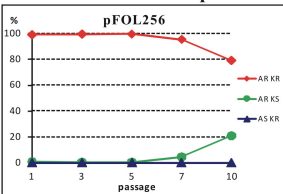


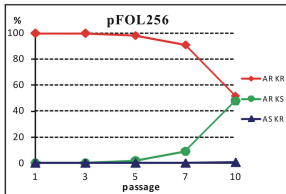
Host strain: TG2

selection: KmAp



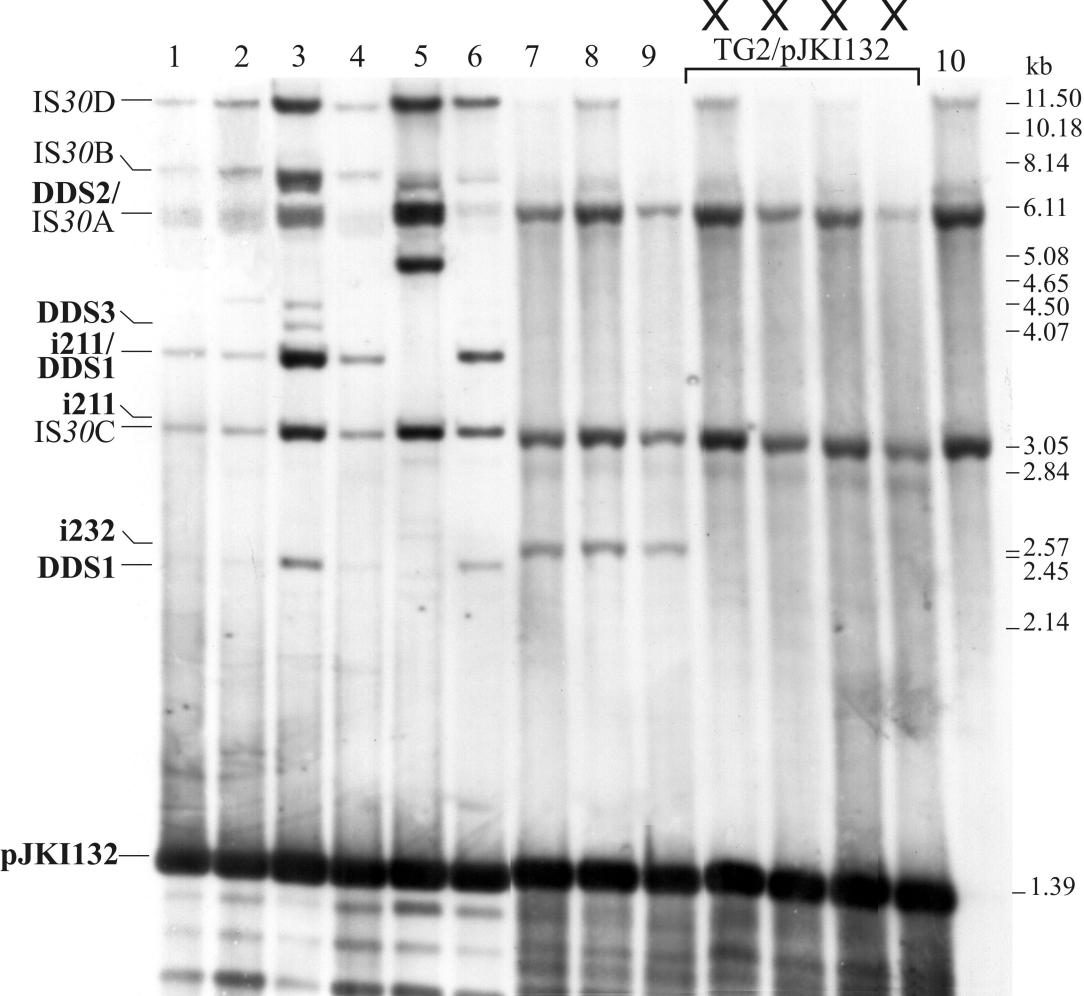
◆	99.21	99.46	99.66	95.44	79.08
●	0.79	0.54	0.34	4.56	20.92
▲	<0.23	<0.20	<0.08	<0.27	<0.42

selection: none



◆	100.00	100.00	98.20	91.06	51.78
●	<0.69	<0.21	1.80	8.94	47.74
▲	<0.69	<0.21	<0.23	<0.46	0.48

S1 Fig. Dynamics of IS30-mediated decomposition of the cointegrate-like plasmid pFOL256



S3 Fig. Original image of Southern hybridisation applied to compile Fig. 4B. Lanes 1-10 and symbols are as in Fig. 4B.

