Supplemental Table 1. Primers used to detect genes involved in polyamine biosynthesis.

Genome accession No. in GDR	Name	Abbreviation	Primer sequence	Products length (bp)
MDP0000813339	Arginine decarboxylase 1	*ADC1*	F: GATAGCTCTCTTCCCGCGTC R: CGATTCGGTAGAGGTCGGAT	111
MDP0000228682	Arginine decarboxylase 2	*ADC2*	F: AGCTTGGCGTAATCATGGTC; R: ATGCTTCCGGCTCGTATGTT	86
MDP0000914975	Ornithine decarboxylase 1	*ODC1*	F: CAAGTGTACCGTGGAGCAAT; R: TGCAACCATTGTGAAAGCCA	249
MDP0000264258	Ornithine decarboxylase 2	*ODC2*	F: GGTTGAGAGTGGTGGGAGTT; R: CAACCAAAGTGAAAGGCGT	300
MDP0000171041	*S*-adenosylmethionine decarboxylase 1	*SAMDC1*	F: CGGTCACGTACCGCA; R: TCATGCATCCAGGAAGTCTC	292
MDP0000757066	*S*-adenosylmethionine decarboxylase 2	*SAMDC2*	F: CTGGTTCGCAGTCTCCAAGG; R: AAACAGCAGCGACACAGCAA	221
MDP0000292444	*S*-adenosylmethionine decarboxylase 3	*SAMDC3*	F: CATTCTACGAAGCTCCCCTC; R: GACCGGTACAGCCATGTTAG	104
MDP0000211726	*S*-adenosylmethionine decarboxylase 4	*SAMDC4*	F: CGGTCCTCTGAAGAGAGTGC; R: GGTCGGATGTCTTCGATGCT	155
MDP0000120546	*S*-adenosylmethionine decarboxylase 5	*SAMDC5*	F: TCAACTCTCAAGGGCTGCTG; R: GCTGCATCACGAGAAACGAC	206
MDP0000198590	Spermidine synthase 1	*SPDS1*	F: CGAGCGCCTTTTTATCCCGT; R: GGAGGCAAAAACTAGCTGGC	208

MDP0000027925	Spermidine synthase 2	*SPDS2*	F: TGGTCCCTGTCTCAGAGTGT; R: GCCAAACGCACCAAAGGAAT	112
MDP0000521365	Spermidine synthase 3	*SPDS3*	F: CCCTATGTGGCCAGTCCTCAAT; R: GATGGCGAGAAACCTCCCT	192
MDP0000294813	Spermidine synthase 4	*SPDS4*	F: CAACCCAGGCAAGATCAACC; R: TTCTCCGTCTCCAGTCTAGC	107
MDP0000788247	Spermidine synthase 5	*SPDS5*	F: TCGCCATCCTTCTGTTGAGC; R: CAACAGCCAACCGAGGAAAAA	92
MDP0000162897	Spermidine synthase 6	*SPDS6*	F: GTTTCTCGCCATCCTTCTGTT R: CTTCCCTTTAGGTGCAAGCCT	171
	Malate dehydrogenase	*MDH*	F: CGTGATTGGGTACTTGGAAC R: TGGCAAGTGACTGGGAATGA	113

*PA-related genes were identified from GDR database (https://www.rosaceae.org/) and designated according to their homologous in *Arabidopsis*. The primers of *MDH* was described by Perini et al. [1].

1. Perini, P.; Pasquali, G.; Margis-Pinheiro, M.; de Oliviera, P.R.; Revers, L. Reference genes for transcriptional analysis of flowering and fruit ripening stages in apple (*Malus* x *domestica* borkh.). *Mol Breeding* **2014**, *34*, 829-842.