

SUPPLEMENTARY MATERIAL

Transgene regulation in plants by alternative splicing of a suicide exon

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TFIIIA-eGFP

eGFP-P5SM_{E/R}

eGFP-*Hy*P5SM_{E/R}

eGFP-*Os*P5SM_{E/R}

LUC-P5SM_{E/R}

LUC-P5SM_{K/R}

CYP707A3-P5SM_{E/S}

CYP707A3-P5SM_{K/R}

PSY-P5SM_{C/R}

PSY-P5SM_{E/R}

NCED3-P5SM_{E/R}

CYP707A2-P5SM_{E/R}

CYP707A3-P5SM_{E/R}

Supplementary Table 1. Sequences of DNA primers

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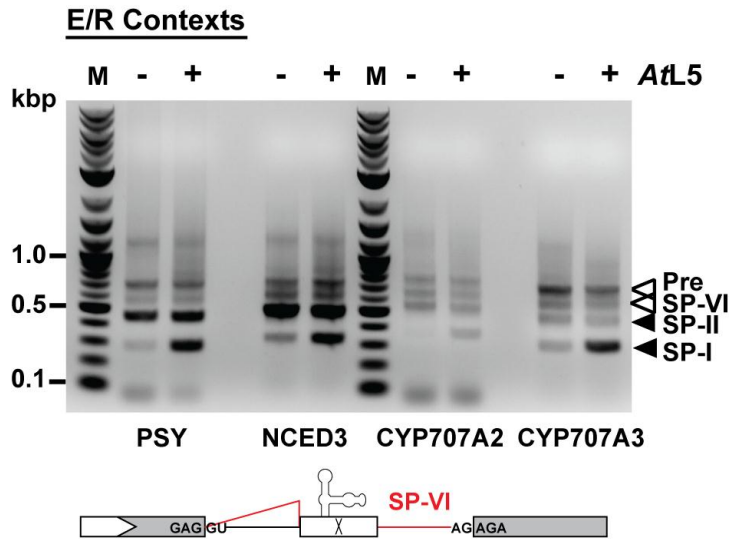


Figure S1. P5SM_{E/R} functions in additional *Arabidopsis* gene contexts. Spliced products detected by RT-PCR for phytoene synthase (PSY), 9-*cis*-epoxycarotenoid dioxygenase (NCED3), and abscissic acid 8'-hydroxylase (CYP707A2 and CYP707A3) harboring the P5SM cassette inserted within the E/R sequence context, upon induction with AtL5 (+) or LUC as a control (-). In addition to SP-I and SP-II, partially spliced (SP-VI) and unspliced pre-mRNA (Pre) were detected for these constructs. A schematic representation of SP-VI is shown. All sequences are shown in Supplementary Materials.

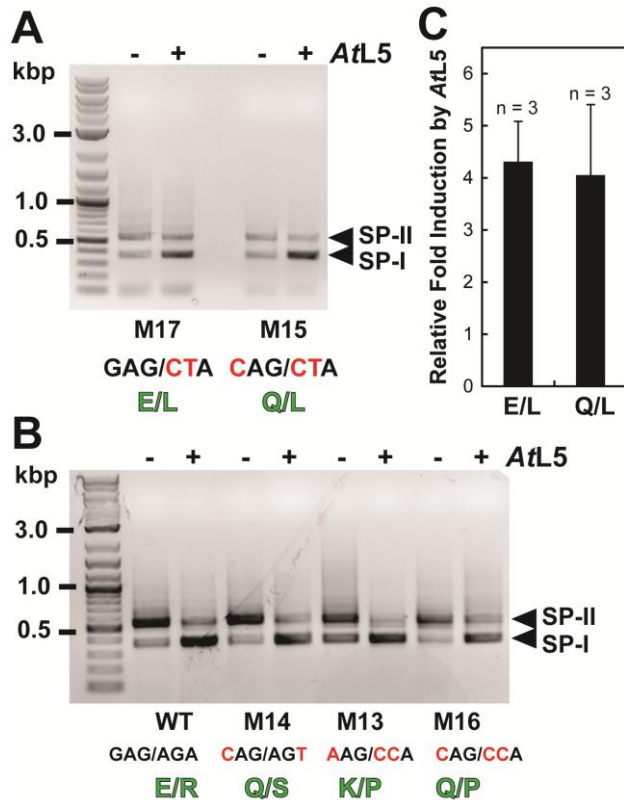


Figure S2. Additional bordering codon mutations tested within TFIIIA-eGFP. (A, B) Spliced products detected by RT-PCR for additional TFIIIA-P5SM_{E/R} mutants, which were characterized as fully functional. Red nucleotides indicate the mutations made to the bordering codons, and the two amino acids encoded by the 5' and 3' codons are indicated. **(C)** Fold induction of protein expression determined by eGFP fluorescence for M17 and M15. Induction with *AtL5* was measured in comparison to induction with LUC as a control.

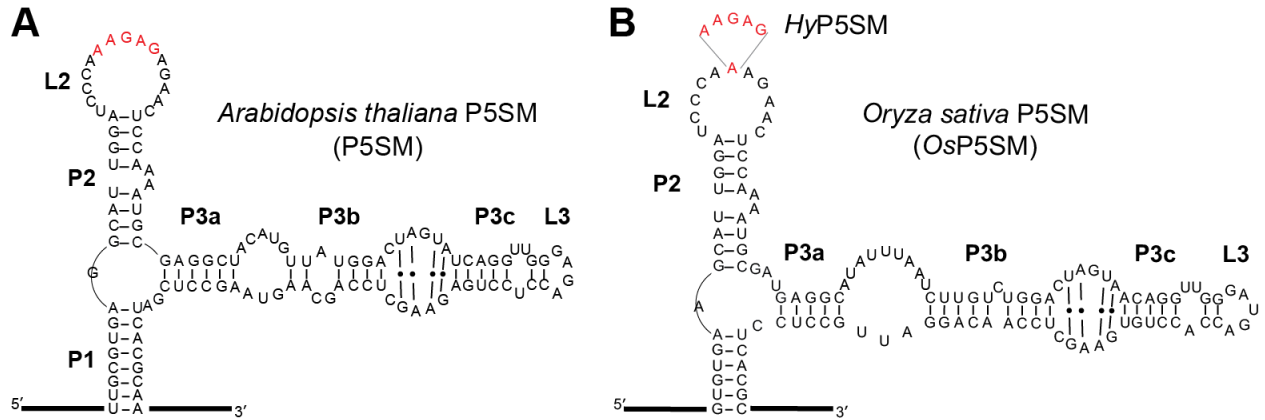


Figure S3. Secondary structures and sequences of *AtP5SM*, *OsP5SM*, and *HyP5SM*. Secondary structures and sequences of the (A) *Arabidopsis thaliana* P5SM RNA element and (B) *Oryza sativa* P5SM (Os02G0116000) RNA element. Red nucleotides represent sequence differences in the L2 loop, the putative binding site of an exon-defining splice factor. *HyP5SM* was constructed by replacing the L2 loop from *OsP5SM* with the L2 loop from *AtP5SM* by overlap extension PCR.

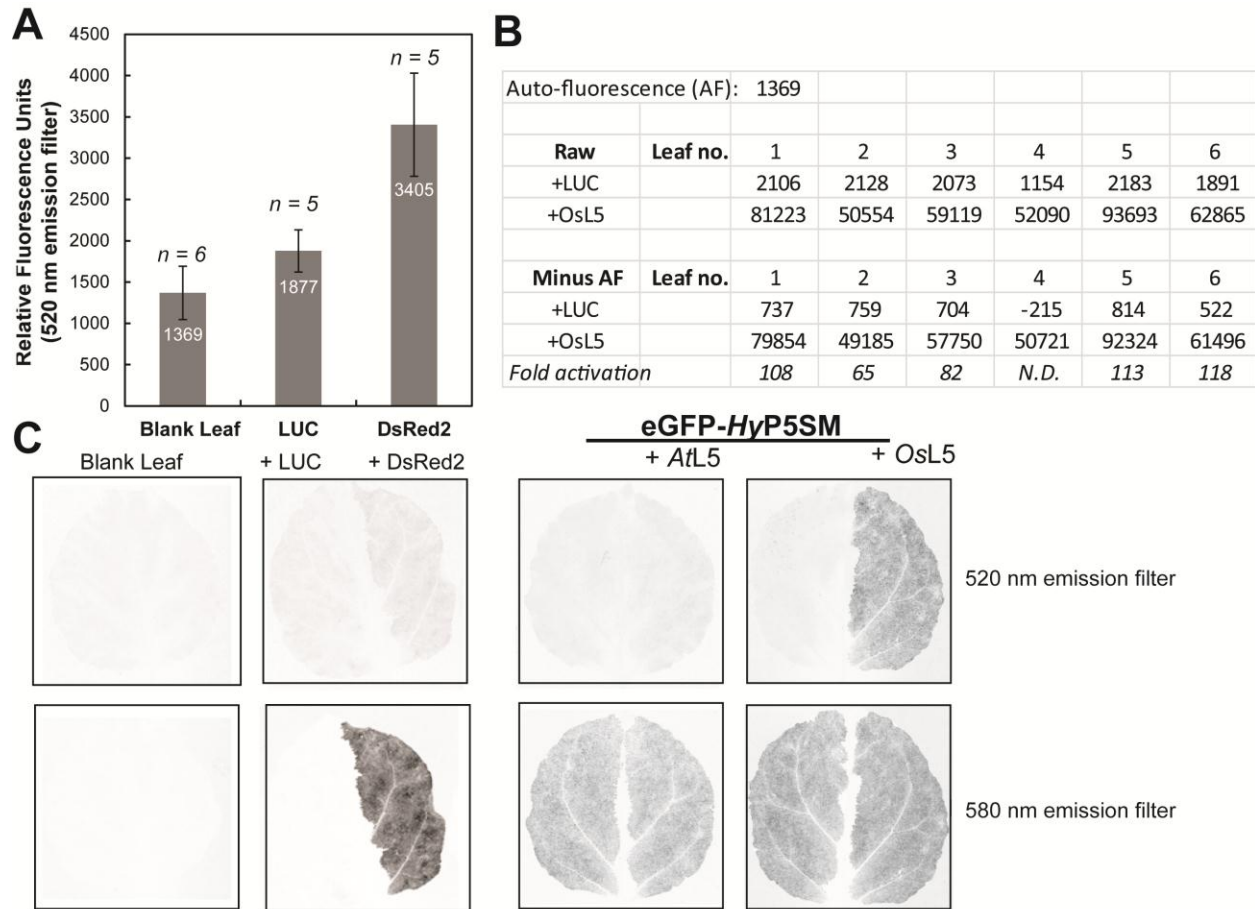


Figure S4. Leaf autofluorescence and DsRed2 expression contributes to background fluorescence. (A) Fluorescence of blank (autofluorescence), LUC (control), or DsRed2 (normalization standard) measured at the wavelength used to detect eGFP fluorescence (520 nm). (B) Raw fluorescence data for leaf samples co-expressing LUC as a control or OsL5 were corrected for the average background autofluorescence measured from blank leaf samples. The subtracted values were graphed in Fig. 4B. (C) Representative whole leaf scans for blank, LUC, or DsRed2 only. Also, representative whole leaf scans for the eGFP reporter harboring the *HyP5SM* cassette co-expressing *AtL5*, *OsL5*, or LUC as a control. Matching fluorescence scans at wavelengths for detecting eGFP (520 nm) and DsRed2 (580 nm) are shown.

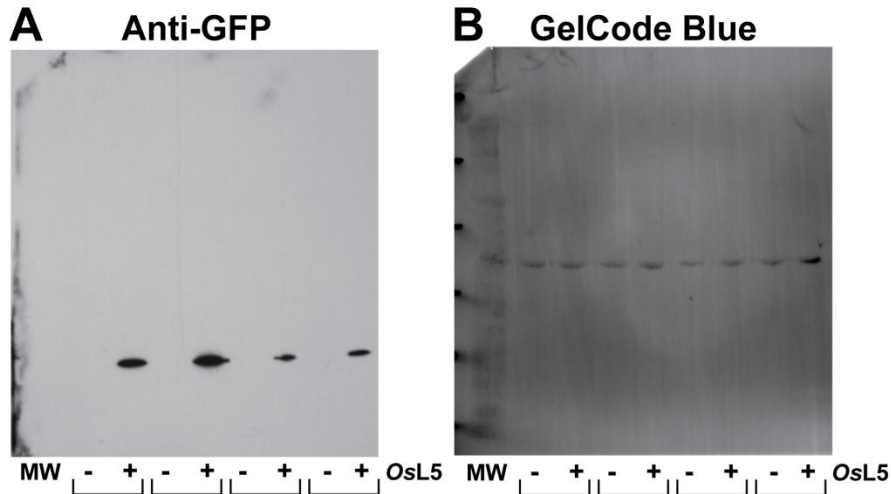


Figure S5. Expression of eGFP-*HyP5SM* analyzed by western blot. (A) Immunoblot analysis of GFP expression for four different replicate sets of crude protein extracts from *N. benthamiana* leaf halves infiltrated with the reporter construct, eGFP-*HyP5SM*, inducer (OsL5) or control (LUC), and DsRed2 as a normalization standard, as described for the leaf-based fluorescence assay. (B) Gelcode Blue staining of the blot shown in A, which visualizes all proteins present on the blot. The major band in the leaf extracts corresponds to Rubisco.

Supplementary Methods for western blot. Crude protein was extracted from ~100 mg *N. benthamiana* leaf tissue collected 2 days post infiltration as previously described (23). After centrifugation, the total protein concentration of the supernatant was determined using the Coomassie Plus Protein Assay (Pierce) following standard protocols. ~2 μ g of total protein for each sample was loaded and run on an SDS-PAGE gel along with a pre-stained molecular weight marker. Semi-dry transfer to the PVDF membrane (Millipore) was performed following standard procedures using an Owl HEP-1 electroblotter. After overnight incubation with SuperBlock blocking buffer (Pierce) with 1% Tween-20, the membrane was probed with 1:20,000 anti-GFP (Millipore) in SuperBlock for 1 hr. Following three washes with TBST (TBS with 0.1% Tween-20), the membrane was incubated with 1:10,000 goat anti-mouse HRP conjugate (Pierce) in SuperBlock for 1 hr. After three more washes with TBST, protein was detected using the SuperSignal West Pico chemiluminescent substrate (Pierce) following standard procedures. Shown is the film image after a 20 min exposure. The membrane was subsequently incubated with GelCode Blue reagent (Pierce) for 5 min before destaining following standard procedures.

