Supplementary data:

Expression profile of genes coding for carotenoid biosynthetic pathway during ripening and their association with accumulation of lycopene in tomato fruits

Shuchi Smita, Ravi Rajwanshi, Sangram Keshari Lenka, Amit Katiyar, Viswanathan Chinnusamy and Kailash Chander Bansal

J. Genet. **92**, 363–368

Table 1. Area covered by lycopene and β-carotene standards representing their concentration in μg/g fresh weight of tissue through HPLC analysis of Pusa Rohini variety of tomato (shown by arrow mark on the peak in figure 1 in electronic supplementary material).

Concentration (in μg/g fresh wt.)	Lycopene std. (area)	β-carotene std. (area)
0.12	ND	27413
0.25	ND	49501
0.50	ND	107525
0.75	ND	160133
1	82324	222273
2	373526	551141
5	727590	1265607
10	1542121	2520389
25	3574518	ND
50	6835255	1238436
100	14600405	23988331
200	33111997	ND
400	56358263	ND

ND, not detected; std., standard.

Table 2. Primer sequence for qRT-PCR analysis of carotenoid-related genes in Pusa Rohini genotype of tomato.

Gene	Primer sequence		Amplicon length
	Forward	Reverse	
DXR	5′-TTGTGGAGTTAACATGCGCGA-3′	5′-AGATGATGGTTCCAAACTGGCTGC-3′	119
IPI	5′- AGCAACGATCAGCGACAAAGGTG-3′	5′-TGGTCAACTGGGACATCTTCACCT-3′	128
Psy1	5′-TAGCACAGGCAGGTCTATCCGATG-3′	5′-TCACGCCTTTCTCTGCCTCATCAA-3′	126
PDS	5′- CAATGCCAAGCAAGCCAGGAG-3′	5′-CAAGCATTGCTGGCAAGAGTC-3′	156
ZDS	5′-TGTGGAGCTCTTGGATCAAGG-3′	5′-ACAACCAAACAACACGTGCAG-3′	123
CrtLb	5′-TGGCTATTGGTGGGAATTCAGGGA-3′	5′-TACTGGTGCTAAAGCCATGCTCCT-3′	80
CrtR-b1	5′-TGGTGCTGCTGTAGGAATGGAGTT-3′	5′-TTGAGGAGGGCTATTGCTGGAA-3′	168
VDE	5′-TGCAGTCTCCCGGAAGAAATC-3′	5′-AATGTGGGATTCAAACCGCGA-3′	151
ZEP	5′-AGGTGATCTTCTGGTTGGTGC-3′	5′-AGACGCGGTACCCAACTGTAT-3′	152
SIE1α	5′-CACTGGTCACTTGATCTACAAG-3′	5′-GCAGTAGTACTTAGTGGTCTCA-3′	118

