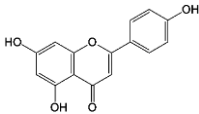
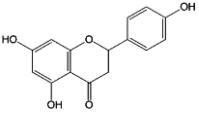
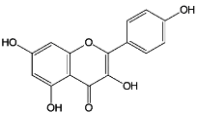
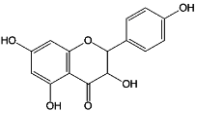
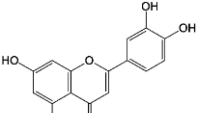
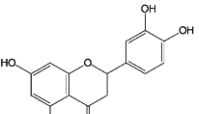
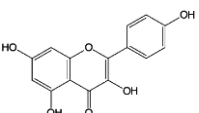
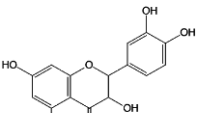
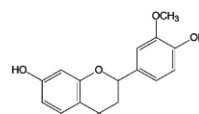
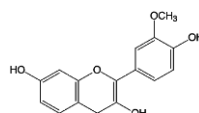


Supplementary Table S1. LC-MS analysis of CYP75A11, CYP75B4 and CYP75A1 enzyme assays using different flavonoids substrates. (N.D. = not detected)

Flavonoid substrate	Enzyme	Products
Apigenin 	CYP75A11	N.D.
	CYP75B4	Luteolin
	CYP75A1	Luteolin, tricetin
Naringenin 	CYP75A11	N.D.
	CYP75B4	Eriodictyol
	CYP75A1	Eriodictyol, dihydrotricetin
Kaempferol 	CYP75A11	N.D.
	CYP75B4	Quercetin
	CYP75A1	Quercetin, myricetin
Dihydrokaempferol 	CYP75A11	N.D.
	CYP75B4	N.D.
	CYP75A1	Dihydroquercetin, dihydromyricetin
Luteolin 	CYP75A11	N.D.
	CYP75B4	N.D.
	CYP75A1	Tricetin
Eriodictyol 	CYP75A11	N.D.
	CYP75B4	N.D.
	CYP75A1	Dihydrotricetin
Quercetin 	CYP75A11	N.D.
	CYP75B4	N.D.
	CYP75A1	Myricetin
Dihydroquercetin 	CYP75A11	N.D.
	CYP75B4	N.D.
	CYP75A1	Dihydromyricetin
Homoeriodictyol 	CYP75B4	N.D.
	CYP75A1	4',5,5',7-tetrahydroxy-3'-methoxy flavanone
Isorhamnetin 	CYP75B4	N.D.
	CYP75A1	Laricitrin

Supplementary Table S2. Primers used for cloning, genotyping and RT-PCR experiments.

Primer name	Sequence (From 5' to 3') (restriction sites added are underlined)	Restriction site added	Uses
CL2225	CGACGTGGGAAAAACAGATT	-	Left primer. Genotyping of CYP75B4 mutants
CL2226	TGGGAAAGGAGGTGAATGTC	-	Right primer. Genotyping of CYP75B4 mutants
CL2227	AATCCAGATCCCCGAATTA	-	Border primer. Genotyping of CYP75B4 mutants
CL1214	CGGCTATCAGTCGGTGCTAT	-	Left primer. Genotyping of ROMT9 mutants
CL1213	CCTGCTCGCCTCCTACAAC	-	Right primer. Genotyping of ROMT9 mutants
CL1215	TTGGGGTTTCTACAGGACGTAAC	-	Border primer. Genotyping of ROMT9 mutants
HEL574	GCATCTCTCAGCACATTCCA	-	RT-PCR experiments for <i>OsActin</i>
HEL575	CTGGTACCCTCATCAGGCAT	-	RT-PCR experiments for <i>OsActin</i>
CL1758	TGGGAAAGGAGGTGAATGTC	-	RT-PCR experiments for CYP75B4
CL1759	AGCCTATCACGACCCACAAC	-	RT-PCR experiments for CYP75B4
CL1756	GAGCACGTCGCGTACAATA	-	RT-PCR experiments for CYP75B3
CL1757	AGCCAGACGTTGACTAGGA	-	RT-PCR experiments for CYP75B3
CL2031	GCCAGATCACCGTCAGCAAG	-	RT-PCR experiments for CYP75A11, generation of CYP75A11 over-expressing lines in Arabidopsis and cloning of CYP75A11 in pYES2.1 vector for expression in yeast
CL2033	TCGAACTGGTCGTGGATCC	-	RT-PCR experiments for CYP75A11, generation of CYP75A11 over-expressing lines in Arabidopsis and cloning of CYP75A11 in pYES2.1 vector for expression in yeast
CL1242	AAGAACGCCATCGAGCTG	-	RT-PCR experiments for ROMT9
CL1244	CCTTGTCTGGTTCATGAGG	-	RT-PCR experiments for ROMT9
HEL942	ATTGACGACAAACGCTCCTTC	-	Left primer. Genotyping of <i>tt6</i> (SALK_113904) mutants
HEL943	TCGTAATTACAATGGCTCCAGG	-	Right primer. Genotyping of <i>tt6</i> (SALK_113904) mutants
HEL447	GCGTGGACCGCTTGCTGCAACT	-	Border primer. Genotyping of <i>tt6</i> (SALK_113904) mutants
CL2219	GATGATGCCATGGAAAAATTG	-	Left primer. Genotyping of <i>tt7</i> (SALK_039417) mutants
CL2220	AAGCTGAGCGATGTCTGATTC	-	Right primer. Genotyping of <i>tt7</i> (SALK_039417) mutants
CL2221	CTCAGGAGCTAAACACATGGC	-	Left primer. Genotyping of <i>tt7</i> (SALK_124157) mutants
CL2222	ATCTTGACCGTTCATTTTCGTG	-	Right primer. Genotyping of <i>tt7</i> (SALK_124157) mutants

