

Table 1 Suppl. List of primers (F - forward primer; R - reverse primer; P - probe). From Paolacci *et al.* (2009).

| Assay                      | Primer name          | Sequence [5'-3']                      | Amplicon size [bp]     | Annealing temp. [°C] |
|----------------------------|----------------------|---------------------------------------|------------------------|----------------------|
| Real-time PCR              | TaSMT1-5A_F          | GGGAAAGCATCAAAAAGGCAC                 | 211                    | 55                   |
|                            | TaSMT1-5A_R          | CAAGTAGCGCCAAGTCCTACC                 |                        |                      |
|                            | TaSMT1-5A_P          | GATGAAGG(T-BHQ1)TTTGGATGTCGGCTGTG     |                        |                      |
|                            | TaSMT1-4B_F          | GGTCTACTGGTTCGTGTGGGTG                | 203                    | 55                   |
|                            | TaSMT1-4B_R          | GGTTGTAGAAGGTGTCGACGAAG               |                        |                      |
|                            | TaSMT1-4B_P          | GGGACAAGG(T-BHQ1)GCAGGACAAGTACACG     |                        |                      |
|                            | TaSMT1-4D_F          | GTCTGCCAGATATCAGAAGTACTCG             | 198                    | 55                   |
|                            | TaSMT1-4D_R          | CCAACATATTCTCATTGCCTCAC               |                        |                      |
|                            | TaSMT1-4D_P          | GCTGGGTT(T-BHQ1)GAGGTTATTTGGGACAAG    |                        |                      |
|                            | TaARF_F <sup>a</sup> | GCTCTCCAACAACATTGCCAAC                | 165                    | 55                   |
|                            | TaARF_R <sup>a</sup> | GCTTCTGCCTGTCACATACGC                 |                        |                      |
|                            | TaARF_P              | CGTGCTGGA(T-BHQ1)GTCTCAACAACACTCACTGC |                        |                      |
|                            | TaRLI_F <sup>a</sup> | CGATTCAAGAGCAGCGTATTGTTGC             | 242                    | 60                   |
|                            | TaRLI_R <sup>a</sup> | GCCTGTAGTTGGTCGGGTCTCTTC              |                        |                      |
| Homoeologous gene sequence | TaSMT1_F             | GGGAAAGCATCAAACGACACG                 | 5A - 1181              | 55                   |
|                            | TaSMT1_R             | GTCTTACCGACCGATTAAGCG                 | 4B - 1385<br>4D - 1196 |                      |
| Promoter sequence          | TaSMT1-5A_F          | GTTGGCGTGATCCATTCCG                   | 1154                   | 57                   |
|                            | TaSMT1-5A_R          | TTTGATGCCCCCTTAAAAGAGTGTG             |                        |                      |
|                            | TaSMT1-4B_F          | GGTTCTAGACGCCGAAAACCAG                | 1631                   | 56                   |
|                            | TaSMT1-4B_R          | TATGATGCCCCCTTAAAAGAGTGTGC            |                        |                      |
|                            | TaSMT1-4D_F          | ACTTAATTTGGGACGGAGGGG                 | 1543                   | 56                   |
|                            | TaSMT1-4D_R          | TATGATGCTCCTTGAAGTAGTGTGC             |                        |                      |

Table 2 Suppl. The alignments of SMT1 proteins. Accession numbers are from *NCBI* (<http://www.ncbi.nlm.nih.gov/>).