Figure S6. Construct and spliced product sequence maps

LEGEND: UTR, TFIIIA coding sequence, coding sequence, suicide exon sequence, stop codon, splice site, restriction site, NNN bordering codons, NNN nucleotides not sequenced, NNN aligned with primers used for spliced product analysis

TFIIIA-eGFP gene sequence (AT1G72050)

```
1  GTGCGGCGTC TTGATGGAGG AGATAAACCC TAGTTCTTCT GTAGACAATA
51  AGAGAGACAT GCGGAAGAA GCTAAAGTTG ATGTGAAGAC TTCGGCGAAG
101 AAGGATATAC GCAATTATCT ATGCCAGTAT TCGGAATCA GCAGATCTAA
151 AAACATATCTC ATCACTAAAC ACATCCAATC TCATCATCAG GTTTGAGATC
201 TTCCTCCAAT TCGATTCCAA TTTCTCATCC GTGGCATCTT GATTTGTTTT
251 CAATGAAATT GAGAGTTGAG TCTGTAGAAT CGGCGATGGT TTGTTGAATT
301 GAGAGTTTCT ATGATTCGTT TGTTTACATG GAACTTGAAG AGGAAAGAGA
351 TGATGAAGCT TGTGAGGTTG ATGAGGAGTC TTCAAGTAAT CATACTTGTC
401 AAGAATGTGG TGCTGAGTTT AAGAAACCTG CTCACTTGAA GCAGCATATG
451 CAGAGTCATT CGCTCAGGT AGATTTATGC ATCCTCTTGT CATGAGAAGT
501 CGAATTGTTT CCATTCTGTG TGTTGCAGCT ACAGATGGAG ATACATAGAG
551 ATACTCGTGG ATTTTGCTTA GTGTTGAGTT TTGTTCTGGT TGTGAACTAA
601 AAGTTTATAC ATTTGCAGGA AATAAATAGC CTTTGTGTTA AATCAAAGG
651 TCTTACCTAT GTTATTGCGT GAGGCATTGG ATCCCAAAGA GAGAACTCCA
701 AAATGCGAGG CTACATGTTA TGGACTAGTA TCAGGTTGGG AGACCTCCTG
751 AGAAGCTCCA GCAAGTAAGC CTCGATCAGC CAAAATGTTT GAGGTCGTGAT
801 GTTCAATAGC TTGTTTTGTT TCACTTTGCT TTGGACTTTC TTTTCGCCAA
851 TGAGCTATGT TTCTGATGGT TTTCACTCTT TTGGTGTGTA GAGATCTTTT
901 ACTTGCTATG TGGATtctag aGTGAGCAAG GCGGAGGAGC TGTTACCCGG
951 GGTGGTGCCC ATCCTGGTCG AGCTGGACGG CGACGTAAAC GGCCACAAGT
1001 TCAGCGTGTC CGGCGAGGGC GAGGGCGATG CCACCTACGG CAAGCTGACC
1051 CTGAAGTTCA TCTGCACCAC CGGCAAGCTG CCCGTGCCCT GGCCACCCT
1101 CGTGACCACC CTGACCTACG GCGTGCAGTG CTTAGCCGC TACCCCGACC
1151 ACATGAAGCA GCACGACTTC TTCAAGTCCG CCATGCCCGA AGGCTACGTC
1201 CAGGAGCGCA CCATCTTCTT CAAGGACGAC GGCAACTACA AGACCCGCGC
1251 CGAGGTGAAG TTCGAGGGCG ACACCCTGGT GAACCGCATC GAGCTGAAGG
1301 GCATCGACTT CAAGGAGGAC GGCAACATCC TGGGGCACA GCTGGAGTAC
1351 AACTACAACA GCCACAACGT CTATATCATG GCCGACAAGC AGAAGAACGG
1401 CATCAAGGTG AACTTCAAGA TCCGCCACAA CATCGAGGAC GGCAGCGTGC
1451 AGCTCGCCGA CCACTACCAG CAGAACACCC CCATCGGCGA CGGCCCGTG
1501 CTGCTGCCCG ACAACCACTA CCTGAGCACC CAGTCCGCC TGAGCAAAGA
1551 CCCAACGAG AAGCGCGATC ACATGGTCCT GCTGGAGTTC GTGACCCCG
1601 CCGGGATCAC TCTCGGCATG GACGAGCTGT ACAAGtaagt cgac
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TFIIIA-eGFP SPLICED PRODUCT I

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1 GTGCGGCGTC TTGATGGAGG AGATAAACCC TAGTTCTTCT GTAGACAATA
51 AGAGAGACAT GCGGAAGAA GCTAAAGTTG ATGTGAAGAC TTCGGCGAAG
101 AAGGATATAC GCAATTATCT ATGCCAGTAT TCGGAATCA GCAGATCTAA
151 AAACATCTC ATCACTAAAC ACATCCAATC TCATCATCAG ATGGAACTTG
201 AAGAGGAAAG AGATGATGAA GCTTGTGAGG TTGATGAGGA GTCTTCAAGT
251 AATCATACTT GTCAAGAATG TGGTGCTGAG TTTAAGAAAC CTGCTCACTT
301 GAAGCAGCAT ATGCAGAGTC ATTCGCTCGA GAGATCTTTT ACTTGCTATG
351 TGGATtctag aGTGAGCAAG GCGGAGGAGC TG TTCACCGG GGTGGTGCCC
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TFIIIA-eGFP SPLICED PRODUCT II

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1 GTGCGGCGTC TTGATGGAGG AGATAAACCC TAGTTCTTCT GTAGACAATA
51 AGAGAGACAT GCGGAAGAA GCTAAAGTTG ATGTGAAGAC TTCGGCGAAG
101 AAGGATATAC GCAATTATCT ATGCCAGTAT TCGGAATCA GCAGATCTAA
151 AAACATCTC ATCACTAAAC ACATCCAATC TCATCATCAG ATGGAACTTG
201 AAGAGGAAAG AGATGATGAA GCTTGTGAGG TTGATGAGGA GTCTTCAAGT
251 AATCATACTT GTCAAGAATG TGGTGCTGAG TTTAAGAAAC CTGCTCACTT
301 GAAGCAGCAT ATGCAGAGTC ATTCGCTCGA GGAAATAAAT AGCCTTTTGT
351 TTAAATCAAA AGGTCTTACC TATGTTATTG CGTGA GGCAT TGGATCCCAA
401 AGAGAGAACT CCAAATGCG AGGCTACATG TTATGGACTA GTATCAGGTT
451 GGGAGACCTC CTGAGAAGCT CCAGCAAGTA AGCCTCGATC ACGCAAATG
501 TTTGAGAGAT CTTTTACTTG CTATGTGGAT tctagaGTGA GCAAGGGCGA
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TFIIIA-eGFP SPLICED PRODUCT III

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1 GUGCGGCGUC UUGAUGGAGG AGAUA AACCC UAGUUCUUCU GUAGACAAUA
51 AGAGAGACAU GCGGAAGAA GCUAAAGUUG AUGUGAAGAC UUCGGCGAAG
101 AAGGAUAUAC GCAAUAUUCU AUGCCAGUAU UGCGGAAUCA GCAGAUCAA
151 AAACUAUCUC AUCACUAAAC ACAUCCAUC UCAUCAUCAG AGAUUUUA
201 CUUGCUAUGU GGAUucuaga GUGAGCAAGG GCGAGGAGCU GUUCACCGGG
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TFIIIA-eGFP SPLICED PRODUCT IV

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51 AGAGAGACAT GCGGAAGAA GCTAAAGTTG ATGTGAAGAC TTCGGCGAAG
101 AAGGATATAC GCAATTATCT ATGCCAGTAT TCGGAATCA GCAGATCTAA
151 AAACATCTC ATCACTAAAC ACATCCAATC TCATCATCAG ATGGAACTTG
201 AAGAGGAAAG AGATGATGAA GCTTGTGAGG TTGATGAGGA GTCTTCAAGT
251 AATCATACTT GTCAAGAATG TGGTGCTGAG TTTAAGAAAC CTGCTCACTT
301 GAAGCAGCAT ATGCAGAGTC ATTCGCTCGA GGTAGATTTA TGCATCCTCT
351 TGTCATGAGA AGTCGAATTG TTCCATTCT GTGTGTTGCA GCTACAGATG
401 GAGATACATA GAGATACTCG TGGATTTTGC TTAGTGTGTA GTTTTGTTCT
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451 GGTGTGAAC TAAAAGTTTA TACATTTGCA GAAATAAAT AGCCTTTTGT
 501 TTAAATCAAA AGGTCTTACC TATGTTATTG CGTGAAGGCAT TGGATCCCAA
 551 AGAGAGAACT CCAAATGCG AGGCTACATG TTATGGACTA GTATCAGGTT
 601 GGGAGACCTC CTGAGAAGCT CCAGCAAGTA AGCCTCGATC ACGCAAATG
 651 TTTGAGAGAT CTTTACTTGG CTATGTGGAT tctagaGTGA GCAAGGGCGA

TFIIIA-eGFP SPLICED PRODUCT V

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 51 AGAGAGACAT GCGGAAGAA GCTAAAGTTG ATGTGAAGAC TTCGGCGAAG
 101 AAGGATATAC GCAATTATCT ATGCCAGTAT TCGGAATCA GCAGATCTAA
 151 AAACATATCTC ATCACTAAAC ACATCCAATC TCATCATCAG GAAATAAATA
 201 GCCTTTTGT TAAATCAAAA GGTCTTACCT ATGTTATTGC GTGAAGGCATT
 251 GGATCCCAA GAGAGAACTC CAAATGCGA GGCTACATGT TATGGACTAG
 301 TATCAGGTTG GGAGACCTCC TGAGAAGCTC CAGCAAGTAA GCCTCGATCA
 351 CGCAAATGT TTGAGAGATC TTTTACTTGC TATGTGGATt ctagaGTGAG

eGFP-P5SM_{E/R} gene sequence

1 ATGTCTAGAG TGAGCAAGGG CGAGGAGCTG TTCACCGGGG TGGTGCCCAT
 51 CCTGGTCGAG CTGGACGGCG ACGTAAACGG CCACAAGTTC AGCGTGTCCG
 101 GCGAGGGCGA GGGCGATGCC ACCTACGGCA AGCTGACCCT GAAGTTCATC
 151 TGCACCACCG GCAAGCTGCC CGTGCCCTGG CCCACCCTCG TGACCACCCT
 201 GACCTACGGC GTGCAGTGCT TCAGCCGCTA CCCCACCAC ATGAAGCAGC
 251 ACGACTTCTT CAAGTCCGCC ATGCCCGAAG GCTACGTCCA GGAGGTAGAT
 301 TTATGCATCC TCTTGTCATG AGAAGTCGAA TTGTTCCCAT TCTGTGTGTT
 351 GCAGCTACAG ATGGAGATAC ATAGAGATAC TCGTGGATTT TGCTTAGTGT
 401 TGAGTTTTGT TCTGGTTGTG AACTAAAAGT TTATACATTT GCAGGAAATA
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 501 CATTGGATCC CAAAGAGAGA ACTCCAAAT GCGAGGCTAC ATGTTATGGA
 551 CTAGTATCAG GTTGGGAGAC CTCCTGAGAA GCTCCAGCAA GTAAGCCTCG
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 651 TTTGCTTTGG ACTTCTTTT CGCCAATGAG CTATGTTTCT GATGGTTTTT
 701 ACTCTTTTGG TGTGTAGAGA ACCATCTTCT TCAAGGACGA CGGCAACTAC
 751 AAGACCGCG CCGAGGTGAA GTTCGAGGGC GACACCCTGG TGAACCGCAT
 801 CGAGCTGAAG GGCATCGACT TCAAGGAGGA CGGCAACATC CTGGGGCACA
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 901 CAGAAGAACG GCATCAAGGT GAACTTCAAG ATCCGCCACA ACATCGAGGA
 951 CGGCAGCGTG CAGCTCGCCG ACCACTACCA GCAGAACC ACCATCGGCC
 1001 ACGGCCCGT GCTGCTGCC GACAACCACT ACCTGAGCAC CCAGTCCGCC
 1051 CTGAGCAAAG ACCCAACGA GAAGCGCGAT CACATGGTCC TGCTGGAGTT
 1101 CGTGACCGCC GCCGGATCA CTCTCGGCAT GGACGAGCTG TACAAGTAA

eGFP-P5SM_{E/R} SPLICED PRODUCT I

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1 CACCCTGACC TACGGCGTGC AGTGCTTCAG CCGCTACCCC GACCACATGA
51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 AGAACCATCT TCTTCAAGGA CGACGGCAAC TACAAGACCC GCGCCGAGGT
151 GAAGTTCGAG GGCGACACCC TGGTGAACCG CATCGAGCTG AAGGGCATCG
```

eGFP-P5SM_{E/R} SPLICED PRODUCT II

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51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 GAAATAAATA GCCTTTTGTG TAAATCAAAA GGTCTTACCT ATGTTATTGC
151 GTGAGGCATT GGATCCCAA GAGAGAACTC CAAAATGCGA GGCTACATGT
201 TATGGACTAG TATCAGGTTG GGAGACCTCC TGAGAAGCTC CAGCAAGTAA
251 GCCTCGATCA CGCAAAATGT TTGAGAGAAC CATCTTCTTC AAGGACGACG
301 GCAACTACAA GACCCGCGCC GAGGTGAAGT TCGAGGGCGA CACCCTGGTG
351 AACCGCATCG AGCTGAAGGG CATCGACTTC AAGGAGGACG GCAACATCCT
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eGFP-HyP5SM_{E/R} gene sequence