S1_Table. The number of plasmid species identified in the course of passaging the cointegrates.

cointegrate/strain	selection: KmAp						selection: none									
	passage	AR KR products		AR KS products		AS KR products		passage	AR KR products		AR KS products		AS KR products			
pAW1067 (TG2)		pAW1067	del	pAW1124	del	pAW1038	pAW1039		pAW1067	del	pAW1124	del	pAW1038	pAW1039		
	1	20	0	1	0	0	0	1	20	0	0	0	0	0		
	3	19	0	9	0	0	0	3	20	0	11	0	0	0		
	5	19	1	12	0	0	1	5	18	1	20	0	0	1		
	7	20	0	11	0	0	0	7	20	0	16	0	0	0		
	10	20	0	8	1	1	0	10	20	0	20	0	1	0		
143							168									
pAW1067 (JM109)		pAW1067	del	pAW1124	del	pAW1038	pAW1039		pAW1067	del	pAW1124	del	pAW1038	pAW1039		
	1	20	0	3	0	0	0	1	20	0	4	0	0	0		
	3	20	0	4	0	0	0	3	20	0	9	0	0	0		
	5	20	0	0	0	0	0	5	19	0	9	0	0	1		
	7	20	0	8	0	0	1	7	20	0	12	0	0	0		
	10	20	0	12	1	2	1	10	20	0	20	0	1	0		
132							155									
pAW1072 (TG2)		AR KR products		AR KS products		AS KR products			AR KR products		AR KS products		AS KR products			
		pAW1072	pFOL257	del	pAW758	del	pAW1038	pAW1039		pAW1072	pFOL257	del	pAW758	del		
	1	23	0	0	13	0	1	1	1	20	0	0	20	0		
	3	21	1	0	12	0	1	3	3	19	1	0	20	0		
	5	19	3	0	25	1	1	2	5	20	3	0	20	0		
	7	17	2	1	21	1	1	2	7	18	5	0	19	0		
10	18	3	0	24	0	2	3	10	18	4	0	20	0			
222							207									
pAW1072 (JM109)		pAW1072	pFOL257	del	pAW758	del	pAW1038	pAW1039		pAW1072	pFOL257	del	pAW758	del		
	1	17	1	0	18	1	1	3	1	18	2	0	18	0		
	3	19	0	1	17	0	2	2	3	19	1	1	21	0		
	5	14	3	3	16	1	3	13	5	18	2	0	19	1		
	7	21	2	1	21	1	9	13	7	22	2	0	21	0		
	10	16	4	1	17	1	6	12	10	14	4	3	19	1		
260							259									
pFOL622 (TG2)		AR KR products		AR KS products		AS KR products			AR KR products		AR KS products		AS KR products			
		pFOL622	pAW1067	del	pAW1124	del	inv	pAW1038	pAW1039		pFOL622	pAW1067	del	pAW1124	del	
	1	22	0	1	19	1	1	0	1	1	25	1	0	18	0	
	3	21	1	1	19	0	4	1	0	3	17	4	1	20	0	
	5	18	3	6	20	0	4	6	6	5	18	5	3	20	0	
	7	14	5	5	19	1	5	5	5	7	14	2	5	19	1	
10	15	8	6	17	3	5	8	5	10	15	3	5	18	2		
281							251									
pAW1118 TG2)		AR KR products		AR KS products		AS KR products			AR KR products		AR KS products		AS KR products			
		pAW1118	pFOL256	pFOL617	del	pAW1105	del	pAW1038	pAW1039		pAW1118	pFOL256	pFOL617	del	pAW1105	del
	1	21	0	0	2	11	1	0	1	1	19	0	0	1	0	
	3	20	0	2	3	19	0	1	1	3	21	1	1	2	18	
	5	17	3	1	5	19	0	4	7	5	16	2	2	4	19	
	7	15	3	4	5	19	1	5	7	7	16	3	3	3	20	
10	16	1	3	7	16	4	9	6	10	17	1	2	6	17		
259							255									
pAW256 TG2)		AR KR products		AR KS products		AS KR products			AR KR products		AR KS products		AS KR products			
		pFOL256	pFOL255	del	inv	pAW1105	del	inv	pAW1038		pFOL256	pFOL255	del	pAW1105	del	
	1	19	0	0	0	18	0	0	0	1	25	3	0	1	0	
	3	19	3	0	0	18	2	0	2	4	16	4	0	4	1	
	5	17	2	1	0	18	0	1	5	5	17	3	1	5	4	
	7	18	3	0	1	19	1	1	7	7	17	3	0	15	9	
10	16	2	0	0	19	1	0	8	10	18	4	1	15	8		
221							188									

del - deletion derivatives
inv - inversion derivatives

S2 Table. Mutagen effect of an active chromosomal IR-IR junction on the metabolism of three sugars.

Strain	IR-IR junction	Colonies tested	Mutants isolated	Frequency ($\times 10^{-4}$)
		Maltose metabolism		
i211	+	41016	17	4.14
i231	+	64766	13	2.00
i1313	-	73429	0	<0.36
TG2	-	101495	0	<0.09
		Galactose metabolism		
i211	+	43529	17	3.91
i231	+	42407	19	4.48
i1313	-	62011	0	<0.16
TG2	-	98222	0	<0.10
		Xylose metabolism		
i211	+	35026	8	2.28
i231	+	35854	8	2.23
i1313	-	92787	0	<0.11
TG2	-	86106	0	<0.11