Supplementary Table S2. Primers used for cloning, genotyping and RT-PCR experiments. (continued)

Primer name	Sequence (From 5' to 3') (restriction sites added are underlined)	Restriction site added	Uses
CL2444	TCCGGTTTGCAAGTATTTGAC	-	Left primer. Genotyping of <i>atomt1</i> (SALK_020611) mutants
CL2445	CTAGGGTCAGTCCCGTGGTAC	-	Right primer. Genotyping of <i>atomt1</i> (SALK_020611) mutants
CL567	ATTTTGCCGATTTTCGGAAC	-	Border primer. Genotyping of <i>tt7</i> (SALK_039417 and SALK_124157) and <i>atomt1</i> (SALK_020611) mutants
CL2123	GACTCTAGAATGGGTTCTACAGCCGCC	XbaI	Generation of ROMT9 over-expressing lines in Arabidopsis
CL2124	GACTCTAGACTACTTGGTGAAGCTCGATGGC	XbaI	Generation of ROMT9 over-expressing lines in Arabidopsis
CL1831	GATATGGCCATGGAGCTCGCCG	-	Generation of CYP75A11 over-expressing lines in Arabidopsis and cloning of CYP75A11 in pYES2.1 vector for expression in yeast
CL1941	CAGATCATAGAAGAAATCAATTCACAG	-	Generation of CYP75A11 over-expressing lines in Arabidopsis and cloning of CYP75A11 in pYES2.1 vector for expression in yeast
CL1729	GCGATGGAGGTCGCCGCCATGGAGAT	-	Cloning of CYP75B4 in pYES2.1 vector for expression in yeast
CL1730	TGCAATATTGTAAGCGGATGGGA	-	Cloning of CYP75B4 in pYES2.1 vector for expression in yeast
CL1727	GCGATGGACGTTGTGCCTCTCCCG	-	Cloning of CYP75B3 in pYES2.1 vector for expression in yeast
CL1728	TACTCCATAAGCCGATGGAAGCAG	-	Cloning of CYP75B3 in pYES2.1 vector for expression in yeast
CL2883	CCAGGATCCGTCATGGTGCTACTTACTGAGCTTG	BamHI	Cloning of CYP75A1 in pYES2.1 vector for expression in yeast
CL2884	GCTATGGTACATAAACATCCAATTG	-	Cloning of CYP75A1 in pYES2.1 vector for expression in yeast
CL600	CATATGGCCGCGGCGGCCGACG	NdeI	Cloning of ROMT9 in pET28a vector for expression in <i>E. coli</i>
CL601	CTCGAGCTTTGTGAAGCTCGATG	<i>EcoRI</i>	Cloning of ROMT9 in pET28a vector for expression in <i>E. coli</i>

Supplementary Table S3. Genbank accession numbers of proteins used for constructing the phylogenetic tree.