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1 ATGTCTAGAG TGAGCAAGGG CGAGGAGCTG TTCACCGGGG TGGTGCCCAT
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151 TGCACCACCG GCAAGCTGCC CGTGCCCTGG CCCACCCTCG TGACCACCCT
201 GACCTACGGC GTGCAGTGCT TCAGCCGCTA CCCCACCAC ATGAAGCAGC
251 ACGACTTCTT CAAGTCCGCC ATGCCCGAAG GCTACGTCCA GGACGTAGAT
301 TTATGCATCC TCTTGTCATG AGAAGTCGAA TTGTTCCCAT TCTGTGTGTT
351 GCAGCTACAG ATGGAGATAC ATAGAGATAC TCGTGGATTT TGCTTAGTGT
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451 AATAGCCTTT TGTTTAAATC AAAAGTCTT ACCTATGTTA GTGTGAAGCA
501 TTGGATCCCA AAGAGAGAAC TCCAAAATGC GATGAGGCAT ATTTAATCTT
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601 TTGCCTCCTC ACGCAATGTT TGAGGTCTGA TGTTCAATAG CTTGTTTTGT
651 TTCACTTTCG TTTGGACTTT CTTTTCGCCA ATGAGCTATG TTTCTGATGG
701 TTTTCACTCT TTTGGTGTGT AGAGACCAT CTTCTTCAAG GACGACGGCA
751 ACTACAAGAC CCGCGCCGAG GTGAAGTTCG AGGGCGACAC CCTGGTGAAC
801 CGCATCGAGC TGAAGGGCAT CGACTTCAAG GAGGACGGCA ACATCCTGGG
851 GCACAAGCTG GAGTACAAC ACAACAGCCA CAACGTCTAT ATCATGGCCG
901 ACAAGCAGAA GAACGGCATC AAGGTGAAC TCAAGATCCG CCACAACATC
951 GAGGACGGCA GCGTGCAGCT CGCCGACCAC TACCAGCAGA ACACCCCAT
1001 CGGCGACGGC CCCGTGCTGC TGCCGACAA CCACTACCTG AGCACCCAGT
1051 CCGCCCTGAG CAAAGACCCC AACGAGAAGC GCGATCACAT GGTCTGCTG
1101 GAGTTCGTGA CCGCCGCCGG GATCACTCTC GGCATGGACG AGCTGTACAA
1151 GTAA
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eGFP-HyP5SM_{E/R} SPLICED PRODUCT I

```
1 CACCCTGACC TACGGCGTGC AGTGCTTCAG CCGCTACCCC GACCACATGA
51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 AGAACCATCT TCTTCAAGGA CGACGGCAAC TACAAGACCC GCGCCGAGGT
151 GAAGTTCGAG GGCACACCC TGGTGAACCG CATCGAGCTG AAGGGCATCG
```

eGFP-HyP5SM_{E/R} SPLICED PRODUCT II

```
1 CACCCTGACC TACGGCGTGC AGTGCTTCAG CCGCTACCCC GACCACATGA
51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 GAAATAAATA GCCTTTTGT TAAATCAAAA GGTCTTACCT ATGTTAGTGT
151 GAAGCATTTG ATCCCAAAGA GAGAACTCCA AAATGCGATG AGGCATATTT
201 AATCTTGTCT GGACTAGTAA CAGGTTGGGA TGACCACCTG TGAAGCTCCA
251 ACAGGATTGC CTCCTCACGC AATGTTTGAG AGAACCATCT TCTTCAAGGA
301 CGACGGCAAC TACAAGACCC GCGCCGAGGT GAAGTTCGAG GGCACACCC
351 TGGTGAACCG CATCGAGCTG AAGGGCATCG ACTTCAAGGA GGACGGCAAC
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eGFP-OsP5SM_{E/R} gene sequence

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1 ATGTCTAGAG TGAGCAAGGG CGAGGAGCTG TTCACCGGGG TGGTGCCCAT
51 CCTGGTTCGAG CTGGACGGCG ACGTAAACGG CCACAAGTTC AGCGTGTCCG
101 GCGAGGGCGA GGGCGATGCC ACCTACGGCA AGCTGACCCT GAAGTTCATC
151 TGCACCACCG GCAAGCTGCC CGTGCCCTGG CCCACCCTCG TGACCACCCT
201 GACCTACGGC GTGCAGTGCT TCAGCCGCTA CCCCACCAC ATGAAGCAGC
251 ACGACTTCTT CAAGTCCGCC ATGCCGAAG GCTACGTCCA GGACGTAGAT
301 TTATGCATCC TCTTGTCATG AGAAGTCGAA TTGTGCCCAT TCTGTGTGTT
351 GCAGCTACAG ATGGAGATAC ATAGAGATAC TCGTGGATTT TGCTTAGTGT
401 TGAGTTTTGT TCTGGTTGTG AACTAAAAGT TTATACATTT GCAGGAAATA
451 AATAGCCTTT TGTTTAAATC AAAAGTCTT ACCTATGTTA GTGTGAAGCA
501 TTGGATCCCA AAGAACTCCA AAATGCGATG AGGCATATTT AATCTTGTCT
551 GGACTAGTAA CAGGTTGGGA TGACCACCTG TGAAGCTCCA ACAGGATTGC
601 CTCCTCACGC AATGTTTGAG GTCTGATGTT CAATAGCTTG TTTTGTTTCA
651 CTTTGCTTTG GACTTTCTTT TCGCCAATGA GCTATGTTTC TGATGGTTTT
701 CACTCTTTTG GTGTGTAGAG AACCATCTT TTCAAGGACG ACGGCAACTA
751 CAAGACCCGC GCCGAGGTGA AGTTCGAGGG CGACACCCTG GTGAACCGCA
801 TCGAGCTGAA GGCATCGAC TTCAAGGAGG ACGGCAACAT CCTGGGGCAC
851 AAGCTGGAGT ACAACTACAA CAGCCACAAC GTCTATATCA TGGCCGACAA
901 GCAGAAGAAC GGCATCAAGG TGAACTTCAA GATCCGCCAC AACATCGAGG
951 ACGGCAGCGT GCAGCTCGCC GACCACTACC AGCAGAACAC CCCCATCGGC
1001 GACGGCCCCG TGCTGCTGCC CGACAACCAC TACCTGAGCA CCCAGTCCGC
1051 CCTGAGCAA GACCCAACG AGAAGCGCGA TCACATGGTC CTGCTGGAGT
1101 TCGTGACCGC CGCCGGGATC ACTCTCGGCA TGGACGAGCT GTACAAGTAA
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eGFP-OsP5SM_{E/R} SPLICED PRODUCT I

```
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51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 AGAACCATCT TCTTCAAGGA CGACGGCAAC TACAAGACCC GCGCCGAGGT
151 GAAGTTCGAG GGCGACACCC TGGTGAACCG CATCGAGCTG AAGGGCATCG
```

eGFP-OsP5SM_{E/R} SPLICED PRODUCT II

```
1 CACCCTGACC TACGGCGTGC AGTGCTTCAG CCGCTACCCC GACCACATGA
51 AGCAGCACGA CTTCTTCAAG TCCGCCATGC CCGAAGGCTA CGTCCAGGAG
101 GAAATAAATA GCCTTTTGTGTT TAAATCAAAA GGTCTTACCT ATGTTAGTGT
151 GAAGCATTGG ATCCCAAAGA ACTCCAAAAT GCGATGAGGC ATATTTAATC
201 TTGTCTGGAC TAGTAACAGG TTGGGATGAC CACCTGTGAA GCTCCAACAG
251 GATTGCCTCC TCACGCAATG TTTGAGAGAA CCATCTTCTT CAAGGACGAC
301 GGCAACTACA AGACCCGCGC CGAGGTGAAG TTCGAGGGCG ACACCCTGGT
351 GAACCGCATC GAGCTGAAGG GCATCGACTT CAAGGAGGAC GGCAACATCC
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LUC-P5SM_{E/R} gene sequence

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1 ATGGAAGACG CAAAAACAT AAAGAAAGGC CCGGCGCCAT TCTATCCGCT
51 GGAAGATGGA ACCGCTGGAG AGCAACTGCA TAAGGCTATG AAGAGATACG
101 CCCTGGTTCC TGGAACAATT GCTTTTACAG ATGCACATAT CGAGGTGGAC
151 ATCACTTACG CTGAGTACTT CGAAATGTCC GTTCGGTTGG CAGAAGCTAT
201 GAAACGATAT GGGCTGAATA CAAATCACAG AATCGTCGTA TGCAGTGAAG
251 ACTCTCTTCA ATTCTTTATG CCGGTGTTGG GCGCGTTATT TATCGGAGTT
301 GCAGTTGCGC CCGCGAACGA CATTTATAAT GAGCTTAGATT TATGCATCCT
351 CTTGTCATGA GAAGTCGAAT TGTTCCCATT CTGTGTGTTG CAGCTACAGA
401 TGGAGATAACA TAGAGATACT CGTGGATTTT GCTTAGTGTT GAGTTTTGTT
451 CTGGTTGTGA ACTAAAAGTT TATACATTTG CAGGAAATAA ATAGCCTTTT
501 GTTTAAATCA AAAGGTCTTA CCTATGTTAT TGCGTAGAGGC ATTGGATCCC
551 AAAGAGAGAA CTCCAAAATG CGAGGCTACA TGTTATGGAC TAGTATCAGG
601 TTGGGAGACC TCCTGAGAAG CTCCAGCAAG TAAGCCTCGA TCACGCAAAA
651 TGTTTGAGGT CTGATGTTCA ATAGCTTGTT TTGTTTCACT TTGCTTTGGA
701 CTTTCTTTTC GCCAATGAGC TATGTTTCTG ATGGTTTTCA CTCTTTTGGT
751 GTGTAGAGAG AATTGCTCAA CAGTATGGGC ATTTGCGCAGC CTACCGTGGT
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851 TCCCAATCAT CAAAAAATT ATTATCATGG ATTCTAAAAC GGATTACCAG
901 GGATTTTCACT CGATGTACAC GTTCGTCACA TCTCATCTAC CTCCCGGTTT
951 TAATGAATAC GATTTTGTGC CAGAGTCCTT CGATAGGGAC AAGACAATTG
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1101 TTTTGGCAAT CAAATCATTG CGGATACTGC GATTTTAAGT GTTGTTCAT
1151 TCCATCACGG TTTTGAATG TTTACTACAC TCGGATATTT GATATGTGGA
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1251 CCTTCAGGAT TACAAGATTC AAAGTGCCT GCTGGTGCCA ACCCTATTCT
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1301 CCTTCTTCGC CAAAAGCACT CTGATTGACA AATACGATTT ATCTAATTTA
 1351 CACGAAATTG CTTCTGGTGG CGCTCCCCTC TCTAAGGAAG TCGGGGAAGC
 1401 GGTTCGCAAG AGGTTCCATC TGCCAGGTAT CAGGCAAGGA TATGGGCTCA
 1451 CTGAGACTAC ATCAGCTATT CTGATTACAC CCGAGGGGGA TGATAAACCG
 1501 GGCGCGGTCG GTAAAGTTGT TCCATTTTTT GAAGCGAAGG TTGTGGATCT
 1551 GGATACCGGG AAAACGCTGG GCGTTAATCA AAGAGGCGAA CTGTGTGTGA
 1601 GAGGTCCTAT GATTATGTCC GGTATGTAA ACAATCCGGA AGCGACCAAC
 1651 GCCTTGATTG ACAAGGATGG ATGGCTACAT TCTGGAGACA TAGCTTACTG
 1701 GGACGAAGAC GAACACTTCT TCATCGTTGA CCGCCTGAAG TCTCTGATTA
 1751 AGTACAAAGG CTATCAGGTG GCTCCCGCTG AATTGGAATC CATCTTGCTC
 1801 CAACACCCCA ACATCTTCGA CGCAGGTGTC GCAGGTCTTC CCGACGATGA
 1851 CGCCGGTGAA CTTCCCGCCG CCGTTGTTGT TTTGGAGCAC GGAAAGACGA
 1901 TGACGGAAAA AGAGATCGTG GATTACGTCG CCAGTCAAGT AACAACCGCG
 1951 AAAAAGTTGC GCGGAGGAGT TGTGTTTGTG GACGAAGTAC CGAAAGGTCT
 2001 TACCGGAAAA CTCGACGCAA GAAAAATCAG AGAGATCCTC ATAAAGGCCA
 2051 AGAAGGGCGG AAAGATCGCC GTG**TAA**

LUC-P5SM_{E/R} SPLICED PRODUCT I

1 GACATCACTT ACGCTGAGTA CTTCGAAATG TCCGTTCCGGT TGGCAGAAGC
 51 TATGAAACGA TATGGGCTGA ATACAAATCA CAGAATCGTC GTATGCAGTG
 101 AAAACTCTCT TCAATTCTTT ATGCCGGTGT TGGGCGCGTT ATTTATCGGA
 151 GTTGCAGTTG CGCCCGCGAA CGACATTTAT AATGAGAGAG AATTGCTCAA
 201 CAGTATGGGC ATTTTCGAGC CTACCGTGGT GTTCGTTTCC AAAAAGGGGT
 251 TGCAAAAAAT TTTGAACGTG CAAAAAAGC TCCAATCAT CCAAAAAATT

LUC-P5SM_{E/R} SPLICED PRODUCT II

1 GACATCACTT ACGCTGAGTA CTTCGAAATG TCCGTTCCGGT TGGCAGAAGC
 51 TATGAAACGA TATGGGCTGA ATACAAATCA CAGAATCGTC GTATGCAGTG
 101 AAAACTCTCT TCAATTCTTT ATGCCGGTGT TGGGCGCGTT ATTTATCGGA
 151 GTTGCAGTTG CGCCCGCGAA CGACATTTAT AAT**GAG**GAAA TAAATAGCCT
 201 TTTGTTTAAA TCAAAGGTC TTACCTATGT TATTGCG**TGA** GGCATTGGAT
 251 CCCAAAGAGA GAACTCCAAA ATGCGAGGCT ACATGTTATG GACTAGTATC
 301 AGGTTGGGAG ACCTCCTGAG AAGCTCCAGC AAGTAAGCCT CGATCACGCA
 351 AAATGTTTGA G**AGA**GAAATG CTCAACAGTA TGGGCATTTT GCAGCCTACC
 401 GTGGTGTTCG TTTCCAAAA GGGGTTGCA**A** AAAATTTTGA ACGTGCAAAA