| Accession numbers | Protein names                                               | Species                               | Identity [%] | Length [aa] |
|-------------------|-------------------------------------------------------------|---------------------------------------|--------------|-------------|
| AAB37769.1        | delta-24-sterol methyltransferase                           | <i>Triticum aestivum</i>              | 100          | 363         |
| BAJ90950.1        | predicted protein                                           | <i>Hordeum vulgare subsp. vulgare</i> | 98           | 344         |
| XP_010228238.1    | predicted: cycloartenol-C-24-methyltransferase 1            | <i>Brachypodium distachyon</i>        | 96           | 344         |
| EMT04218.1        | Cycloartenol-C-24-methyltransferase 1                       | <i>Aegilops tauschii</i>              | 94           | 337         |
| NP_001106071.1    | (S)-adenosyl-L-methionine:delta 24-sterol methyltransferase | <i>Zea mays</i>                       | 93           | 344         |
| AGT17353.1        | sterol methyltransferase                                    | <i>Saccharum hybrid cultivar R570</i> | 93           | 344         |
| AAC34988.1        | cycloartenol-C24-methyltransferase                          | <i>Oryza sativa Japonica Group</i>    | 90           | 349         |
| ADN39419.1        | S-adenosyl-methionine-sterol-C-methyltransferase            | <i>Withania somnifera</i>             | 82           | 346         |
| NP_001312832.1    | cycloartenol-C-24-methyltransferase 1-like                  | <i>Nicotiana tabacum</i>              | 82           | 346         |
| XP_003599380.1    | S-adenosyl-methionine-sterol-C-methyltransferase            | <i>Medicago truncatula</i>            | 81           | 340         |
| NP_001314506.1    | cycloartenol-C-24-methyltransferase                         | <i>Gossypium hirsutum</i>             | 81           | 346         |
| JAT60729.1        | Cycloartenol-C-24-methyltransferase 1                       | <i>Anthurium amnicola</i>             | 81           | 347         |
| KHM99193.1        | Cycloartenol-C-24-methyltransferase                         | <i>Glycine soja</i>                   | 80           | 340         |
| JAU16933.1        | Cycloartenol-C-24-methyltransferase                         | <i>Noccaea caerulea</i>               | 80           | 342         |
| KMZ72145.1        | Sterol 24-C-methyltransferase                               | <i>Zostera marina</i>                 | 80           | 347         |
| EOX96648.1        | Sterol methyltransferase 1                                  | <i>Theobroma cacao</i>                | 79           | 346         |
| NP_196875.1       | sterol methyltransferase 1                                  | <i>Arabidopsis thaliana</i>           | 78           | 336         |
| NP_013706.1       | sterol 24-C-methyltransferase                               | <i>Saccharomyces cerevisiae S288c</i> | 44.3         | 383         |

Table 3 Suppl. Predicted *cis*-elements in the *TaSMT1* promoter sequences.

