

Table 2. Molecular analysis of ptDNA integrants in the nuclear genome of tobacco

Plant	No. of integrants	Corresponding transplastome (5'-ptDNA - <i>aadA</i> - <i>neoSTLS2</i> - ptDNA-3')						Special feature	Size of integrant, kb	Locus no.
		Minimum size 5' ptDNA	5' ptDNA termination	<i>aadA</i>	<i>neoSTLS2</i>	3' ptDNA termination	Minimum size 3' ptDNA			
kr1	1		132,624 (AJ495859)	+	+	140,369 (AJ616346)		Two ptDNA fragments (no filler)	>21.8	1
		-	-	328 bp (AJ616346)	+		>149,189			
kr3	1	>130,138		+	+		>149,189		>22.3	1
kr4	2	>130,138		+	+		>149,189		>22.3	1
		>136,831		+	+		>143,256		>9.3	
kr5	4	>130,515		+	+		>142,414		>14.8	1
		ND		+/-	+/-		ND		ND	
		-	-	-	+/-		ND		ND	
		ND		+/-	-		-		ND	
kr6	1	>138,541		+	+	141,675	-		> 6.0	1
kr7	1	>138,541		+	+	143,030 (AJ616349)	-	Two ptDNA fragments with no filler	> 7.5	1
		-	-	-	-	-	126,736 to 126,183 (AJ616349)			
kr8	1	>136,831		+	+	143,256	-		> 9.3	1
kr9	1	>130,138		+	+	149,189	-		>22.3	1
kr10	1	ND		ND	+	140,892 (AJ616350)	-	Two ptDNA fragments with no filler	> 7.2	1
		-	136,727 (AJ616350)	+	+/-		ND			
kr11	4	>130,515		+	+		>142,414		>14.8	ND
		ND		+/-	+/-		ND		ND	
		ND		+/-	+/-		ND		ND	
		ND		+/-	-		-		ND	
kr12	1	>130,138		+	+		>149,189		>22.3	1
kr13	1	>130,138		+	+		>149,189		>22.3	1
kr14	1	-	136,498 (AJ616351)	+	+		>140,951		> 7.3	1
kr16	1	>136,831		+	+		>143,256		> 9.3	1
kr17	3	>130,515		+	+		>142,414		>14.8	1
		ND		+/-	+/-		ND		ND	
		ND		+/-	+/-		ND		ND	
kr18	2	>130,515		+	+		>142,414		>14.8	1
		-	-	-	+	141,486 (AJ517486)	-		2.9	
kr19	2	>136,831		+	+		>143,256		> 9.3	1
		ND		+/-	+/-		ND		ND	

The number of integrants was determined by *DraI*-digested total cellular DNA hybridized separately to *neo* and *aadA* probes as shown in Fig. 1 B and C. Minimum size estimates of integrants were determined by presence or absence of *aadA*- or *neo*-hybridizing restriction fragments with the same size as the parental transplastome. DNAs were restricted with the following enzymes and the size of contiguous transplastomic restriction fragments indicated in parentheses by nucleotide locations in the second inverted repeat of the tobacco plastome sequence (Genbank accession no. Z00044); *DraI* (130,515-142,414), *EcoRI* (138,541 or 141,675), *EcoRV* (140,951), *NcoI* (136,831 or 143,256), or *XbaI* (130,138 or 149,189). The minimum sizes for the 5' and 3' ends of each integrant, where known, are shown in columns labeled as minimum size 5' and 3' ptDNA. For integrants in which the end of the transplastomic fragment has been precisely determined by cloning and sequencing, the terminal 5' and 3' nucleotide positions are provided with sequence accession numbers (columns labeled 5' and 3' ptDNA termination). Presence of complete *aadA* (1206 bp) and *neoSTLS2* (1696 bp) sequences are indicated by "+", partial sequences of these genes are indicated by "+/-", and a complete absence is indicated by "-." ND, not determined. The number of loci was determined by segregation analysis of 12 progeny.