LUC-P5SM_{K/R} gene sequence

```
1 ATGGAAGACG CAAAAACAT AAAGAAAGGC CCGGCGCCAT TCTATCCGCT
51 GGAAGATGGA ACCGCTGGAG AGCAACTGCA TAAGGCTATG AAGAGATACG
101 CCCTGGTTCC TGGAACAATT GCTTTTACAG ATGCACATAT CGAGGTGGAC
151 ATCACTTACG CTGAGTACTT CGAAATGTCC GTTCGGTTGG CAGAAGCTAT
201 GAAGGTAGAT TTATGCATCC TCTTGTTCATG AGAAGTCGAA TTGTTCCCAT
251 TCTGTGTGTT GCAGCTACAG ATGGAGATAC ATAGAGATAC TCGTGGATTT
301 TGCTTAGTGT TGAGTTTTGT TCTGGTTGTG AACTAAAAGT TTATACATTT
351 GCAGGAAATA AATAGCCTTT TGTTTAAATC AAAAGGTCTT ACCTATGTTA
401 TTGCGTGAGG CATTGGATCC CAAAGAGAGA ACTCCAAAAT GCGAGGCTAC
451 ATGTTATGGA CTAGTATCAG GTTGGGAGAC CTCCTGAGAA GCTCCAGCAA
501 GTAAGCCTCG ATCACGCAA ATGTTTGAGG TCTGATGTTC AATAGCTTGT
551 TTTGTTTCAC TTTGCTTTGG ACTTTCCTTT CGCCAATGAG CTATGTTTCT
601 GATGGTTTTT ACTCTTTTGG TGTGTAGAGA TATGGGCTGA ATACAAATCA
651 CAGAATCGTC GTATGCAGTG AAAACTCTCT TCAATTCTTT ATGCCGGTGT
701 TGGGCGCGTT ATTTATCGGA GTTGCACTTG CGCCCGCGAA CGACATTTAT
751 AATGAACGTG AATTGCTCAA CAGTATGGGC ATTTTCGCAGC CTACCGTGGT
801 GTTCGTTTCC AAAAAGGGGT TGCAAAAAAT TTTGAACGTG CAAAAAAGC
851 TCCAATCAT CAAAAAATT ATTATCATGG ATTCTAAAAC GGATTACCAG
901 GGATTTTCACT CGATGTACAC GTTCGTCACA TCTCATCTAC CTCCCGGTTT
951 TAATGAATAC GATTTTGTGC CAGAGTCCTT CGATAGGGAC AAGACAATTG
1001 CACTGATCAT GAACTCCTCT GGATCTACTG GTCTGCCTAA AGGTGTCGCT
1051 CTGCCTCATA GAACTGCCTG CGTGAGATTC TCGCATGCCA GAGATCCTAT
1101 TTTTGGCAAT CAAATCATT CCGATACTGC GATTTTAAGT GTTGTTCAT
1151 FCCATCACGG TTTTGGAAATG TTTACTACAC TCGGATATTT GATATGTGGA
1201 TTTCGAGTCG TCTTAATGTA TAGATTTGAA GAAGAGCTGT TTCTGAGGAG
1251 CCTTCAGGAT TACAAGATTC AAAGTGCCT GCTGGTGCCA ACCCTATTCT
1301 CCTTCTTCGC CAAAAGCACT CTGATTGACA AATACGATTT ATCTAATTTA
1351 CACGAAATTG CTTCTGGTGG CGCTCCCCTC TCTAAGGAAG TCGGGGAAGC
1401 GGTTGCCAAG AGGTTCCATC TGCCAGGTAT CAGGCAAGGA TATGGGCTCA
1451 CTGAGACTAC ATCAGCTATT CTGATTACAC CCGAGGGGGA TGATAAACCG
1501 GGC GCGGTGCG GTAAAGTTGT TCCATTTTTT GAAGCGAAGG TTGTGGATCT
1551 GGATACCGGG AAAACGCTGG GCGTTAATCA AAGAGGCGAA CTGTGTGTGA
1601 GAGGTCCTAT GATTATGTCC GGTTATGTAA ACAATCCGGA AGCGACCAAC
1651 GCCTTGATTG ACAAGGATGG ATGGCTACAT TCTGGAGACA TAGCTTACTG
1701 GGACGAAGAC GAACACTTCT TCATCGTTGA CCGCCTGAAG TCTCTGATTA
1751 AGTACAAAGG CTATCAGGTG GCTCCCGCTG AATTGGAATC CATCTTGCTC
1801 CAACACCCCA ACATCTTCGA CGCAGGTGTC GCAGGTCTTC CCGACGATGA
1851 CGCCGGTGAA CTTCCCGCCG CCGTTGTTGT TTTGGAGCAC GGAAAGACGA
1901 TGACGGAAAA AGAGATCGTG GATTACGTCG CCAGTCAAGT AACACC GCG
1951 AAAAAGTTGC GCGGAGGAGT TGTGTTTGTG GACGAAGTAC CGAAAGGTCT
2001 TACCGGAAAA CTCGACGCAA GAAAAATCAG AGAGATCCTC ATAAAGGCCA
2051 AGAAGGGCGG AAAGATCGCC GTGTAA
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LUC-P5SM_{K/R} SPLICED PRODUCT I

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1 CATAAAGAAA GGCCCGGCGC CATTCTATCC GCTGGAAGAT GGAACCGCTG
51 GAGAGCAACT GCATAAGGCT ATGAAGAGAT ACGCCCTGGT TCCTGGAACA
101 ATTGCTTTTA CAGATGCACA TATCGAGGTG GACATCACTT ACGCTGAGTA
151 CTTCGAAATG TCCGTTCCGT TGGCAGAAGC TATGAAGAGA TATGGGCTGA
201 ATACAAATCA CAGAATCGTC GTATGCAGTG AAAACTCTCT TCAATTCTTT
251 ATGCCGGTGT TGGGCGCGTT ATTTATCGGA GTTGCAGT TG CGCCCGCGAA
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LUC-P5SM_{K/R} SPLICED PRODUCT II

```
1 CATAAAGAAA GGCCCGGCGC CATTCTATCC GCTGGAAGAT GGAACCGCTG
51 GAGAGCAACT GCATAAGGCT ATGAAGAGAT ACGCCCTGGT TCCTGGAACA
101 ATTGCTTTTA CAGATGCACA TATCGAGGTG GACATCACTT ACGCTGAGTA
151 CTTCGAAATG TCCGTTCCGT TGGCAGAAGC TATGAAGGAA ATAAATAGCC
201 TTTTGTTTAA ATCAAAGGT CTTACCTATG TTATTGCGTG AGGCATTGGA
251 TCCCAAAGAG AGAACTCCAA AATGCGAGGC TACATGTTAT GGA TAGTAT
301 CAGGTTGGGA GACCTCCTGA GAAGCTCCAG CAAGTAAGCC TCGATCACGC
351 AAAATGTTTG AGAGATATGG GCTGAATACA AATCACAGAA TCGTCGTATG
401 CAGTGAAAAC TCTCTTCAAT TCTTTATGCC GGTGTTGGGC GCGTTATTTA
451 TCGGAGTTGC AGT TGGCGCCC GCGAACGACA TTTATAATGA ACGTGAATTG
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CYP707A3-P5SM_{E/S} gene sequence (AT5G45340.1)

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1 ATGGATTTCT CCGGTTTGTT TCTCACTCTC TCCGCGGCGG CTCTGTTTCT
51 CTGTTTACTC CGATTTATCG CCGGAGTCCG CCGTAGCTCC TCCACGAAAC
101 FCCCTCTTCC TCCGGGAACA ATGGGTTATC CTTACGTCGG CGAAACATTC
151 CAACTTTACT CACAAGACCC TAATGTGTTT TTTGCAGCAA AACAGAGAAG
201 ATACGGATCG GTGTTCAAGA CTCATGTATT GGGATGTCCA TGTGTGATGA
251 TCTCGAGCCC TGAAGCAGCG AAATTCGTAT TGGTTACAAA GTCTCATTTG
301 FTTAAACCGA CTTTTCCGGC CAGTAAAGAG AGGATGCTTG GAAAACAAGC
351 CATCTTCTTC CATCAAGGAG ATTATCATTC CAAACTTAGA AAGCTTGTTT
401 TAAGAGCTTT CATGCCTGAT GCAATCAGAA ACATGGTCCC TCACATTGAG
451 GTAGATTTAT GCATCCTCTT GTCATGAGAA GTCGAATTGT TCCCATTCTG
501 TGTGTTGCAG CTACAGATGG AGATACATAG AGATACTCGT GGATTTTGCT
551 TAGTGTTGAG TTTTGTCTCG GTTGTGA ACT AAAAGTTTAT ACATTTGCAG
601 GAAATAAATA GCCTTTTGTT TAAATCAAAA GGTCTTACCT ATGTTATTGC
651 GTGAGGCATT GGATCCCAA GAGAGA ACT CAAAATGCGA GGCTACATGT
701 TATGGACTAG TATCAGTTG GGAGACCTCC TGAGAAGCTC CAGCAAGTAA
751 GCCTCGATCA CGCAAATGT TTGAGGTTCTG ATGTTCAATA GCTTGTTTTG
801 TTTCACTTTG CTTTGGACTT TCTTTTCGCC AATGAGCTAT GTTTCTGATG
851 GTTTTCACTC TTTTGGTGTG TAGAGTATTG CTCAAGAATC ACTCAATTCT
901 TGGGATGGAA CTCAACTCAA CACTTACCAG GAAATGAAAA CATACTTTT
951 CAATGTTGCG TTAATCTCAA TACTCGGCAA AGACGAAGTT TATTACCGAG
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1001 AAGATCTAAA ACGATGCTAC TACATTCTAG AGAAAGGTTA CAATTCGATG
 1051 CCGATTAATC TTCCAGGAAC ATTATTCCAC AAAGCCATGA AAGCTCGCAA
 1101 GGAGCTAGCT CAAATCCTCG CTAACATCTT ATCCAAAAGA AGACAAAACC
 1151 CATCATCACA CACAGATCTC CTCGGATCAT TCATGGAAGA CAAAGCAGGA
 1201 TTAACCGACG AACAAATCGC CGATAACATC ATCGGAGTAA TCTTCGCCGC
 1251 AAGAGACACG ACGGCGAGTG TTCTGACGTG GATCCTCAAG TACTTAGCTG
 1301 ATAATCCAAC TGTTCTAGAA GCTGTCACTG AAGAGCAAAT GGCAATAAGG
 1351 AAAGATAAAA AAGAAGGAGA GAGTCTCACT TGGGAAGATA CAAAGAAGAT
 1401 GCCATTAACT TATAGAGTAA TCCAAGAGAC ATTAAGAGCT GCTACAATCT
 1451 TATCTTTCAC ATTTAGAGAA GCTGTGGAAG ATGTGGAATA CGAAGGATAT
 1501 TTGATACCAA AGGGATGGAA AGTACTGCCA CTATTCAGAA ATATTCATCA
 1551 CAATGCTGAT ATATTTTCGG ATCCGGGGAA ATTCGATCCG TCGAGATTCG
 1601 AAGTTGCGCC GAAACCGAAT ACATTCATGC CTTTGGGTAG TGGGATTCAT
 1651 TCTTGTCCAG GCAATGAGTT AGCTAAACTT GAAATCTCTG TTCTAATCCA
 1701 TCATCTCACC ACTAAGTACA GATGGTCAAT CGTAGGGCCT AGCGATGGAA
 1751 TTCAGTATGG GCCGTTCGCT CTTCTCAGA ATGGATTGCC TATTGCCTTG
 1801 GAACGAAAAC CATAG

CYP707A3-P5SM_{E/S} SPLICED PRODUCT I

1 ACCCTAATGT GTTCTTTGCA GCAAACAGA GAAGATACGG ATCGGTGTTC
 51 AAGACTCATG TATTGGGATG TCCATGTGTG ATGATCTCGA GCCCTGAAGC
 101 AGCGAAATTC GTATTGGTTA CAAAGTCTCA TTTGTTTAAA CCGACTTTTC
 151 CGGCCAGTAA AGAGAGGATG CTTGGAAAAC AAGCCATCTT CTTCCATCAA
 201 GGAGATTATC ATTCCAAACT TAGAAAGCTT GTTTTAAGAG CTTTCATGCC
 251 TGATGCAATC AGAAACATGG TCCCTCACAT TGAGAGATT GCTCAAGAAT
 301 CACTCAATTC TTGGGATGGA ACTCAACTCA ACACTTACCA GGAAATGAAA

CYP707A3-P5SM_{E/S} SPLICED PRODUCT II

1 ACCCTAATGT GTTCTTTGCA GCAAACAGA GAAGATACGG ATCGGTGTTC
 51 AAGACTCATG TATTGGGATG TCCATGTGTG ATGATCTCGA GCCCTGAAGC
 101 AGCGAAATTC GTATTGGTTA CAAAGTCTCA TTTGTTTAAA CCGACTTTTC
 151 CGGCCAGTAA AGAGAGGATG CTTGGAAAAC AAGCCATCTT CTTCCATCAA
 201 GGAGATTATC ATTCCAAACT TAGAAAGCTT GTTTTAAGAG CTTTCATGCC
 251 TGATGCAATC AGAAACATGG TCCCTCACAT TGAGGAAATA AATAGCCTTT
 301 TGTTTAAATC AAAAGGTCTT ACCTATGTTA TTGCGTGAAG CATTGGATCC
 351 CAAAGAGAGA ACTCCAAAT GCGAGGCTAC ATGTTATGGA CTAGTATCAG
 401 GTTGGGAGAC CTCCTGAGAA GCTCCAGCAA GTAAGCCTCG ATCACGCAA
 451 ATGTTTGAG GAATTGCTCA AGAATCACTC AATTCCTGGG ATGGAACCTCA
 501 ACTCAACACT TACCAGGAAA TGAAAACATA CACTTTCAAT GTTGCCTTAA

CYP707A3-P5SM_{K/R} gene sequence (AT5G45340.1)

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1 ATGGATTCT CCGGTTTGT TCTCACTCT TCCGCGGCG CTCTGTTTCT
51 CTGTTTACT CGATTTATCG CCGGAGTCCG CCGTAGCTCC TCCACGAAAC
101 TCCCTCTTCC TCCGGGAACA ATGGGTTATC CTTACGTCGG CGAAACATTC
151 CAACTTTACT CACAAGACCC TAATGTGTTT TTTGCAGCAA AACAGAGAAG
201 ATACGGATCG GTGTTCAAGA CTCATGTATT GGGATGTCCA TGTGTGATGA
251 TCTCGAGCCC TGAAGCAGCG AAATTCGTAT TGGTTACAAA GTCTCATTTG
301 TTAAACCGA CTTTTCCGGC CAGTAAAGAG AGGATGCTTG GAAAACAAGC
351 CATCTTCTTC CATCAAGGAG ATTATCATT CAAACTTAGA AAGCTTGTTT
401 TAAGAGCTTT CATGCCTGAT GCAATCAGAA ACATGGTCCC TCACATTGAA
451 TCAATTGCTC AAGAATCACT CAATTCTTGG GATGGAACTC AACTCAACAC
501 TTACCAGGAA ATGAAAACAT ACACTTTCAA TGTTGCGTTA ATCTCAATAC
551 TCGGCAAAGA CGAAGTTTAT TACCGAGAAG ATCTAAGGT AGATTTATGC
601 ATCCTCTTGT CATGAGAAGT CGAATTGTTC CCATTCTGTG TGTTGCAGCT
651 ACAGATGGAG ATACATAGAG ATACTCGTGG ATTTTGCTTA GTGTTGAGTT
701 TTGTTCTGGT TGTGAACTAA AAGTTTATAC ATTTGCAGGA AATAAATAGC
751 CTTTTGTTTA AATCAAAGG TCTTACCTAT GTTATTGCGT GAGGCATTGG
801 ATCCCAAAGA GAGAACTCCA AAATGCGAGG CTACATGTTA TGGACTAGTA
851 TCAGGTTGGG AGACCTCCTG AGAAGCTCCA GCAAGTAAGC CTCGATCACG
901 CAAAATGTTT GAGGTCGTAT GTTCAATAGC TTGTTTTGTT TCACTTTGCT
951 TTGACTTTC TTTTCGCCAA TGAGCTATGT TTCTGATGGT TTTACTCTT
1001 TTGGTGTGTA GAGATGCTAC TACATTCTAG AGAAAGGTTA CAATTTCGATG
1051 CCGATTAATC TTCCAGGAAC ATTATTCCAC AAAGCCATGA AAGCTCGCAA
1101 GGAGCTAGCT CAAATCCTCG CTAACATCTT ATCCAAAAGA AGACAAAACC
1151 CATCATCACA CACAGATCTC CTCGGATCAT TCATGGAAGA CAAAGCAGGA
1201 TTAACCGACG AACAAATCGC CGATAACATC ATCGGAGTAA TCTTCGCCGC
1251 AAGAGACACG ACGGCGAGTG TTCTGACGTG GATCCTCAAG TACTTAGCTG
1301 ATAATCCAAC TGTTCTAGAA GCTGTCACTG AAGAGCAAAT GGCAATAAGG
1351 AAAGATAAAA AAGAAGGAGA GAGTCTCACT TGGGAAGATA CAAAGAAGAT
1401 GCCATTAACT TATAGAGTAA TCCAAGAGAC ATTAAGAGCT GCTACAATCT
1451 TATCTTTCAC ATTTAGAGAA GCTGTGAAG ATGTGAATA CGAAGGATAT
1501 TTGATACCAA AGGGATGGAA AGTACTGCCA CTATTCAGAA ATATTCATCA
1551 CAATGCTGAT ATATTTTCGG ATCCGGGGAA ATTCGATCCG TCGAGATTCG
1601 AAGTTGCGCC GAAACCGAAT ACATTCATGC CTTTTGGTAG TGGGATTCAT
1651 TCTTGTCAG GCAATGAGTT AGCTAAACTT GAAATCTCTG TTCTAATCCA
1701 TCATCTCACC ACTAAGTACA GATGGTCAAT CGTAGGGCCT AGCGATGGAA
1751 TTCAGTATGG GCCGTTGCTT CTTCCTCAGA ATGGATTGCC TATTGCCTTG
1801 GAACGAAAAC CATTAG
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CYP707A3-P5SM_{K/R} SPLICED PRODUCT I