| <i>TaSMT1</i> -5A                                                                                | <i>TaSMT1</i> -4B                                                                                | <i>TaSMT1</i> -4D                                                                               |
|--------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------|
| 5'UTR Py-rich stretch TTTCTTCTCT <i>cis</i> -acting element conferring high transcription levels | 5'UTR Py-rich stretch TTTCTTCTCT <i>cis</i> -acting element conferring high transcription levels |                                                                                                 |
|                                                                                                  | A-box CCGTCC <i>cis</i> -acting regulatory element                                               | A-box CCGTCC <i>cis</i> -acting regulatory element                                              |
|                                                                                                  | ABRE CGTGGC <i>cis</i> -acting element involved in the abscisic acid responsiveness              |                                                                                                 |
|                                                                                                  | ACE ACGTGGA <i>cis</i> -acting element involved in light responsiveness                          | ACE ACGTGGA <i>cis</i> -acting element involved in light responsiveness                         |
|                                                                                                  | AE-box AGAAACAT part of a module for light response                                              | AE-box AGAAACAT part of a module for light response                                             |
| ARE TGGTTT <i>cis</i> -acting regulatory element essential for the anaerobic induction           | ARE TGGTTT <i>cis</i> -acting regulatory element essential for the anaerobic induction           | ARE TGGTTT <i>cis</i> -acting regulatory element essential for the anaerobic induction          |
| Box 4 ATTAAT part of a conserved DNA module involved in light responsiveness                     | Box 4 ATTAAT part of a conserved DNA module involved in light responsiveness                     | Box 4 ATTAAT part of a conserved DNA module involved in light responsiveness                    |
|                                                                                                  | Box I TTTC AAA light responsive element                                                          | Box I TTTC AAA light responsive element                                                         |
|                                                                                                  |                                                                                                  | Box-W1 TTGACC fungal elicitor responsive element                                                |
| CAAT-box C(A/C)AAT common <i>cis</i> -acting element in promoter and enhancer regions            | CAAT-box C(A/C)AAT common <i>cis</i> -acting element in promoter and enhancer regions            | CAAT-box C(A/C)AAT common <i>cis</i> -acting element in promoter and enhancer regions           |
| CCAAT-box CAACGG MYBHv1 binding site                                                             | CCAAT-box CAACGG MYBHv1 binding site                                                             | CCAAT-box CAACGG MYBHv1 binding site                                                            |
|                                                                                                  | CCGTCC-box CCGTCC <i>cis</i> -acting regulatory element related to meristem specific activation  | CCGTCC-box CCGTCC <i>cis</i> -acting regulatory element related to meristem specific activation |
|                                                                                                  | ERE ATTTCAAAA ethylene-responsive element                                                        | ERE ATTTCAAAA ethylene-responsive element                                                       |
| G-box GACATGTGGT <i>cis</i> -acting regulatory element involved in light responsiveness          | G-box GACATGTGGT <i>cis</i> -acting regulatory element involved in light responsiveness          | G-box GACATGTGGT <i>cis</i> -acting regulatory element involved in light responsiveness         |
| GA-motif AAAGATGA part of a light responsive element                                             |                                                                                                  |                                                                                                 |
| GAG-motif AGAGAGT part of a light responsive element                                             |                                                                                                  | GAG-motif AGAGAGT part of a light responsive element                                            |
|                                                                                                  | GATT-motif CTCCTGATTGGA part of a light responsive element                                       |                                                                                                 |
|                                                                                                  | GC-motif GCCCCGG enhancer-like element involved in anoxic specific inducibility                  | GC-motif GCCCCGG enhancer-like element involved in anoxic specific inducibility                 |
|                                                                                                  | HSE AGAAAATTTCG <i>cis</i> -acting element involved in heat stress responsiveness                |                                                                                                 |
|                                                                                                  | LTR CCGAAA <i>cis</i> -acting element involved in low-temperature responsiveness                 | LTR CCGAAA <i>cis</i> -acting element involved in low-temperature responsiveness                |
| GARE-motif AAACAGA gibberellin-responsive element                                                | GARE-motif AAACAGA gibberellin-responsive element                                                | GARE-motif AAACAGA gibberellin-responsive element                                               |
| GCN4_motif TGTGTCA <i>cis</i> -regulatory element involved in endosperm expression               |                                                                                                  |                                                                                                 |
| MBS (C/T)AACTG MYB binding site involved in drought-inducibility                                 | MBS (C/T)AACTG MYB binding site involved in drought-inducibility                                 | MBS (C/T)AACTG MYB binding site involved in drought-inducibility                                |
| MNF1 GTGCCC(A/T)(A/T) light responsive element                                                   |                                                                                                  |                                                                                                 |
| P-box CCTTTTG gibberellin-responsive element                                                     |                                                                                                  | P-box CCTTTTG gibberellin-responsive element                                                    |
|                                                                                                  |                                                                                                  | Pc-CMA2c GCCCACACA part of a light responsive element                                           |