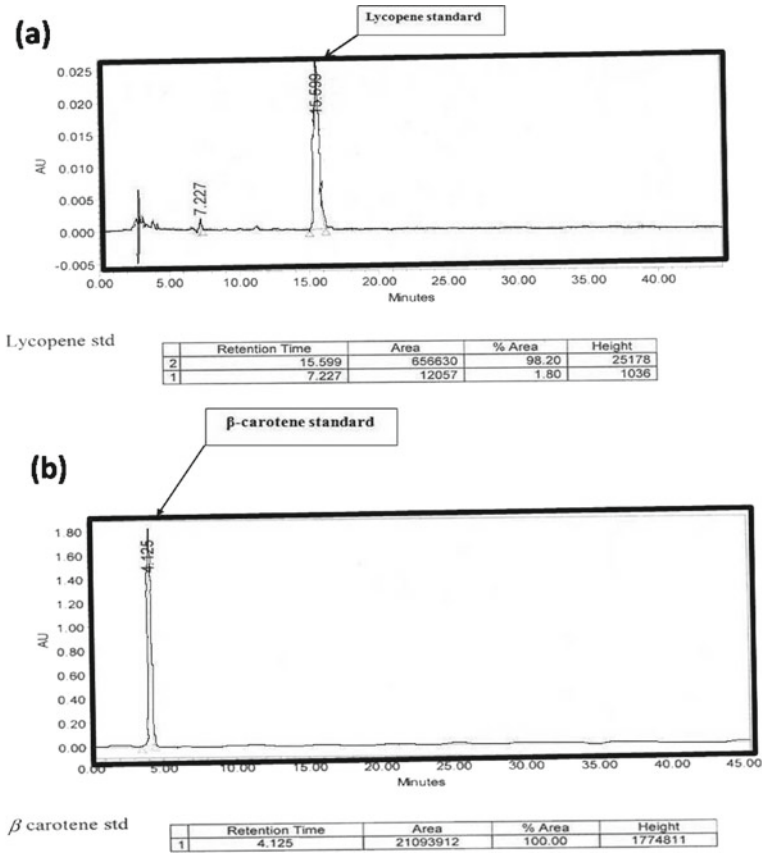

Figure 1. Retention time and covered area calculated from HPLC of (a) lycopene and (b) β-carotene standards (std.) (labelled by arrow mark on the peaks).

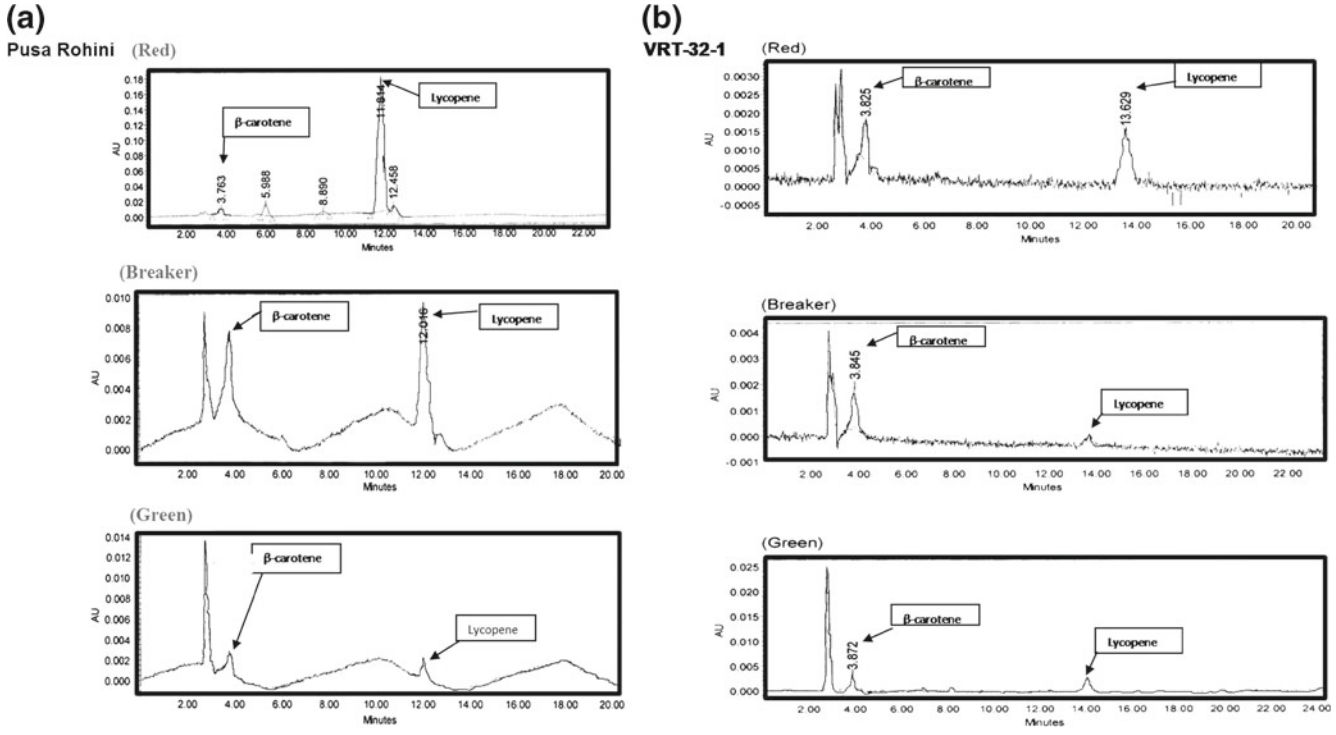

Figure 2. HPLC chromatogram of (a) Pusa Rohini and (b) VRT-32-1 genotype of tomato at three different stages of fruit ripening process. X-axis represents the 'retention time (Rt)', Y-axis the 'area covered (ac)' and arrow marks showing β-carotene and lycopene content.