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1 CATGCCTGAT GCAATCAGAA ACATGGTCCC TCACATTGAA TCAATTGCTC
51 AAGAATCACT CAATTCTTGG GATGGAACTC AACTCAACAC TTACCAGGAA
101 ATGAAAACAT ACACTTTCAA TGTTGCGTTA ATCTCAATAC TCGGCAAAGA
151 CGAAGTTTAT TACCGAGAAG ATCTAAGAG ATGCTACTAC ATTCTAGAGA
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201 AAGGTTACAA TTCGATGCCG ATTAATCTTC CAGGAACATT ATTCCACAAA
 251 GCCATGAAAG CTCGCAAGGA GCTAGCTCAA ATCCTCGCTA ACATCTTATC
 301 CAAAAGAAGA CAAAACCCAT CATCACACAC AGATCTCCTC GGATCATTCA

CYP707A3-P5SM_{K/R} SPLICED PRODUCT II

1 CATGCCTGAT GCAATCAGAA ACATGGTCCC TCACATTGAA TCAATTGCTC
 51 AAGAATCACT CAATTCTTGG GATGGAAGCTC AACTCAACAC TTACCAGGAA
 101 ATGAAAACAT ACACTTTCAA TGTTGCGTTA ATCTCAATAC TCGGCAAAGA
 151 CGAAGTTTAT TACCGAGAAG ATCTAAAGGA AATAAATAGC CTTTTGTTTA
 201 AATCAAAGG TCTTACCTAT GTTATTGCGT GAGGCATTGG ATCCCAAAGA
 251 GAGAACTCCA AAATGCGAGG CTACATGTTA TGGACTAGTA TCAGGTTGGG
 301 AGACCTCCTG AGAAGCTCCA GCAAGTAAGC CTCGATCACG CAAAATGTTT
 351 GAGAGATGCT ACTACATTCT AGAGAAAGGT TACAATTCGA TGCCGATTAA
 401 TCTTCCAGGA ACATTATTCC ACAAAGCCAT GAAAGCTCGC AAGGAGCTAG
 451 CTCAAATCCT CGCTAACATC TTATCCAAA GAAGACAAA CCCATCATCA
 501 CACACAGATC TCCTCGGATC ATTCATGGAA GACAAAGCAG GATTAACCGA

PSY-P5SM_{C/R} gene sequence (AT5G17230.1)

1 ATGTCTTCTT CTGTAGCAGT GTTATGGGTT GCTACTTCTT CTCTAAATCC
 51 AGACCCAATG AACAAATTGTG GGTGTAAG GGTCTAGAA TCTTCTAGAC
 101 TGTTCTCTCC TTGTCAGAAT CAGAGACTAA ACAAAGGTAA GAAGAAGCAG
 151 ATACCAACTT GGAGTTCTTC TTTTGTAAGG AACC GAAGTA GAAGAATTGG
 201 TGTTGTGTCT TCAAGCTTAG TAGCAAGTCC TTCTGGAGAG ATAGCTCTTT
 251 CATCTGAAGA GAAGGTTTAC AATGTTGTGT TGAAACAAGC TGCTTTGGTG
 301 AACAAACAGC TAAGGTCTTC TTCTTATGAC CTTGATGTGA AGAAACCACA
 351 AGATGTTGTT CTTCTGGGA GTTTGAGTTT GTTGGGTGAA GCTTATGATC
 401 GATGCGGTGA AGTTTGCCT GAATATGCTA AGACGTTTTA TCTTGGAACT
 451 TTGCTTATGA CACCCGAAAG GCGAAAGCG ATTTGGGCAA TCTACGTTTG
 501 GTGCTAGAT TTATGCATCC TCTTGTCATG AGAAGTCGAA TTGTTCCCAT
 551 TCTGTGTGTT GCAGCTACAG ATGGAGATAC ATAGAGATAC TCGTGGATTT
 601 TGCTTAGTGT TGAGTTTTGT TCTGGTTGTG AACTAAAAGT TTATACATTT
 651 GCAGGAAATA AATAGCCTTT TGTTTAAATC AAAAGGTCTT ACCTATGTTA
 701 TTGCGTGAGG CATTGGATCC CAAAGAGAGA ACTCCAAAAT GCGAGGCTAC
 751 ATGTTATGGA CTAGTATCAG GTTGGGAGAC CTCCTGAGAA GCTCCAGCAA
 801 GTAAGCCTCG ATCACGCAA ATGTTGAGG TCTGATGTTT AATAGCTTGT
 851 TTTGTTTAC TTTGCTTTGG ACTTTCTTTT CGCCAATGAG CTATGTTTCT
 901 GATGGTTTTT ACTCTTTTGG TGTGTAGAGA AGAACTGATG AACTTGTGGA
 951 TGGGCCAAAT GCTTCACATA TAACTCCCAT GGCTTTAGAT AGATGGGAAG
 1001 CAAGGTTAGA AGATCTTTTC CGTGGTCGTC CTTTCGATAT GCTTGATGCT
 1051 GCTCTCGCTG ATACAGTTGC TAGATACCCG GTCGATATTC AGCCATTTTCG
 1101 AGACATGATC GAAGGAATGA GAATGGACTT GAAGAAATCG AGATACCAGA
 1151 ACTTCGATGA TCTATACCTT TACTGCTACT ACGTCGCTGG AACCGTCGGA
 1201 TTGATGAGCG TTCCGTTTAT GGAATCGAT CCTAAGTCGA AAGCAACAAC

1251 CGAAAGTGTT TACAACGCTG CCTTGGCCCT TGGTATAGCC AATCAGCTTA
 1301 CTAACATACT CAGAGACGTA GGCGAAGATG CGAGAAGAGG AAGGGTTTAT
 1351 CTGCCTCAGG ATGAATTGGC TCAGGCTGGT CTTTCAGATG AAGACATATT
 1401 CGCCGGAAAA GTAACGATA AATGGAGAAA CTTCATGAAA ATGCAGCTTA
 1451 AACGAGCAAG AATGTTCTTC GACGAAGCTG AGAAAGGCGT CACCGAGCTC
 1501 AGTGCCGCTA GCAGATGGCC TGTATGGGCT TCATTGCTAT TGTACAGGAG
 1551 AATACTGGAC GAGATTGAAG CGAATGATTA CAACAATTTT ACTAAGAGAG
 1601 CTTATGTGGG GAAAGTCAAG AAAATTGCAG CTTTGCCATT GGCTTATGCT
 1651 AAATCAGTAC TAAAGACTTC AAGTTCAAGA CTATCGATA T GA

PSY-P5SM_{C/R} SPLICED PRODUCT III

1 CTTGATGTGA AGAAACCACA AGATGTTGTT CTTCTGGGA GTTTGAGTTT
 51 GTTGGGTGAA GCTTATGATC GATGCGGTGA AGTTTGCCT GAATATGCTA
 101 AGACGTTTTA TCTTGAACT TTGCTTATGA CACCCGAAAG GCGAAAGGCG
 151 ATTTGGGCAA TCTACGTTTG AGAAGAAGCTG ATGAACTTGT GGATGGGCCA
 201 AATGCTTCAC ATATAACTCC CATGGCTTTA GATAGATGGG AAGCAAGGTT
 251 AGAAGATCTT TTCCGTGGTC GTCCTTTCGA TATGCTTGAT GCTGCTCTCG

PSY-P5SM_{C/R} SPLICED PRODUCT V

1 CTTGATGTGA AGAAACCACA AGATGTTGTT CTTCTGGGA GTTTGAGTTT
 51 GTTGGGTGAA GCTTATGATC GATGCGGTGA AGTTTGCCT GAATATGCTA
 101 AGACGTTTTA TCTTGAACT TTGCTTATGA CACCCGAAAG GCGAAAGGCG
 151 ATTTGGGCAA TCTACGTTTG GAAATAAATA GCCTTTTGT TAAATCAAAA
 201 GGTCTTACCT ATGTTATTGC GTGAGGCATT GGATCCCAA GAGAGAAGTC
 251 CAAAATGCGA GGCTACATGT TATGGACTAG TATCAGGTTG GGAGACCTCC
 301 TGAGAAGCTC CAGCAAGTAA GCCTCGATCA CGCAAATGT TTGAGAGAAG
 351 AACTGATGAA CTTGTGGATG GGCCAAATGC TTCACATATA ACTCCCATGG
 401 CTTTAGATAG ATGGGAAGCA AGGTTAGAAG ATCTTTTCCG TGGTCGTCCT
 451 TTCGATATGC TTGATGCTGC TCTCGCTGAT ACAGTTGCTA GATACCCGGT

PSY-P5SM_{C/R} SPLICED PRODUCT IV

1 CTTGATGTGA AGAAACCACA AGATGTTGTT CTTCTGGGA GTTTGAGTTT
 51 GTTGGGTGAA GCTTATGATC GATGCGGTGA AGTTTGCCT GAATATGCTA
 101 AGACGTTTTA TCTTGAACT TTGCTTATGA CACCCGAAAG GCGAAAGGCG
 151 ATTTGGGCAA TCTACGTTTG GTCCGTAGAT TTATGCATCC TCTTGTCTATG
 201 AGAAGTCGAA TTGTTCCCAT TCTGTGTGTT GCAGCTACAG ATGGAGATAC
 251 ATAGAGATAC TCGTGGATTT TGCTTAGTGT TGAGTTTTGT TCTGGTTGTG
 301 AACTAAAAGT TTATACATTT GCAGGAAATA AATAGCCTTT TGTAAATC
 351 AAAAGGTCTT ACCTATGTTA TTGCGTAGG CATTGGATCC CAAAGAGAGA
 401 ACTCCAAAAT GCGAGGCTAC ATGTTATGGA CTAGTATCAG GTTGGGAGAC

451 CTCCTGAGAA GCTCCAGCAA GTAAGCCTCG ATCACGCAA ATGTTTGAGA
501 GAAGAAGTGA TGAAGTTGTG GATGGGCCAA ATGCTTCACA TATAACTCCC
551 ATGGCTTTAG ATAGATGGGA AGCAAGGTTA GAAGATCTTT TCCGTGGTCC
601 TCCTTTTCGAT ATGCTTGATG CTGCTCTCGC TGATACAGTT GCTAGATACC

PSY-P5SM_{E/R} gene sequence (AT5G17230.1)

1 ATGTCTTCTT CTGTAGCAGT GTTATGGGTT GCTACTTCTT CTCTAAATCC
51 AGACCCAATG AACAAATTGTG GGTGTTGTAAG GGTTCCTAGAA TCTTCTAGAC
101 TGTTCCTCTCC TTGTCAGAAT CAGAGACTAA ACAAAGGTAA GAAGAAGCAG
151 ATACCAACTT GGAGTTCCTC TTTTGTAAGG AACCGAAGTA GAAGAATTGG
201 TGTGTGTCT TCAAGCTTAG TAGCAAGTCC TTCTGGAGAG ATAGCTCTTT
251 CATCTGAAGA GAAGGTTTAC AATGTTGTGT TGAAACAAGC TGCTTTGGTG
301 AACAAACAGC TAAGGTCTTC TTCTTATGAC CTTGATGTGA AGAAACCACA
351 AGATGTTGTT CTTCTGGGA GTTTGAGTTT GTTGGGTGAA GCTTATGATC
401 GATGCGGTGA AGTTTGCCTT GAATATGCTA AGACGTTTTA TCTTGGAAC
451 TTGCTTATGA CACCCGAGGT AGATTTATGC ATCCTCTTGT CATGAGAAGT
501 CGAATTGTTT CCATTCTGTG TGTTGCAGCT ACAGATGGAG ATACATAGAG
551 ATACTCGTGG ATTTTGCTTA GTGTTGAGTT TTGTTCTGGT TGTGAACATA
601 AAGTTTATAC ATTTGCAGGA AATAAATAGC CTTTTGTTTA AATCAAAGG
651 TCTTACCTAT GTTATTGCGT GAGGCATTGG ATCCCAAAGA GAGAAGTCCA
701 AAATGCGAGG CTACATGTTA TGGACTAGTA TCAGGTTGGG AGACCTCCTG
751 AGAAGCTCCA GCAAGTAAGC CTCGATCACG CAAAATGTTT GAGGCTCTGAT
801 GTTCAATAGC TTGTTTTGTT TCACTTTGCT TTGGACTTTC TTTTCGCCAA
851 TGAGCTATGT TTCTGATGGT TTTCACTCTT TTGGTGTGTA GAGACGAAAG
901 GCGATTTGGG CAATCTACGT TTGGTGTAGA AGAACTGATG AACTTGTGGA
951 TGGGCCAAAT GCTTCACATA TAACTCCAT GGCTTTAGAT AGATGGGAAG
1001 CAAGGTTAGA AGATCTTTTC CGTGGTCGTC CTTTCGATAT GCTTGATGCT
1051 GCTCTCGCTG ATACAGTTGC TAGATACCCG GTCGATATTC AGCCATTTCC
1101 AGACATGATC GAAGGAATGA GAATGGACTT GAAGAAATCG AGATACCAGA
1151 ACTTCGATGA TCTATACCTT TACTGCTACT ACGTCGCTGG AACCGTCGGA
1201 TTGATGAGCG TTCCGTTTAT GGGAAATCGAT CCTAAGTCGA AAGCAACAAC
1251 CGAAAGTGT TACAACGCTG CCTTGCCCTT TGGTATAGCC AATCAGCTTA
1301 CTAACATACT CAGAGACGTA GCGAAGATG CGAGAAGAGG AAGGGTTTAT
1351 CTGCCTCAGG ATGAATTGGC TCAGGCTGGT CTTTCAGATG AAGACATATT
1401 CGCCGAAAA GTAAGTATA AATGGAGAAA CTTTATGAAA ATGCAGCTTA
1451 AACGAGCAAG AATGTTCTTC GACGAAGCTG AGAAAGGCGT CACCGAGCTC
1501 AGTGCCGCTA GCAGATGGCC TGTATGGGCT TCATTGCTAT TGTACAGGAG
1551 AATACTGGAC GAGATTGAAG CGAATGATTA CAACAATTTT ACTAAGAGAG
1601 CTTATGTGGG GAAAGTCAAG AAAATTGCAG CTTTGCCATT GGCTTATGCT
1651 AAATCAGTAC TAAAGACTTC AAGTTCAAGA CTATCGATAT GA