Protein	Subfamily	GenBank accession number (or identifiers)
<i>Brachypodium distachyon</i> Bradi1g17180	CYP75B	XP_010233685
<i>Brachypodium distachyon</i> Bradi3g04750	CYP75B	XP_003574810
<i>Hordeum vulgare</i> BAJ95115	CYP75B	BAJ95115
<i>Oryza sativa</i> CYP75B3	CYP75B	NP_001064338
<i>Panicum virgatum</i> Pavirv00067735m	CYP75B	(Pavirv00067735m)
<i>Panicum virgatum</i> Pavirv00041205m	CYP75B	(Pavirv00041205m)
<i>Setaria italic</i> Si035224m	CYP75B	XP_004983036
<i>Sorghum bicolor</i> F3'H1	CYP75B	ABG54319
<i>Sorghum bicolor</i> F3'H2	CYP75B	ABG54320
<i>Sorghum bicolor</i> F3'H3	CYP75B	ABG54321
<i>Zea mays</i> GRMZM2G025832	CYP75B	AFW72123
<i>Zea mays</i> GRMZM2G313750	CYP75B	XP_008678758
<i>Brachypodium distachyon</i> Bradi1g24840	CYP75B	XP_003562884
<i>Brachypodium distachyon</i> Bradi4g16560	CYP75B	XP_003577475
<i>Hordeum vulgare</i> BAJ93256	CYP75B	BAJ93256
<i>Hordeum vulgare</i> BAJ98136	CYP75B	BAJ98136
<i>Oryza sativa</i> CYP75B4	CYP75B	NP_001064333
<i>Panicum virgatum</i> Pavirv00022905m	CYP75B	(Pavirv00022905m)
<i>Setaria italic</i> Si035935m	CYP75B	(Si035935m)
<i>Sorghum bicolor</i> Sb09g022480	CYP75B	XP_002439914
<i>Zea mays</i> GRMZM2G049424	CYP75B	XP_008678806
<i>Matthiola incana</i> F3'H	CYP75B	AAG49301
<i>Arabidopsis thaliana</i> F3'H	CYP75B	NP_196416
<i>Pelargonium hortorum</i> F3'H	CYP75B	AAG49315
<i>Fragaria vesca</i> F3'H	CYP75B	AEE60883
<i>Malus x domestica</i> F3'H	CYP75B	ACR14867
<i>Solanum lycopersicum</i> F3'H	CYP75B	NP_001289844
<i>Petunia hybrid</i> F3'H	CYP75B	AF155332
<i>Callistephus chinensis</i> F3'H	CYP75B	AF313488
<i>Osteospermum hybrid</i> F3'H	CYP75B	ABB29899
<i>Pericallis cruenta</i> F3'5'H	CYP75B	ABB43030
<i>Callistephus chinensis</i> F3'5'H	CYP75B	AAG49299
<i>Osteospermum hybrid</i> F3'5'H	CYP75B	ABB43031

Supplementary Table S3. Genbank accession numbers of proteins used for constructing the phylogenetic tree. (continued)

Protein	Subfamily	GenBank accession number (or identifiers)
<i>Brachypodium distachyon</i> Bradi1g61577	CYP75A	(Bradi1g61577)
<i>Hordeum vulgare</i> BAK02913	CYP75A	BAK02913
<i>Oryza sativa</i> CYP75A11	CYP75A	(Os03g25150)
<i>Setaria italic</i> Si035183m	CYP75A	XP_004984278
<i>Sorghum bicolor</i> Sb01g034470	CYP75A	XP_002467809
<i>Sorghum bicolor</i> Sb01g034460	CYP75A	XP_002467808
<i>Phalaenopsis hybrid</i> F3'5'H	CYP75A	AAZ79451
<i>Commelina communis</i> F3'5'H	CYP75A	DM067604
<i>Solanum tuberosum</i> F3'5'H	CYP75A	AY675559
<i>Solanum melongena</i> F3'5'H	CYP75A	X70824
<i>Petunia hybrid</i> F3'5'H	CYP75A	AY245545
<i>Catharanthus roseus</i> F3'5'H	CYP75A	AJ011862
<i>Vinca major</i> F3'5'H	CYP75A	AB078781
<i>Eustoma grandiflorum</i> F3'5'H	CYP75A	U72654
<i>Gentiana triflora</i> F3'5'H	CYP75A	D85184