

Table SIV Primers used for real-time (RT)-PCR gene expression analysis in opium poppy.

Gene	Forward primer 5' – 3'	Reverse primer 5' – 3'
Sucrose synthase	TGTGGCCTTACTTGGAGCAAT	TCAGTTCGCAGCAAGTTCTT
Glucose-6-phosphate dehydrogenase	CCTGTCTGCAGAATGATCAGGTT	TCGTGTCCATCCACCAAAATC
Phosphoglucose isomerase	GGAGAAAAGGTCCCTCAGCAT	GATGGACGGTTGCCAGAGA
Phosphoglyconate dehydrogenase	TACGGTTTCCATGATCCTGAATC	CACAACACGAGGCTTCTGGAT
Transketolase	TCGAGCATTGGCAAGCTT	CAGCGGGACGGAGCATAA
Transaldolase	GACACCCTGTATGTTGCTCCTCTA	GAGCTTGGTCTGGCATTGTTG
Fructose biphosphate aldolase	CATTGACCGATGTGCTGATGT	GTCGTTCAAAGCCTTG TAGCAA
Glyceraldehyde-3- phosphate dehydrogenase	CCCAGCACTTAATGGAAAATTGA	AACATCGACGGTGGGAACA
Phosphoglycerate kinase	TCGGAGCCGTGTCAAACC	CCTTTGAACCACCAACAATGG
Phosphoglycerate mutase	GCAGATAGATATGGAAAGGAGCAAGT	GCCGTTAGGCGGAGGAGTAT
Enolase	CAGCCATCGCAGTGGAGAA	CCCAACAGCAAGATCAGCAA
DAHP synthase	TGGGTTCGGTGAGCGTACTAGA	TGGCAACACCTCTCAAGAACTC
Dehydroquinate synthase	CTGTTGATAAGAAGGTGGCTGATG	ATTGCCGAGAGGACCTTTGA
3-Dehydroquinate dehydratase	TTGCACGATTCCTCACAAAGAA	TGGCAATTGGATCAACCTCAT
Shikimate kinase	TTCCAAAGAGAGAGGTGAAGCAT	TCTGCAATATGTTCAAGGGAAACTC
EPSP synthase	CACTTGCGCCCAGTTGATG	ACAGCAAGAGTCATGGCAACAT
Chorismate synthase	AAGATGATTGCTGCTATTGATGCT	TCACAACCCCCCAACAG
GOGAT	CCACGTATTTTCCGTGTGGAT	TGGATCTTTGCCAAACTTGGT
Glutamine synthase	GGTTGACCGGAAAGCATGA	ATTAGCGACTCCCCATGAAAAG
Arogenate dehydratase	TCATCCACAAGCTTTATCTCAGTGT	AGCTTCACGGGCAACATTAAGA
Arogenate dehydrogenase	TCGGAATTCGGGATCGTATG	CCCAGCCATTTTTACCACTTTC

Gene	Forward primer 5' – 3'	Reverse primer 5' – 3'
3-Phosphoglycerate dehydrogenase	GATTGGACGAGTCGGAAGCA	GACACTCATGAAGCTGACGTTCA
Phosphoserine aminotransferase	CGCATTCTCCGACTGATCT	CATCAAGGAAGCTACCAAAGAAAAG
Glycine hydroxymethyltransferase	TGCTCTTTTGCTTTGTGATATGG	AATGGGTTGGCAGCTTCCT
Methylene tetrahydrofolate reductase	AAAGGAAATCATCCAACCAACTG	GCCTCATCCTTCCACACAACA
Methionine synthase	CGCCCAATGAAGGGAATG	TTTCTAACGAAGGACCAATTGAGA
SAM synthetase	GCTTGGTTGAGACCTGATGGTAA	ATGGCACCCCTTGTCGTTTTG
Adenylate kinase	TGGGAAGCAGGGAGCTAAAA	TCCAAGATGGAATCATCAATCG
Adenosine kinase	GGGAGACCGAGGATGTTGAG	CGACCTGATACCTTGGGCAAT
Adenosyl homocysteinase	TTCCCTGCTATCAATGTGAATGA	GGCATCCGTAGAGGTTGTCAA
TYDC2	AACAAAGCTACGGAGTCAAGACAA	CGGCGACTGAGTGCAGATT
NCS1	CAGGCAATGGTGGAGTTGGT	CCGTGGCACTGCACCTAGA
6OMT	CAACAATGTCAAACCCATGTCTTT	CGGAACAGACGGTCTTTCGTT
CNMT	CCAACATGGAAGCAACATGAAA	GTCCAACGTTGTTGATTCATCAG
CYP80B3	GGAACGACTTCGAGTTGATACCA	CAAGGGCACACCAGGACATA
4'OMT	TGCAGAGGATTGGGAAAATTTG	ATAGCGCGAATCGGTCTGA
7OMT	GCAGGTTTTCTCGTTACAATGT	GAAAGGCCTCGATGATGCAA
BBE	TCAACCGATACAAATTCCGACTACT	CATTACAATAAACGACGGTTTCGA
TNMT	GCTGTTTCATGAAGAACTATCAACTTG	GCCTCAAAAAAGTGAGCAAATGT
SalR	TGATAAGTGACATTGGAGAGGATTCA	TTGGGCTTCTGGTTTTTCGT
SalAT	TCCGCGAGTGTCCCTAAGG	TTCCACCACAGTCAAACATGTTC
COR1	TGGGCAGCCATGGAAGA	CAGACCCCGATTGCCCTAGT