PSY-P5SM_{E/R} SPLICED PRODUCT I

```
1 CTTGATGTGA AGAAACCACA AGATGTTGTT CTTCTGGGA GTTTGAGTTT
51 GTTGGGTGAA GCTTATGATC GATGCGGTGA AGTTTGCGCT GAATATGCTA
101 AGACGTTTTA TCTTGGA ACT TTGCTTATGA CACCCGAGAG ACGAAAGGCG
151 ATTTGGGCAA TCTACGTTG GTGTAGAAGA ACTGATGAAC TTGTGGATGG
201 GCCAAATGCT TCACATATAA CTCCATGGC TTTAGATAGA TGGGAAGCAA
251 GGTTAGAAGA TCTTTCCGT GGTCTCCTT TCGATATGCT TGATGCTGCT
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PSY-P5SM_{E/R} SPLICED PRODUCT II

```
1 CTTGATGTGA AGAAACCACA AGATGTTGTT CTTCTGGGA GTTTGAGTTT
51 GTTGGGTGAA GCTTATGATC GATGCGGTGA AGTTTGCGCT GAATATGCTA
101 AGACGTTTTA TCTTGGA ACT TTGCTTATGA CACCCGAGGA AATAAATAGC
151 CTTTTGTTTA AATCAAAGG TCTTACCTAT GTTATTGCGT GAGGCATTGG
201 ATCCCAAAGA GAGAACTCCA AAATGCGAGG CTACATGTTA TGGACTAGTA
251 TCAGGTTGGG AGACCTCCTG AGAAGCTCCA GCAAGTAAGC CTCGATCACG
301 CAAAATGTTT GAGAGACGAA AGGCGATTTG GGCAATCTAC GTTTGGTGTGA
351 GAAGA ACTGA TGA ACTTGTG GATGGGCCAA ATGCTTCACA TATAACTCCC
401 ATGGCTTTAG ATAGATGGGA AGCAAGGTTA GAAGATCTTT TCCGTGGTCG
451 TCCTTCGAT ATGCTTGATG CTGCTCTCGC TGATACAGTT GCTAGATAACC
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NCED3-P5SM_{E/R} gene sequence (AT3G14440.1)

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1 ATGGCTTCTT TCACGGCAAC GGCTGCGGTT TCTGGGAGAT GGCTTGGTGG
51 CAATCATACT CAGCCGCCAT TATCGTCTTC TCAAAGCTCC GACTTGAGTT
101 ATTGTAGCTC CTTACCTATG GCCAGTCGTG TCACACGTAA GCTCAATGTT
151 TCATCTGCGC TTCACACTCC TCCAGCTCTT CATTTCCTA AGCAATCATC
201 AA ACTCTCCC GCCATTGTTG TTAAGCCCAA AGCCAAAGAA TCCAACACTA
251 AACAGATGAA TTTGTTCCAG AGAGCGGCGG CGGCAGCGTT GGACGCGGCG
301 GAGGGTTTCC TTGTCAGCCA CGAGAAGCTA CACCCGCTTC CTAAAACGGC
351 TGATCCTAGT GTTCAGATCG CCGGAAATTT TGCTCCGGTG AATGAACAGC
401 CCGTCCGGCG TAATCTTCCG GTGGTCGGAA AACTTCCCGA TTCCATCAAAA
451 GGAGTGTATG TGCGCAACGG AGCTAACCCA CTTACAGAGC CGGTGACAGG
501 TCACCACTTC TTCGACGGAG ACGGTATGGT TCACGCCGTC AAATTCGAAC
551 ACGGTT CAGC TAGCTACGCT TGCCGGTTTA CTCAGACTAA CCGGTTTGT
601 CAGGAGGTAG ATTTATGCAT CCTCTTGTC A TGAGAAGTCG AATTGTTCCC
651 ATTCTGTGTG TTGCAGCTAC AGATGGAGAT ACATAGAGAT ACTCGTGGAT
701 TTTGCTTAGT GTT GAGTTTT GTTCTGGTTG TGA ACTAAAA GTTTATACAT
751 TTGCAGGAAA TAAATAGCCT TTTGTTTAAA TCAA AAGGTC TTACCTATGT
801 TATTGCGTGA GGCATTGGAT CCCAAAGAGA GAACTCCAAA ATGCGAGGCT
851 ACATGTTATG GACTAGTATC AGGTTGGGAG ACCTCCTGAG AAGCTCCAGC
901 AAGTAAGCCT CGATCACGCA AAATGTTTGA GGTCTGATGT TCAATAGCTT
951 GTTTTGTTT ACTTTGCTTT GGACTTTCTT TTCGCCAATG AGCTATGTTT
1001 CTGATGGTTT TCACTCTTTT GGTGTGTAGA GACAATTGGG TCGACCGGTT
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1051 TTCCCCAAAG CCATCGGTGA GCTTCACGGC CACACCGGTA TTGCCCCGACT
 1101 CATGCTATTC TACGCCAGAG CTGCAGCCGG TATAGTCGAC CCGGCACACG
 1151 GAACCGGTGT AGCTAACGCC GGTTTGGTCT ATTTCAATGG CCGGTTATTG
 1201 GCTATGTCGG AGGATGATTT ACCTTACCAA GTTCAGATCA CTCCCAATGG
 1251 AGATTTAAAA ACCGTTGGTC GGTTTCGATTT TGATGGACAA TTAGAATCCA
 1301 CAATGATTGC CCACCCGAAA GTCGACCCGG AATCCGGTGA ACTCTTCGCT
 1351 TTAAGCTACG ACGTCGTTTC AAAGCCTTAC CTAAAATACT TCCGATTCTC
 1401 ACCGGACGGA ACTAAATCAC CGGACGTCGA GATTCAGCTT GATCAGCCAA
 1451 CGATGATGCA CGATTTTCGG ATTACAGAGA ACTTCGTCGT CGTACCTGAC
 1501 CAGCAAGTCG TTTTCAAGCT GCCGGAGATG ATCCGCGGTG GGTCTCCGGT
 1551 GGTTTACGAC AAGAACAAGG TCGCAAGATT CGGGATTTTA GACAAATACG
 1601 CCGAAGATTC ATCGAACATT AAGTGGATTG ATGCTCCAGA TTGCTTCTGC
 1651 TTCCATCTCT GGAACGCTTG GGAAGAGCCA GAAACAGATG AAGTCGTCGT
 1701 GATAGGGTCC TGTATGACTC CACCAGACTC AATTTTCAAC GAGTCTGACG
 1751 AGAATCTCAA GAGTGTCTCT TCTGAAATCC GCCTGAATCT CAAAACCGGT
 1801 GAATCAACTC GCCGTCCGAT CATCTCCAAC GAAGATCAAC AAGTCAACCT
 1851 CGAAGCAGGG ATGGTCAACA GAAACATGCT CGGCCGTAAA ACCAAATTCG
 1901 CTTACTTGGC TTTAGCCGAG CCGTGGCCTA AAGTCTCAGG ATTCGCTAAA
 1951 GTTGATCTCA CTACTGGAGA AGTTAAGAAA CATCTTTACG GCGATAACCG
 2001 TTACGGAGGA GAGCCTCTGT TTCTCCCGG AGAAGGAGGA GAGGAAGACG
 2051 AAGGATACAT CCTCTGTTTC GTTCACGACG AGAAGACATG GAAATCGGAG
 2101 TTACAGATAG TTAACGCCGT TAGCTTAGAG GTTGAAGCAA CGGTTAAACT
 2151 TCCGTCAAGG GTTCCGTACG GATTTACGG TACATTCATC GGAGCCGATG
 2201 ATTTGGCGAA GCAGGTCGTG TGA

NCED3-P5SM_{E/R} SPLICED PRODUCT I

1 AACTTCCCGA TTCCATCAAA GGAGTGTATG TCGCAACCG AGCTAACCCA
 51 CTTCACGAGC CGGTGACAGG TCACCACTTC TTCGACGGAG ACGGTATGGT
 101 TCACGCCGTC AAATTCTGAAC ACGGTTTCAGC TAGCTACGCT TGCCGGTTTA
 151 CTCAGACTAA CCGGTTTGTG CAGGAGAGAC AATTGGGTCG ACCGGTTTTC
 201 CCCAAAGCCA TCGGTGAGCT TCACGGCCAC ACCGGTATTG CCCGACTCAT
 251 GCTATTCTAC GCCAGAGCTG CAGCCGGTAT AGTCGACCCG GCACACGGAA
 301 CCGGTGTAGC TAACGCCGGT TTGGTCTATT TCAATGGCCG GTTATTGGCT

NCED3-P5SM_{E/R} SPLICED PRODUCT II

1 AACTTCCCGA TTCCATCAAA GAGTGTATG TCGCAACCG AGCTAACCCA
 51 CTTCACGAGC CGGTGACAGG CACCACTTC TTCGACGGAG ACGGTATGGT
 101 TCACGCCGTC AAATTCTGAACA CCGTTCAGC TAGCTACGCT TGCCGGTTTA
 151 CTCAGACTAA CCGGTTTGTTC AGGAGGAAA TAAATAGCCT TTTGTTTAAA
 201 TCAAAAGGTC TTACCTATGTT ATTGCGTGA GGCATTGGAT CCCAAAGAGA
 251 GAACTCCAAA ATGCGAGGCTA CATGTTATG GACTAGTATC AGGTGTTGGAG
 301 ACCTCCTGAG AAGCTCCAGCA AGTAAGCCT CGATCACGCA AAATGTTTGA
 351 GAGCAATTG GGTGACCGGT TTTCCCAA AGCCATCGGT GAGCTTCACG

401 GCCACACCGG TATTGCCCGAC TCATGCTAT TCTACGCCAG AGCTGCAGCC
 451 GGTATAGTCG ACCCGGCACAC GGAACCGGT GTAGCTAACG CCGGTTTGGT
 501 CTATTTCAAT GCGCGTTATT GGCTATGTC GGAGGATGAT TTACCTTACC

NCED3-P5SM_{E/R} SPLICED PRODUCT VI

1 AACTTCCCGA TTCCATCAAA GGAGTGTATG TCGCAACGG AGCTAACCCA
 51 CTTCACGAGC CGGTGACAGG TCACCACTTC TTCGACGGAG ACGGTATGGT
 101 TCACGCCGTC AAATTGGAAC ACGGTTGAGC TAGCTACGCT TGCCGGTTTA
 151 CTCAGACTAA CCGGTTTGGT CAGGAGGAAA TAAATAGCCT TTTGTTTAAA
 201 TCAAAGGTC TTACCTATGT TATTGCGTGA GGCATTGGAT CCCAAAGAGA
 251 GAACTCCAAA ATGCGAGGCT ACATGTTATG GACTAGTATC AGGTGGGGAG
 301 ACCTCCTGAG AAGCTCCAGC AAGTAAGCCT CGATCACGCA AAATGTTTGA
 351 GGTCTGATGT TCAATAGCTT GTTTTGTTTC ACTTTGCTTT GGACTTTCTT
 401 TTCGCCAATG AGCTATGTTT CTGATGGTTT TCACTCTTTT GGTGTGTAGA
 451 GACAATTGGG TCGACCGGTT TTCCCCAAG CCATCGGTGA GCTTCACGGC
 501 CACACCGGTA TTGCCCGACT CATGCTATTC TACGCCAGAG CTGCAGCCGG
 551 TATAGTCGAC CCGGCACACG GAACCGGTGT AGCTAACGCC GGTGGGTCT
 601 ATTTCAATGG CCGGTTATTG GCTATGTCGG AGGATGATTT ACCTTACCAA

CYP707A2-P5SM_{E/R} gene sequence (AT2G29090.1)

1 ATGCAAATCT CATCTTCATC GTCTTCAAAT TTCTTCTCTT CTCTTTATGC
 51 TGATGAACCG GCACTAATCA CATTAAACAAT TGTTGTAGTA GTAGTAGTGT
 101 TACTATTTAA ATGGTGGTTG CACTGGAAAG AGCAAAGACT ACGGCTACCT
 151 CCTGGCTCCA TGGGGTTGCC TTACATCGGA GAGACACTCC GCCTCTACAC
 201 AGAAAATCCC AATTCCTTCT TCGCCACTCG CCAAACAAG TACGGGGATA
 251 TATTCAAGAC GCACATATTA GGATGTCCAT GTGTGATGAT AAGTAGTCCA
 301 GAGGCGGCTC GAATGGTGTT AGTGAGCAAA GCTCACTTGT TCAAGCCAAC
 351 TTATCCTCCA AGCAAAGAGG TAGATTTATG CATCCTCTTG TCATGAGAAG
 401 TCGAATTGTT CCCATTCTGT GTGTTGCAGC TACAGATGGA GATACATAGA
 451 GATACTCGTG GATTTTGCTT AGTGTGAGT TTTGTTCTGG TTGTGAACTA
 501 AAAGTTTATA CATTTCAGG AAATAAATAG CCTTTTGTGT AAATCAAAG
 551 GTCTTACCTA TGTTATTGCG TGAAGCATTG GATCCCAAAG AGAGAACTCC
 601 AAAATGCGAG GCTACATGTT ATGGACTAGT ATCAGGTTGG GAGACCTCCT
 651 GAGAAGCTCC AGCAAGTAAG CCTCGATCAC GCAAATGTT TGAGGTCTGA
 701 TGTTCAATAG CTTGTTTTGT TTCACTTTGC TTTGGACTTT CTTTTCGCCA
 751 ATGAGCTATG TTTCTGATGG TTTTCACTCT TTTGGTGTGT AGAGAATGAT
 801 TGGACCAGAG GCTCTTTTCT TCCACCAAGG TCCATACCAT TCTACCCTTA
 851 AGCGGCTGGT CCAGTCTTCT TTCATGCCTT CTGCTCTCAG ACCAACCGTC
 901 TCTCACATCG AGCTCCTTGT CCTCCAAACC CTTTCTCTT GGACGTCCCA
 951 AAAGTCCATC AACACCCTCG AATACATGAA ACGATATGCA TTCGATGTGG
 1001 CGATCATGTC AGCGTTCGGG GACAAAGAGG AGCCCACTAC GATTGATGTT
 1051 ATTAAGCTTC TCTATCAACG TCTCGAAAGG GGTTACAAC CCATGCCTCT
 1101 CGACCTACCG GGCACACTTT TTCATAAGTC CATGAAGGCA AGAATAGAA

