Chromosome 2: CT140, 16.0 cM

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PCR primer pairs were designed for RFLP probe: CT140 (Fig. 1).

Fig. 1: RFLP map of the top of Chr. 2 (Adapted from Pan et. al., 1999).

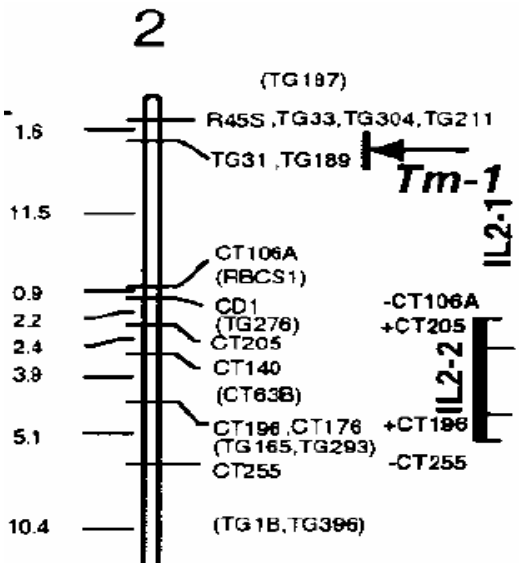

Table 1: Primers from the CT140 probe on Chr. 2.

CT140	Primer Sequence (5' to 3')
PCT140F1	CACAAGGCTAGAGTTGTTCGGG
PCT140F2	CGGGAAAGGAAGGAACGTCG
PCT140R1	GTTTTTTTGGTTTACCCATCAGTGTCC
PCT140R2	CAGTGTCCAAAACCAGCTCGCC

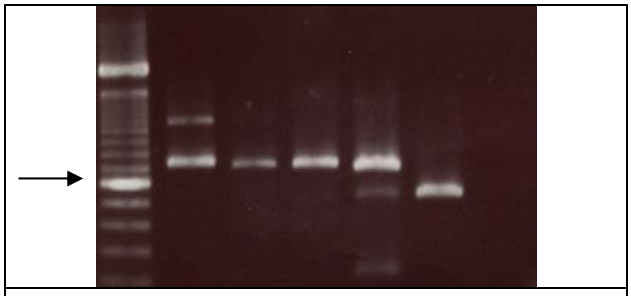

Fig. 2: Agarose gel of the PCR reactions with the four CT140 primer pairs and Heinz 1706 DNA. lane 1, 100-bp marker; lane 2, PCT140F1/PCT140R1; lane 3, PCT140F1/PCT140R2; lane 4, PCT140F2/PCT140R1; lane 5, PCT140F2/PCT140R2; lane 6, control, primer pair PTG301F3/PTG301R2 with Heinz 1706 DNA. The strongest bands in the lanes 2-5 are at 750 bp. The primer pair PCT140F2-CT140R1 was chosen to generate fragments for the sequencing reactions due to the intensity of its band. Arrow marks the 600-bp fragment.

CT140 RFLP Probe: Four primers were designed from the CT140 RFLP probe: PCT140F1, PCT140F2, PCT140R1 and PCT140R2 (Table 1). All four primer combinations gave the strongest bands of 750 bp with Heinz 1706 DNA (Fig. 2). Primer pairs PCT140F1/PCT140R1 and PCT140F2/PCT140R2 gave two bands. Primer pairs PCT140F1/PCT140R2 and PCT140F2/PCT140R1 gave a single band. The primer pair PCT140F2/PCT140R1 gave the most intense single band, so this primer pair was used with the additional genotypes.

Heinz 1706, Gc173, and Sheriff gave a strong band at 750 bp; and Gc9 and Gh13 produced a weak 750-bp band. These PCR fragments were sequenced with both the forward and reserve primers. Sequence for Heinz 1706 (acc. no. DQ222941), Gc173, and Gh13 were obtained with both primers, and sequence was only obtained with the forward primer for Sheriff and Gc9. When these sequences were aligned, there were no SNPs or INDELS that distinguished the begomovirus-resistant genotypes, Gc9, Gh13, and Gc173, from the susceptible genotype, Heinz 1706. Thus, there was no evidence that supports an introgression of a begomovirus-resistance gene from *S. habrochaites* at the *CT140* locus.

References

Pan, Q., Liu, Y., Budai-Hadrian, O., Sela, M., Carmel-Goren, L., Zamir, D., and Fluhr, R. 1999. Comparative genetics of nucleotide binding site-leucine rich repeat resistance gene homologues in the genomes of two dicotyledons: tomato and arabidopsis. *Genetics Society of America* 88:309-322.