

Primers for the Sw-5 locus, chromosome 9 near 110 cM

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The Sw-5 locus (110 cM) was evaluated for an introgression associated with begomovirus resistance. PCR primers were designed by comparison of the sequences from the promoter regions of the Sw-5 genes (AY007366, tightly linked to CT220 marker, Folkertsma et al. 1999. Mol Breed. 5:197-207) with the tomato genomic sequence EF647603 (BAC clone C09HBa0109D11). The primers were designed to amplify a region which showed several indels between these two sequences.

Forward primer: P9-110-F2

5' tac gaa aat cta gta act ccg ccg

Reverse primer: P9-110-R2

5' cta taa ggt acc tct aat tga gg

PCR annealing temperature, 53 C.

No introgression was detected in begomovirus resistant line, Gh13.

Line: M82-1-8, susceptible to begomoviruses and TSWV, 551 bp;

ORIGIN

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1 TACGAAAATC TAGTAACTCC GCCGAAATTT CAAATCATGT TTTAAAAAAT AAAAAAAAAA
61 TTGAAATTAA TCTCATCTAT TCGGAACTGT ATCGTCATAT TACATATTCA AATGAAGAAG
121 TTTTAGTAAC TCAATTTTCT TCGTTTTTTT TTGGTGAGGA TCTGATTTC A TTTTAAAAGA
181 AATTTAGCT AAATTATCCC ACCTTGTTAA GTCAATGAAG TTTTACAATT TGCAAAGGAT
241 TTATCTTGTT AATTATCAGG AAATTCAAAA GCACAAGTAC AAAAGTTTGA AAAATTCACG
301 ATTTGCTTAT GTCATGCAAT ATTTTGAAC TCTAACATTA TACTAGCAA GTAACTTTTA
361 ACGTTATCGA GAAATTTAAT TTAAATACAA AAAGGAAAAT TACTTTTTGC CTTTAAGTAG
421 AGTTTATTTT ATTTACTTGT CATATTATTA TTATGTCGAC TTCATATAGA GTACATTTTA
481 TTTAATTCTC ATACAAATTA GTGTGTCACC AAGACAAATC AAGGAAAACC TCAATTAGAG
541 GTACCTTACA G
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Line: Gh13, resistant to begomoviruses, susceptible to TSWV, 551 bp;

ORIGIN



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1 TACGAAAATC TAGTAACTCC GCCGAAATTT CAAATCATGT TTTAAAAAAT AAAAAAAAAA
61 TTGAAATTAA TCTCATCTAT TCGGAACTGT ATCGTCATAT TACATATTCA AATGAAGAAG
121 TTTTAGTAAC TCAATTTTCT TCGTTTTTTT TTGGTGAGGA TCTGATTTC A TTTTAAAAGA
181 AATTTAGCT AAATTATCCC ACCTTGTTAA GTCAATGAAG TTTTACAATT TGCAAAGGAT
241 TTATCTTGTT AATTATCAGG AAATTCAAAA GCACAAGTAC AAAAGTTTGA AAAATTCACG
301 ATTTGCTTAT GTCATGCAAT ATTTTGAAC TCTAACATTA TACTAGCAA GTAACTTTTA
361 ACGTTATCGA GAAATTTAAT TTAAATACAA AAAGGAAAAT TACTTTTTGC CTTTAAGTAG
421 AGTTTATTTT ATTTACTTGT CATATTATTA TTATGTCGAC TTCATATAGA GTACATTTTA
481 TTTAATTCTC ATACAAATTA GTGTGTCACC AAGACAAATC AAGGAAAACC TCAATTAGAG
541 GTACCTTACA G
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Search GenBank, Aug. 145, 2007, with sequence from sequence for M82-1-8

EF647603 (114,526)

C09HBa0109D11, 99% identity, 27213 to 27763 (only one SNP difference in the primer sequence)

Tospovirus resistance protein A (Sw5-a)

>  [gb|AY007366.1](https://www.ncbi.nlm.nih.gov/nuccore/AY007366.1)  *Lycopersicon esculentum* tospovirus resistance protein A (Sw5-a) and tospovirus resistance protein B (Sw5-b) genes, complete cds
Length=35250

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Query 1 TACGAAAATCTAGTAAC TCCGCCGAAATTTCAAATCATGTTTTaaaaataaaa-aaaaa 59
      |||
Sbjct 28208 TACGAAAATCTAGTAAC TCCGCCGAAATTTCAAATCATGTTTTTTTAAAAAATAAAAA 28267

Query 60 aTTGAAATTAATCTCA-----TCTATTCGGAACTGTATCGTCATATTACATATTC 109
      |||
Sbjct 28268 ATTGAAATTAATCTCAAATATAAACTTCAATTTGGAATCATATCGTCATATTACATATTC 28327

Query 110 AAATGAAGAAGTTT TAGTAAC TCAATTT 137
      |||
Sbjct 28328 AAATGAAGAAGTTT TAGTAAC TCAATTT 28355

Query 144 ttttttttGGTGAGGATCTGATTTTCATTTTGAAAGAAATTCAGCTA--AATTATCCCA 201
      |||
Sbjct 28402 TTTTTTTTTGGTGAGGATCAGATTTTCATTTTGAAAGAAATTCAGCTATAAATTATTCCA 28461

Query 202 CCTTGTTAAGTCAATGAAGTTTCACAATTTGCAAAGGATTTATCTTGTTAATTATCAGGA 261
      |||
Sbjct 28462 CCTTGTTAAGTTCGATGAAGGTTTACGATTTGCAAAGGATTTATCTTGTTAATTATCAGGA 28521

Query 262 AATTCAAAAAGCACAAGTA-CAAAAGTTTGAAAAATTCACGATTTGCTTATGTATGCAAT 320
      |||
Sbjct 28522 AATTCAAAAAGCA-AAGTATAAAAAGTTGCAAAAATTCACGATTTGC--ATCTCATAACAAT 28578

Query 321 ATTTTGAAC TTTCTAACAT TATACTAGC-----AAAGTAACTTTTAACGTTATCGAGAAAT 375
      |||
Sbjct 28579 ATTTTCAAC TTTCTAACAT TATTCTACCAATAAAAAGTAACTTTTAACAT TATCAAAAAT 28638

Query 376 TTAATTTAAATA--CAA-----AAGGAAAAT TACTTTTTGCCT-TTA 415
      |||
Sbjct 28639 TAAATTTAAATAATCAAATATTTTATCCTTTTTCTTAAGAAACTTATTTTCGACTCTTA 28698

Query 416 AGTAGAGTTTATTTTATTACTTGTATATTATTATTATGTC-GACTTCATATAGAGTAC 474
      |||
Sbjct 28699 AGTAGAGTTTATTTTATTACTTCTCATATTATTATTATGTCGACTTTGAATAGAGTGT 28758

Query 475 ATTTTATTTAAT TCTCATA C-----AAATTAGTGTGTCACCAAGACAAATCAAGGAA 526
      |||
Sbjct 28759 GTTTTATTTAAT TCTCATA CAAGTCAGAAAATTAGTGCATCACCAAGACAAATTAAGG-- 28816

Query 527 AACCTCAATTAGAGGTACCTTAC 549
      |||
Sbjct 28817 AACCTCAGTTAGAGGTACTTTAC 28839
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