1151 TAAGCGAGGA ACTAAGGAAA GTAATAGAGA AGAGAAGAGA GAATGGGAGA
 1201 GAAGAAGGAG GACTATTGGG AGTACTTCTG GGAGCAAAGG ATCAAAAACG
 1251 CAACGGCTTA AGTGATTCAC AGATTGCTGA CAACATCATC GGTGTTATAT
 1301 TCGCCGCCAC CGACACCACC GCTTCTGTCT TAACTTGGCT TCTCAAGTAC
 1351 TTACACGACC ACCCCAATCT CCTCCAAGAA GTCTCCAGGG AGCAATTCAG
 1401 CATTGACAG AAAATAAAAA AAGAAAACCG AAGAATCTCA TGGGAAGATA
 1451 CAAGAAAAAT GCCACTGACC ACTAGGGTGA TACAAGAGAC ACTAAGAGCA
 1501 GCAAGTGTAC TGTCCTTTAC ATTTAGAGAA GCAGTACAAG ACGTCGAATA
 1551 TGATGGCTAC TTGATCCCAA AGGGTTGGAA GGTCTTCTCT CTTTCCGGC
 1601 GAATCCATCA CTCCTCCGAA TTCTTCCCG ATCCTGAAAA ATTCGATCCT
 1651 TCTAGATTCG AGGTGGCACC AAAACCTTAC ACGTACATGC CATTCCGAAA
 1701 TGGAGTGCAC TCATGTCCAG GAAGTGAGCT GGCTAAACTT GAGATGCTTA
 1751 TCCTCCTTCA CCACCTCACT ACTTCCTTCA GATGGGAAGT GATTGGAGAT
 1801 GAAGAAGGTA TACAGTATGG TCCTTCCCT GTACCCAAGA AGGGTTTACC
 1851 AATAAGAGTA ACCCCGATT T AA

CYP707A2-P5SM_{E/R} SPLICED PRODUCT I

1 ACACTCCGCC TCTACACAGA AAATCCCAAT TCCTTCTTCG CCACTCGCCA
 51 AAACAAGTAC GGGGATATAT TCAAGACGCA CATATTAGGA TGTCCATGTG
 101 TGATGATAAG TAGTCCAGAG GCGGCTCGAA TGGTGTTAGT GAGCAAAGCT
 151 CACTTGTTCA AGCCAACCTA TCCTCCAAGC AAAGAGAGAA TGATTGGACC
 201 AGAGGCTCTT TTCTTCCACC AAGGTCCATA CCATTCTACC CTTAAGCGGC
 251 TGGTCCAGTC TTCTTTCATG CCTTCTGCTC TCAGACCAAC CGTCTCTCAC
 301 ATCGAGCTCC TTGTCCTCCA AACCCTTTC TCTTGGACGT CCCAAAAGTC
 351 CATCAACACC CTCGAATACA TGAAACGATA TGCATTTCGAT GTGGCGATCA

CYP707A2-P5SM_{E/R} SPLICED PRODUCT II

1 ACACTCCGCC TCTACACAGA AAATCCCAAT TCCTTCTTCG CCACTCGCCA
 51 AAACAAGTAC GGGGATATAT TCAAGACGCA CATATTAGGA TGTCCATGTG
 101 TGATGATAAG TAGTCCAGAG GCGGCTCGAA TGGTGTTAGT GAGCAAAGCT
 151 CACTTGTTCA AGCCAACCTA TCCTCCAAGC AAAGAGGAAA TAAATAGCCT
 201 TTTGTTTAAA TCAAAAGGTC TTACCTATGT TATTGCGTGA GGCATTGGAT
 251 CCCAAAGAGA GAACTCCAAA ATGCGAGGCT ACATGTTATG GACTAGTATC
 301 AGGTTGGGAG ACCTCCTGAG AAGCTCCAGC AAGTAAGCCT CGATCACGCA
 351 AAATGTTTGA GAGATGATT GGACCAGAGG CTCTTTTCTT CCACCAAGGT
 401 CCATACCATT CTACCCTTAA GCGGCTGGTC CAGTCTTCTT TCATGCCTTC
 451 TGCTCTCAGA CCAACCGTCT CTCACATCGA GTCCTTGTC CTCCAAACCC
 501 TTTCTCTTG GACGTCCCAA AAGTCCATCA ACACCCTCGA ATACATGAAA

CYP707A2-P5SM_{E/R} SPLICED PRODUCT VI

1 ACACTCCGCC TCTACACAGA AAATCCCAA TTCCTTCTTCG CCACTCGCCA
 51 AAACAAGTAC GGGGATATAT TCAAGACGC ACATATTAGGA TGTCCATGTG

101 TGATGATAAG TAGTCCAGAG GCGGCTCGA ATGGTGTAGT GAGCAAAGCT
 151 CACTTGTTCA AGCCAACCTA TCCTCCAAG CAAAGAGGAAA TAAATAGCCT
 201 TTTGTTTAAA TCAAAAGGTC TTACCTATGT TATTGCGTGA GGCATTGGAT
 251 CCCAAAGAGA GAACTCCAAA ATGCGAGGCT ACATGTTATG GACTAGTATC
 301 AGGTTGGGAG ACCTCCTGAG AAGCTCCAGC AAGTAAGCCT CGATCACGCA
 351 AAATGTTTGA GGTCTGATGT TCAATAGCTT GTTTTGTTC ACTTTGCTTT
 401 GGACTTTCTT TTCGCCAATG AGCTATGTTT CTGATGGTTT TCACTCTTTT
 451 GGTGTGTAGA GAATGATTGG ACCAGAGGCT CTTTTCTTCC ACCAAGGTCC
 501 ATACCATTCT ACCCTTAAGC GGCTGGTCCA GTCTTCTTTC ATGCCTTCTG
 551 CTCTCAGACC AACCGTCTCT CACATCGAGC TCCTTGTCTT CCAAACCCTT
 601 TCCTCTTGA CGTCCCAAAA GTCCATCAAC ACCCTCGAAT ACATGAAACG

CYP707A3-P5SM_{E/R} gene sequence (AT5G45340.1)

1 ATGGATTTCT CCGGTTTGTT TCTCACTCTC TCCGCGGCGG CTCTGTTTCT
 51 CTGTTTACTC CGATTTATCG CCGGAGTCCG CCGTAGCTCC TCCACGAAAC
 101 TCCCTCTTCC TCCGGGAACA ATGGGTTATC CTTACGTCGG CGAAACATTC
 151 CAACTTTACT CACAAGACCC TAATGTGTTT TTTGCAGCAA AACAGAGAAG
 201 ATACGGATCG GTGTTCAAGA CTCATGTATT GGGATGTCCA TGTGTGATGA
 251 TCTCGAGCCC TGAAGCAGCG AAATTCGTAT TGGTTACAAA GTCTCATTTG
 301 TTTAAACCGA CTTTTCCGGC CAGTAAAGAG GTAGATTTAT GCATCCTCTT
 351 GTCATGAGAA GTCGAATTGT TCCCATTCTG TGTGTTGCAG CTACAGATGG
 401 AGATACATAG AGATACTCGT GGATTTTGCT TAGTGTTGAG TTTTGTCTG
 451 GTTGTGAACT AAAAGTTTAT ACATTTGCAG GAAATAAATA GCCTTTTGTT
 501 TAAATCAAAA GGTCTTACCT ATGTTATTGC GTGAGGCATT GGATCCCAAA
 551 GAGAGAACTC CAAAATGCGA GGCTACATGT TATGGACTAG TATCAGGTTG
 601 GGAGACCTCC TGAGAAGCTC CAGCAAGTAA GCCTCGATCA CGCAAAATGT
 651 TTGAGGCTCTG ATGTTCAATA GCTTGTTTTG TTTCACTTTG CTTTGGACTT
 701 TCTTTTCGCC AATGAGCTAT GTTTCTGATG GTTTTCACTC TTTTGGTGTG
 751 TAGAGAATGC TTGAAAACA AGCCATCTTC TTCCATCAAG GAGATTATCA
 801 TTCCAAACTT AGAAAGCTTG TTTAAGAGC TTTCATGCCT GATGCAATCA
 851 GAAACATGGT CCCTCACATT GAATCAATTG CTCAAGAATC ACTCAATTCT
 901 TGGGATGGAA CTCAACTCAA CACTTACCAG GAAATGAAAA CATACTTTT
 951 CAATGTTGCG TTAATCTCAA TACTCGGCAA AGACGAAGTT TATTACCGAG
 1001 AAGATCTAAA ACGATGCTAC TACATTCTAG AGAAAGGTTA CAATTCGATG
 1051 CCGATTAATC TTCCAGGAAC ATTATTCCAC AAAGCCATGA AAGCTCGCAA
 1101 GGAGCTAGCT CAAATCCTCG CTAACATCTT ATCCAAAAGA AGACAAAACC
 1151 CATCATCACA CACAGATCTC CTCGGATCAT TCATGGAAGA CAAAGCAGGA
 1201 TTAACCGACG AACAAATCGC CGATAACATC ATCGGAGTAA TCTTCGCCGC
 1251 AAGAGACACG ACGGCGAGTG TTCTGACGTG GATCCTCAAG TACTTAGCTG
 1301 ATAATCCAAC TGTTCTAGAA GCTGTCACTG AAGAGCAAAT GGCAATAAGG
 1351 AAAGATAAAA AAGAAGGAGA GAGTCTCACT TGGGAAGATA CAAAGAAGAT
 1401 GCCATTAACT TATAGAGTAA TCCAAGAGAC ATTAAGAGCT GCTACAATCT
 1451 TATCTTTCAC ATTTAGAGAA GCTGTCGAAG ATGTCGAATA CGAAGGATAT
 1501 TTGATACCAA AGGGATGGAA AGTACTGCCA CTATTCAGAA ATATTCATCA
 1551 CAATGCTGAT ATATTTTCGG ATCCGGGGAA ATTCGATCCG TCGAGATTCTG

1601 AAGTTGCGCC GAAACCGAAT ACATTCATGC CTTTGGTAG TGGGATTCAT
 1651 TCTTGTCAG GCAATGAGTT AGCTAAACTT GAAATCTCTG TTCTAATCCA
 1701 TCATCTCACC ACTAAGTACA GATGGTCAAT CGTAGGGCCT AGCGATGGAA
 1751 TTCAGTATGG GCCGTTCGCT CTTCTCAGA ATGGATTGCC TATTGCCTTG
 1801 GAACGAAAAC CATAG

CYP707A3-P5SM_{E/R} SPLICED PRODUCT I

1 ACCCTAATGT GTTCTTTGCA GCAAACAGA GAAGATACGG ATCGGTGTTC
 51 AAGACTCATG TATTGGGATG TCCATGTGTG ATGATCTCGA GCCCTGAAGC
 101 AGCGAAATTC GTATTGGTTA CAAAGTCTCA TTTGTTTAAA CCGACTTTTC
 151 CGGCCAGTAA AGAGAGATG CTTGGAAAAC AAGCCATCTT CTTCCATCAA
 201 GGAGATTATC ATTCCAAACT TAGAAAGCTT GTTTTAAGAG CTTTCATGCC
 251 TGATGCAATC AGAAACATGG TCCCTCACAT TGAATCAATT GCTCAAGAAT
 301 CACTCAATTC TTGGGATGGA ACTCAACTCA ACACTTACCA GGAAATGAAA

CYP707A3-P5SM_{E/R} SPLICED PRODUCT II

1 ACCCTAATGT GTTCTTTGCA GCAAACAGA GAAGATACGG ATCGGTGTTC
 51 AAGACTCATG TATTGGGATG TCCATGTGTG ATGATCTCGA GCCCTGAAGC
 101 AGCGAAATTC GTATTGGTTA CAAAGTCTCA TTTGTTTAAA CCGACTTTTC
 151 CGGCCAGTAA AGAGGAAATA AATAGCCTTT TGTTTAAATC AAAAGGTCTT
 201 ACCTATGTTA TTGCGTGAGG CATTGGATCC CAAAGAGAGA ACTCCAAAAT
 251 GCGAGGCTAC ATGTTATGGA CTAGTATCAG GTTGGGAGAC CTCCTGAGAA
 301 GCTCCAGCAA GTAAGCCTCG ATCACGCAA ATGTTTGAG A GAATGCTTGG
 351 AAAACAAGCC ATCTTCTTCC ATCAAGGAGA TTATCATTCC AAACCTAGAA
 401 AGCTTGTTTT AAGAGCTTTC ATGCCTGATG CAATCAGAAA CATGGTCCCT
 451 CACATTGAAT CAATTGCTCA AGAATCACTC AATTCTTGGG ATGGAACTCA
 501 ACTCAACACT TACCAGGAAA TGAAAACATA CACTTTCAAT GTTGC GTTAA