|                                                                                             |                                                                                             |                                                                                             |
|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------|
| Skn-1_motif GTCAT <i>cis</i> -acting regulatory element required for endosperm expression   | Skn-1_motif GTCAT <i>cis</i> -acting regulatory element required for endosperm expression   | Skn-1_motif GTCAT <i>cis</i> -acting regulatory element required for endosperm expression   |
| Sp1 GGGCGG light responsive element                                                         | Sp1 GGGCGG light responsive element                                                         | Sp1 GGGCGG light responsive element                                                         |
| TATA-box T(A/T)T(T/A)A core promoter element around -30 of transcription start              | TATA-box T(A/T)T(T/A)A core promoter element around -30 of transcription start              | TATA-box T(A/T)T(T/A)A core promoter element around -30 of transcription start              |
| TCA-element GAGAAGAATA <i>cis</i> -acting element involved in salicylic acid responsiveness |                                                                                             |                                                                                             |
| TCCC-motif TCTCCCT part of a light responsive element                                       | TCCC-motif TCTCCCT part of a light responsive element                                       | TCCC-motif TCTCCCT part of a light responsive element                                       |
|                                                                                             | TGA-element AACGAC auxin-responsive element                                                 | TGA-element AACGAC auxin-responsive element                                                 |
|                                                                                             | TGACG-motif TGACG <i>cis</i> -acting regulatory element involved in the MeJA-responsiveness | TGACG-motif TGACG <i>cis</i> -acting regulatory element involved in the MeJA-responsiveness |
|                                                                                             | Unnamed__2 CCACGTCACCG single-strand DNA-binding proteins site (ssDBP-1 and -2)             | Unnamed__2 CCACGTCACCG single-strand DNA-binding proteins site (ssDBP-1 and -2)             |
| motif IIb CCGCCGCGCT abscisic acid responsive element                                       |                                                                                             | motif IIb CCGCCGCGCT abscisic acid responsive element                                       |

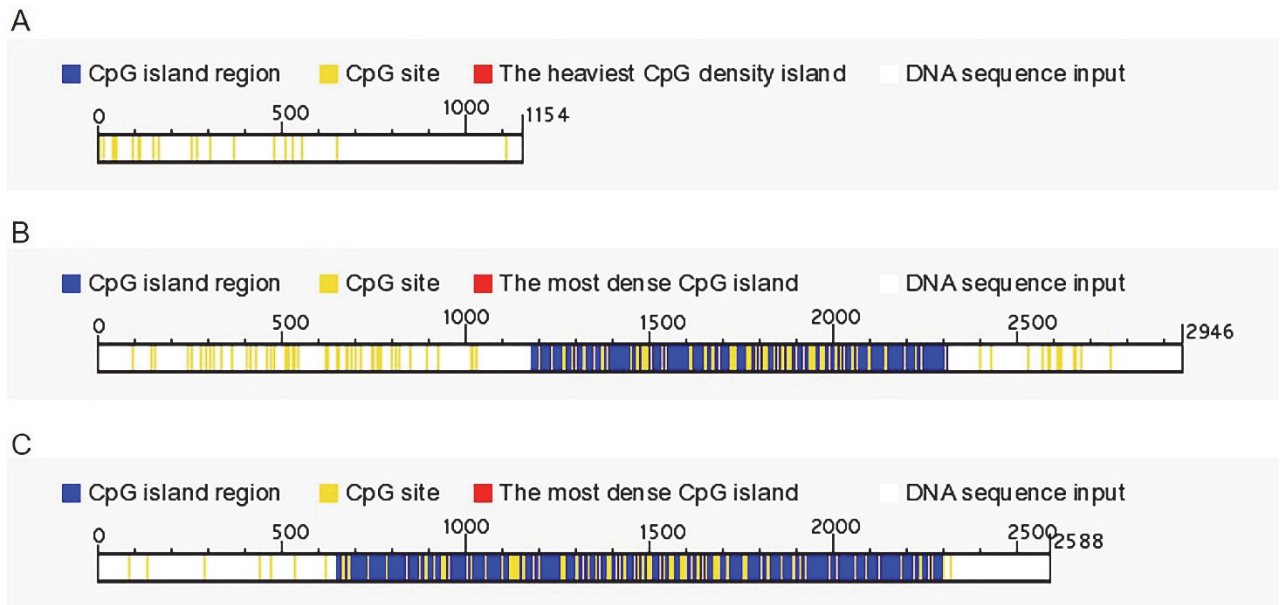


Fig. 1 Suppl. Predicted CpG island regions and CpG sites in the *TaSMT1-5A* (A), *TaSMT1-4B* (B), and *TaSMT1-4D* (C) promoter sequences.