

**Supplementary Table S1. Candidates of CYP genes and knockdown vectors in the current study**

Gene Name	CYP Number	Knockdown Vector	Primers for Knockdown Vector	Sol Unigene
<i>PGA1</i>	CYP72A208	pKT226	U724 / U725	SGN-U268724
<i>PGA1</i>	CYP72A208	pKT249	U869 / U870	SGN-U268724
<i>PGA2</i>	CYP72A188	pKT227	U726 / U727	SGN-U272045
<i>PGA3 (GAME4)</i>	CYP80B	pKT230	U744 / U745	SGN-U269971
	CYP90A5	pKT217	U673 / U674	SGN-U276200
	CYP72A.21P	pKT231	U746 / U747	SGN-U269680
	CYP80F3	pKT232	U748 / U749	SGN-U272362
	CYP88C4	pKT233	U750 / U751	SGN-U273175
	CYP71D198	pKT239	U792 / U793	SGN-U279998
	CYP76Y8	pKT236	U794 / U795	SGN-U272961
	CYP76A6	pKT237	U796 / U797	SGN-U281374
	CYP82M3	pKT238	U798 / U799	SGN-U274308
	CYP716A43	pKT240	U800 / U801	SGN-U280549
	CYP71D232	pKT245	U829 / U830	SGN-U268965
CYP76B21a	pKT246	U831 / U832	SGN-U273164	
CYP71AT21	pKT247	U835 / U836	SGN-U272510	

**Supplementary Table S2. Oligonucleotides used in the current study**

Name	Sequence 5' to 3'	Description
U841	GCTTGCTCTGTTCTTGACATCTC	PGA1 cloning
U842	TGAAAAGCAGAATTAGCAGCA	PGA1 cloning
U875	CCAAGGGACAGAGCAATCAA	PGA2 cloning
U876	TGATGTGAACCTTGAGATTGGTG	PGA2 cloning
NP2	TAAAGCACGAGGAAGCGGT	Check of transformants (kanamycin resistance gene)
NP3	GCACAACAGACAATCGGCT	Check of transformants (kanamycin resistance gene)
U724	GAGCTCTAGAGAAGCAAAGAAAACACC	PGA1 Knockdown
U725	GGATCCATATGCTAACCAATTCCTCCCATC	PGA1 Knockdown
U869	GAGCTCTAGACCACAGCTTTGCTCTCTTG	PGA1 Knockdown
U870	GGATCCATATGCATCGTCTCCCCATACT	PGA1 Knockdown
U726	GAGCTCTAGAGGTTAAGAGTTTGCCCAACG	PGA2 Knockdown
U727	GGATCCATATGGCTTTCTCTTGCCAATCTG	PGA2 Knockdown
EF1 $\alpha$ _Fw	GCTTGGTGGAAATTGACAAGCGTGTTA	RT-PCR for control (EF1 $\alpha$ )
EF1 $\alpha$ _Rv	CAATGGTGATACCACGCTCAGTTC	RT-PCR for control (EF1 $\alpha$ )
potato C_Fw	CATTATGGTGGTGGCCAAAGATGATCG	RT-PCR for PGA1
potato C_Rv	CCCAAGGAACGATATCATGATTTACTAACGGTG	RT-PCR for PGA1
potato D_Fw	TGTATGGTGGCGTCCCAAAACAGTAG	RT-PCR for PGA2
potato D_Rv	TGTGAAATCGTGGTGAATGGCATG	RT-PCR for PGA2
U744	GAGCTCTAGAGGTTTGGGACAGGAGGAAT	PGA3 Knockdown
U745	GGATCCATATGCAAGCCTGTGCATCTTAT	PGA3 Knockdown
U673	GAGCTCTAGAGCTATCCCGTTTCGATACA	CYP90A5 Knockdown
U674	GGATCCATATGCGGTAGGTGGGATGAGAAAA	CYP90A5 Knockdown
U746	GAGCTCTAGAATTGCTTAAGGCAAAGAGGTC	CYP72A.21P Knockdown
U747	GGATCCATATGCTTTAACTTCTCGACA	CYP72A.21P Knockdown
U748	GAGCTCTAGAGGGGAGCCCTGTTTTCTAA	CYP80F3 Knockdown
U749	GGATCCATATGAACAATGTCTCCCAAAC	CYP80F3 Knockdown
U750	GAGCTCTAGACATGGGCTGGCCATTAGTA	CYP88C4 Knockdown
U751	GGATCCATATGGTTCTTCCATGTCAACCA	CYP88C4 Knockdown
U792	GAGCTCTAGAGCATTTTCCCTACTTCATCTTT	CYP71D198 Knockdown
U793	GGATCCATATGAACTAAAGCCTATGTC	CYP71D198 Knockdown
U794	GAGCTCTAGACATGGCCCTCTCATGACTC	CYP76Y8 Knockdown
U795	GGATCCATATGCCGATCCACTCTCACACTG	CYP76Y8 Knockdown
U796	GAGCTCTAGAAGCAATGGCCAAAGTGA	CYP76A6 Knockdown
U797	GGATCCATATGCAAAATGCATCATTGAT	CYP76A6 Knockdown
U798	GAGCTCTAGAAAACGTCCCTCTAGCACGA	CYP82M3 Knockdown
U799	GGATCCATATGATGCTAATTTCCACCTCAGA	CYP82M3 Knockdown
U800	GAGCTCTAGAATGGGTCCCTTTCAAAGAA	CYP716A43 Knockdown
U801	GGATCCATATGCAAAATCTCTGCATCATT	CYP716A43 Knockdown
U829	GAGCTCTAGATGCAGAACCAATCAAACCAA	CYP71D232 Knockdown
U830	GGATCCATATGGCCTAGATGCAAAAGCAAG	CYP71D232 Knockdown
U831	GAGCTCTAGAGCCTAATTGAGCCAAGCAA	CYP76B21a Knockdown
U832	GGATCCATATGCGTCTGGAGCAAACCTAT	CYP76B21a Knockdown
U835	GAGCTCTAGATGTGTTGGTTGCTGGATCA	CYP71AT21 Knockdown
U836	GGATCCATATGCAATTGCCCATGCGTTAATA	CYP71AT21 Knockdown