SUPPLEMENTARY TABLE 1. Sequences of DNA primers

LEGEND:

lowercase = random nucleotides

lowercase bold = restriction site

UPPERCASE = primer sequence

UPPERCASE BOLD ITALICS = overlap with P5SM

NAME	EXPERIMENT	RE USED
	RT-PCR analysis	
	TFIIIA-eGFP	
DNA1	5' - atgc ggatcc GTGCGCGTCTTGATGGA	For, BamHI
DNA2	5' - agct tctaga ATCCACATAGCAAGTAAAAGA	Rev, XbaI
	eGFP-P5SM_{E/R}; eGFP-OsP5SM_{E/R}; eGFP-HyP5SM_{E/R}	
DNA3	5' - CACCCTGACCTACGGCGT	For
DNA4	5' - CGATGCCCTTCAGCTCG	Rev
	fLUC-P5SM_{E/R}	
DNA5	5' - GACATCACTTACGCTGAGTACT	For
DNA6	5' - TGCAACCCCTTTTTGGAAAC	Rev
	fLUC-P5SM_{K/R}	
DNA7	5' - CATAAAGAAAGGCCCGGC	For
DNA8	5' - ACTGCAACTCCGATAAATAACG	Rev
	CYP707A3-P5SM_{E/R}	
DNA9	5' - ACCCTAATGTGTTCTTTGCAGCAA	For
DNA10	5' - TTGAGTTCCATCCCAAGAATTGA	Rev
	CYP707A3-P5SM_{E/S}	
DNA11	5' - GATGATCTCGAGCCCTGAAG	For
DNA12	5' - AACCTTTCTCTAGAATGTAGTAGCA	Rev
	CYP707A3-P5SM_{K/R}	
DNA13	5' - TGCCTGATGCAATCAGAAACATGGT	For
DNA14	5' - AGGAGATCTGTGTGTGATGATGGGT	Rev
	PSY-P5SM_{E/R}; PSY-P5SM_{C/R}	
DNA15	5' - CTTGATGTGAAGAAACCACAAGATG	For
DNA16	5' - AAGCATATCGAAAGGACGACCA	Rev
	NCED3-P5SM_{E/R}	
DNA17	5' - AACTTCCCGATTCCATCAAAGG	For
DNA18	5' - AAATAGACCAAACCGCGTTAG	Rev
	CYP707A2-P5SM_{E/R}	
DNA19	5' - ACACTCCGCCTCTACACAGAAAAT	For
DNA20	5' - TTTCATGTATTCGAGGGTGTTGAT	Rev
	qRT-PCR analysis	
	eGFP-P5SM_{E/R} transcripts retaining exon (SP-II)	
DNA21	5' - CGTCCAGGAGAGAACCATCTTC	For
DNA22	5' - CTGCTTGTCGGCCATGATATAG	Rev
	eGFP-P5SM_{E/R} transcripts skipping exon (SP-I)	
DNA23	5' - CGTCCAGGAGGAAATAAATAGCC	For
DNA24	5' - CTTGAAGAAGATGGTTCTCTCAAACA	Rev

		fLUC-P5SM_{ER} transcripts retaining exon (SP-II)	
DNA5		5' - GACATCACTTACGCTGAGTACT	For
DNA25		5' - GGCTATTTATTTTCCTCATTATAAAATGTC	Rev
DNA26		5' - CGACATTTATAATGAGGAAATAAATAGCC	For2
DNA27		5' - CAATTCTCTCTCAAACATTTTGCG	Rev2
DNA28		5' - CAAAATGTTTGAGAGAGAATTGCTC	For3
DNA29		5' - GAGGTAGATGAGATGTGACGA	Rev3
		fLUC-P5SM_{ER} transcripts skipping exon (SP-I)	
DNA5		5' - GACATCACTTACGCTGAGTACT	For
DNA30		5' - TTGAGCAATTCTCTCATTATAAAATG	Rev
DNA31		5' - CGACATTTATAATGAGAGAGAATTGC	For2
DNA32		5' - GTAGATGAGATGTGACGAACGT	Rev2
		fLUC-P5SM_{KR} transcripts retaining exon (SP-II)	
DNA7		5' - CATAAAGAAAGGCCCGGC	For
DNA33		5' - GGCTATTTATTTTCCTTCATAGCTTCT	Rev
		fLUC-P5SM_{KR} transcripts skipping exon (SP-I)	
DNA7		5' - CATAAAGAAAGGCCCGGC	For
DNA34		5' - CAGCCCATATCTCTTCATAGCTT	Rev
		DsRED transcripts (reference)	
DNA35		5' - CCGAGAACGTCATCACCG	For
DNA36		5' - CTTGGAGCCGTACTGGAACGT	Rev
		Cloning of reporter constructs	
		P5SM insert	
DNA37		5' - GTAGATTTATGCATCCTCTTGTCATGAG	For
DNA38		5' - CTACACACCAAAAGAGTGAAAACCAT	Rev
		eGFP-P5SM_{ER} 3-piece ligation	
DNA39		5' - gacagatctATGTCTAGAGTGAGCAAGGGCG (5' - eGFP)	For, BgIII
DNA40		5' - CTCATGACAAGAGGATGCATAAAATCTACCTCCTGGACGTAGCCTTCGG (5' - P5SM overlap)	Rev
DNA41		5' - ATGGTTTTCACTCTTTTGGTGTGTAGAGAACCATCTTCTTCAAGGACGAC (3' - P5SM overlap)	For
DNA42		5' - gacgtcgcacTTACTTGTACAGCTCGTCCATGC (3' - eGFP)	Rev, Sall
		fLUC-P5SM_{ER} 3-piece ligation	
DNA43		5' - acgtagatctATGGAAGACGCCAAAAACATAA (5' - fLUC)	For, BgIII
DNA44		5' - CTCATGACAAGAGGATGCATAAAATCTACCTCATTATAAAATGTCGTTTCGCGG (5' - P5SM overlap)	Rev
DNA45		5' - ATGGTTTTCACTCTTTTGGTGTGTAGAGAGAATTGCTCAACAGTATGGGC (3' - P5SM overlap)	For
DNA46		5' - acgtgctgcacTTACACGGCGATCTTTCCG (3' - fLUC)	Rev, Sall
		fLUC-P5SM_{KR} 3-piece ligation	
DNA43		5' - acgtagatctATGGAAGACGCCAAAAACATAA (5' - fLUC)	For, BgIII
DNA47		5' - CTCATGACAAGAGGATGCATAAAATCTACCTTCATAGCTTCTGCCAACCG (5' - P5SM overlap)	Rev
DNA48		5' - ATGGTTTTCACTCTTTTGGTGTGTAGAGATATGGGCTGAATACAAATCACAG (3' - P5SM overlap)	For
DNA46		5' - acgtgctgcacTTACACGGCGATCTTTCCG (3' - fLUC)	Rev, Sall

		NCED3-P5SM_{E/R} 3-piece ligation	
DNA49		5'- tgatagatctATGGCTTCTTTCACGGCAAC (5'- NCED3)	For, BgIII
DNA50		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTCCTGAACAAACCGGTTAGTCTG (5'- P5SM overlap)	Rev
DNA51		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGACAATTGGGTCGACCGGTTT (3'- P5SM overlap)	For
DNA52		5'- atcactcgagGAACTCACACGACCTGCTTCG (3'- NCED3)	Rev, XhoI
		CYP707A3-P5SM_{E/R} 3-piece ligation	
DNA53		5'- tgattgatcaATGGATTTCTCCGGTTTGTTTC (5'-CYP707A3)	For, BclI
DNA54		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTCTTTACTGGCCGAAAAGTC (5'- P5SM overlap)	Rev
DNA55		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGAATGCTTGGAACAAGCC (3'- P5SM overlap)	For
DNA56		5'- atcagtcgacCTATGGTTTTCGTTCCAAGGC (3'- CYP707A3)	Rev, Sall
		CYP707A2-P5SM_{E/R} 3-piece ligation	
DNA57		5'- tgatagatctATGCAAATCTCATCTTCATCGTC (5'- CYP707A2)	For, BgIII
DNA58		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTCTTTGCTTGAGGATAAGTTGG (5'- P5SM overlap)	Rev
DNA59		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGAATGATTGGACCAGAGGCTC (3'- P5SM overlap)	For
DNA60		5'- atcagtcgacCTTAAATCGGGGTACTCTTATTGG (3'- CYP707A2)	Rev, Sall
		PSY-P5SM_{E/R} 3-piece ligation	
DNA61		5'- tgattgatcaATGTCTTCTTCTGTAGCAGTGTATGG (5'- PSY)	For, BclI
DNA62		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTCGGGTGCATAAGCAAAGTTC (5'- P5SM overlap)	Rev
DNA63		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGACGAAAGGCGATTTGGG (3'- P5SM overlap)	For
DNA64		5'- atcagtcgacCGCTCTCATATCGATAGTCTTGAAC (3'- PSY)	Rev, Sall
		CYP707A3-P5SM_{E/S} 3-piece ligation	
DNA53		5'- tgattgatcaATGGATTTCTCCGGTTTGTTTC (5'-CYP707A3)	For, BclI
DNA65		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTCAATGTGAGGGACCATGTTTCTGA TTGC (5'- P5SM overlap)	Rev
DNA66		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGTATTGCTCAAGAATCACTCAATTCTT GGGAT (3'- P5SM overlap)	For
DNA56		5'- atcagtcgacCTATGGTTTTCGTTCCAAGGC (3'- CYP707A3)	Rev, Sall
		CYP707A3-P5SM_{K/R} 3-piece ligation	
DNA53		5'- tgattgatcaATGGATTTCTCCGGTTTGTTTC (5'-CYP707A3)	For, BclI
DNA67		5'- <i>CTCATGACAAGAGGATGCATAAATCTAC</i> CTTTAGATCTTCTCGGTAATAAACTT CGTCTT (5'- P5SM overlap)	Rev
DNA68		5'- <i>ATGGTTTTCACTCTTTTGGTGTGTAG</i> AGATGCTACTACATTCTAGAGAAAGGTT ACAATT (3'-P5SM overlap)	For
DNA56		5'- atcagtcgacCTATGGTTTTCGTTCCAAGGC (3'- CYP707A3)	Rev, Sall
		PSY-P5SM_{C/R} 3-piece ligation	

DNA61	5'- tgattgatcaATGTCTTCTTCTGTAGCAGTGTTATGG (5'- PSY)	For, BclI
DNA69	5'- CTCATGACAAGAGGATGCATAAATCTACGCACCAAACGTAGATTGCCCA (5'- P5SM overlap)	Rev
DNA70	5'- ATGGTTTTCACTCTTTTGGTGTGTAGAGAAGAAGTATGAACTTGTGGAT (3'- P5SM overlap)	For
DNA64	5'- atcagtcgacCGCTCTCATATCGATAGTCTTGAAC (3'- PSY)	Rev, Sall
	eGFP- OsP5SM 3-piece ligation	
DNA39	5'- gacagatctATGTCTAGAGTGAGCAAGGGCG (5'- eGFP)	For, BglII
	5'- TGGGATCCAATGCTTCACACTAACATAGGTAAGACCTTTTGATTTAAACAAAAG (overhang 5'- P5SM and OsP5SM P1)	Rev
DNA71	5'- GTGTGAAGCATTGGATCCCA (OsP5SM P1 insert)	For
DNA72	5'- GCGTGAGGAGGCAATCCTG (OsP5SM P1 insert)	Rev
DNA73	5'- CAGGATTGCCTCCTCACGCAATGTTTGGTCTGTATGTTCAATAGC (overhang 3'- P5SM and OsP5SM P1)	For
DNA42	5'- gacgtcgacTTACTTGTACAGCTCGTCCATGC (3'- eGFP)	Rev, Sall
	eGFP- HyP5SM 3-piece ligation	
DNA39	5'- gacagatctATGTCTAGAGTGAGCAAGGGCG (5'- eGFP)	For, BglII
DNA74	5'- TTTTGGAGTTCTCTTTGGGATCCAA (OsP5SM L2 mutation)	Rev
DNA75	5'- GGCATTGGATCCCAAAGAGAGAACTC (OsP5SM L2 mutation)	For
DNA42	5'- gacgtcgacTTACTTGTACAGCTCGTCCATGC (3'- eGFP)	Rev, Sall
	P5SM mutant constructs by QuikChange mutagenesis	
	M1	
DNA76	5'- TATGCAGAGTCATTCGCTCAAGGTAGATTTATGCATCCTCTTG	For
DNA77	5'- CAAGAGGATGCATAAATCTACCTTGAGCGAATGACTCTGCATA	Rev
	M2	
DNA78	5'- TATGCAGAGTCATTCGCTCCAGGTAGATTTATGCATCCTCTTG	For
DNA79	5'- CAAGAGGATGCATAAATCTACCTGGAGCGAATGACTCTGCATA	Rev
	M3	
DNA80	5'- ATATGCAGAGTCATTCGCTCGTGGTAGATTTATGCATCCTCTT	For
DNA81	5'- AAGAGGATGCATAAATCTACCAAGAGCGAATGACTCTGCATAT	Rev
	M4	
DNA82	5'- ATATGCAGAGTCATTCGCTCGCGGTAGATTTATGCATCCTCTT	For
DNA83	5'- AAGAGGATGCATAAATCTACCGGAGCGAATGACTCTGCATAT	Rev
	M5	
DNA84	5'- ATATGCAGAGTCATTCGCTCGGGTAGATTTATGCATCCTCTT	For
DNA85	5'- AAGAGGATGCATAAATCTACCCGAGCGAATGACTCTGCATAT	Rev
	M6	
DNA86	5'- CATATGCAGAGTCATTCGCTCTTGGTAGATTTATGCATCCTCTTG	For
DNA87	5'- CAAGAGGATGCATAAATCTACCAAGAGCGAATGACTCTGCATATG	Rev
	M7	
DNA88	5'- CATATGCAGAGTCATTCGCTCTCGGTAGATTTATGCATCCTCTTG	For
DNA89	5'- CAAGAGGATGCATAAATCTACCGAGAGCGAATGACTCTGCATATG	Rev
	M8	
DNA90	5'- CATATGCAGAGTCATTCGCTCTGCGTAGATTTATGCATCCTCTTG	For
DNA91	5'- CAAGAGGATGCATAAATCTACGCAAGAGCGAATGACTCTGCATATG	Rev
	M9; M14	
DNA92	5'- TTTCACTCTTTTGGTGTGTAGAGTTCTTTTACTTGCTATGTGG	For
DNA93	5'- CCACATAGCAAGTAAAAGAATCTCTACACACCAAAGAGTGAAA	Rev

		M10	
DNA94		5' - TTTCACTCTTTTGGTGTGTAGAGCTCTTTTACTTGCTATGTGG	For
DNA95		5' - CCACATAGCAAGTAAAAGA GCTCTACACACCAAAAAGAGTGAAA	Rev
		M11	
DNA96		5' - GTTTTCACTCTTTTGGTGTGTAGGTATCTTTTACTTGCTATGTGG	For
DNA97		5' - CCACATAGCAAGTAAAAGATACCTACACACCAAAAAGAGTGAAAAC	Rev
		M12	
DNA98		5' - GTTTTCACTCTTTTGGTGTGTAGCCATCTTTTACTTGCTATGTGG	For
DNA99		5' - CCACATAGCAAGTAAAAGATGGCTACACACCAAAAAGAGTGAAAAC	Rev
		M15; M17	
DNA100		5' - GTTTTCACTCTTTTGGTGTGTAGCTATCTTTTACTTGCTATGTGG	For
DNA101		5' - CCACATAGCAAGTAAAAGATAGCTACACACCAAAAAGAGTGAAAAC	Rev