGCCGTCACTGAGACGGTGCTGCAT-3'	

ScHSP82	ScHSP82-F	5'-ATGGCCTCGGAGACGGAGAC-3'	pPOTO-ScHSP82
	ScHSP82-R	5'-TTAGTCGACCTCCTCCATC-3'	
ScHSP82	pPR3-N-ScHSP82-F	5'-ATTAACAAGGCCATTACGGCCATGGCCTCGGAGACGGAGAC-3'	pPR3-N-ScHSP82
	pPR3-N-ScHSP82-R	5'-TTGACTAAGGCCGAGGCGGCCGTTAGTCGACCTCCTCCATCT-3'	

