

Table 1 Suppl. Primer sequences used to amplify the open reading frames and perform 5'-RACE PCR of 23 *CmGRAS* genes (F - forward, R - reverse).

| Primer     | Sequence (5' - 3')       | Primer     | Sequence (5' - 3')     |
|------------|--------------------------|------------|------------------------|
| CmGRAS1-F  | ATGCAGGCTTCTAACCAG       | CmGRAS13-R | GCATCTCCAAGCGGAAGCTGA  |
| CmGRAS1-R  | GTTCCATGCACAAGAAGACA     | CmGRAS15-F | ATGGTTATGGAGTCAGGTAT   |
| CmGRAS2-F  | ATGTCGAATGCGTGGTACTAC    | CmGRAS15-R | GGCCGGTACCCAACATGAAC   |
| CmGRAS2-R  | TTTCCAAGCGCAGGAGGCAAC    | CmGRAS16-F | ATGAAATTGCCCTTTGTTTCAT |
| CmGRAS3-F  | ATGGGCTCAGAACAATATTCT    | CmGRAS16-R | AAGCCGCCAAGCCGAAGTGG   |
| CmGRAS3-R  | GTGCCAAGCAGATGCTGATAT    | CmGRAS17-F | ATGAGTCCTCACACTCACACTT |
| CmGRAS4-F  | ATGCAAACATCCCAACAAGGT    | CmGRAS17-R | TTGAGAATGGTTTATGTCACCA |
| CmGRAS4-R  | CTCAAGTTTTCTCCAAGCTG     | CmGRAS18-F | ATGAAGCGAGATCGTGAGCG   |
| CmGRAS5-F  | ATGATTAGATCTGTATCACC     | CmGRAS18-R | TGACTCGATCCCGCCAGGTC   |
| CmGRAS5-R  | CTTCCAAGCAGAAGCAACA      | CmGRAS19-F | ATGGCATCTCCGGCAGCCGGA  |
| CmGRAS6-F  | ATGTCGTCTGGGTATCCCAA     | CmGRAS19-R | CTTAGTTTCCAAGCCGACG    |
| CmGRAS6-R  | ATGCCAAGTTGATGCAACGGT    | CmGRAS20-F | ATGAAAAATCACACACTTGG   |
| CmGRAS8-F  | ATGATGCAGTTTACTGAGACA    | CmGRAS20-R | CTTAGTTTCCAAGCCGACG    |
| CmGRAS8-R  | AGTTGGTACCCAAGCAGTTGC    | CmGRAS21-F | ATGTCAGGAATGGCTCAAGAG  |
| CmGRAS9-F  | ATGGATACTCTCTTTAGGCT     | CmGRAS21-R | CCTTATAGATTTCCATGCTGA  |
| CmGRAS9-R  | TATCGGCTTCCATGCACTAGC    | CmGRAS22-F | ATGTTTCAAGATGATGGGTCA  |
| CmGRAS10-F | ATGCTACAATCACTCCTACTC    | CmGRAS22-R | CCTTCGACACTTCCAAGCAG   |
| CmGRAS10-R | CTCGTGATCCAACGGTTCCCAA   | CmGRAS23-F | ATGGACACTCTATATGCAACT  |
| CmGRAS11-F | ATGGCATACATGTGTACCGA     | CmGRAS23-R | AGCAGGTTTCCATAAAGAACAT |
| CmGRAS11-R | ACGCCACGAAGAAACACTGATC   | CmGRAS24-F | ATGGATGCAAGATTGAAGGC   |
| CmGRAS12-F | ATGAAACTGCCCTTTGTAA      | CmGRAS24-R | GTAAGCCGGTCTCCATGCAGA  |
| CmGRAS12-R | ACAAGTCCCACTGACGTGG      | CmGRAS25-F | ATGGCTGCTGCATCATGTTT   |
| CmGRAS13-F | ATGCAGCCACAAGCTAAAAGG    | CmGRAS25-R | AGCCGGTTTCCAACAAGAAATG |
| GRAS23-5F1 | TCATTTCGTATTTCTTCTCAGCCT | AAP        | GGCCACGCGTCGACTAGTACG  |
| GRAS23-5F2 | TCTTATCACGGCTCAGAGGGA    | AUAP       | GGIIGGGIIGGGIIG        |
| GRAS23-5F3 | GCTCGAAGAATAAGACGACTGC   |            | GGCCACGCGTCGACTAGTAC   |

Table 2 Suppl. Primer sequences used for the qPCR analysis of the set of 23 *CmGRAS* genes. *CmEF1 $\alpha$*  was chosen as the reference sequence (F - forward, R - reverse).

| Primer        | Sequence (5' - 3')           | Primer            | Sequence (5' - 3')               |
|---------------|------------------------------|-------------------|----------------------------------|
| CmGRAS1-RT-F  | TTAAGGTTTCAGCCTGGTGAGACATTGG | CmGRAS15-RT-F     | AGACTTACAAGCAGTGGCAGGTTAG        |
| CmGRAS1-RT-R  | TTCTGAGGATTCACACTCTCGTCTGGT  | CmGRAS15-RT-R     | CGTCCTTTCCATCCTTGAAGCATCC        |
| CmGRAS2-RT-F  | TTCGACTGCGACCTGGTGAAGC       | CmGRAS16-RT-F     | CGGCAGGAGTGATTGGATGAGGAA         |
| CmGRAS2-RT-R  | ACTCTCGTCCGCCATGTGATGTAAC    | CmGRAS16-RT-R     | AGCACCATCTCGGCTTGTCGTT           |
| CmGRAS3-RT-F  | CACGAGACGAACGGTTAAGAATGGT    | CmGRAS17-RT-F     | GCCGCCTATTGATTGGTTCTTGATT        |
| CmGRAS3-RT-R  | CGAGCCAAGCAATGTTGTTCCAC      | CmGRAS17-RT-R     | TACACGAGCCGACCCTTCACAAC          |
| CmGRAS4-RT-F  | CAGCCAGAGAATTAGTGCAGAGGAGA   | CmGRAS18-RT-F     | TCTGAAGGCACGGACCGAGTTGA          |
| CmGRAS4-RT-R  | ACTTCTTGAACACCTGTCACGACTGA   | CmGRAS18-RT-R     | GTCTCCAAGCCGATGTCGCAATCA         |
| CmGRAS5-RT-F  | AGGCAAGGATGATGATGGCAGGTT     | CmGRAS19-RT-F     | GTGAAGGAATGGACCGAGTTGAGA         |
| CmGRAS5-RT-R  | TCCAAGCAGAAGCAACAATCAACACT   | CmGRAS19-RT-R     | GG<br>AATCCAGCCGAATCAAGCCTAGTCT  |
| CmGRAS6-RT-F  | AGTCAACTCGGCGATAAGGCTAACTC   | CmGRAS20-RT-F     | T<br>AAGGTTGGTCAACGCTTGAGAATCT   |
| CmGRAS6-RT-R  | CCACCACCTTCTTCCTTCACGGTAA    | CmGRAS20-RT-R     | TG<br>ACCCAGAACCACCGCAACTTCC     |
| CmGRAS8-RT-F  | GGGCGTTGGGTTTCAGCGAATGA      | CmGRAS21-RT-F     | ACTCTCGCCTAAACTAATGGTGGA         |
| CmGRAS8-RT-R  | CAAGCATCCCTTTCACCTCAGTCACT   | CmGRAS21-RT-R     | ACT<br>CAATGATGCTCGTGGAACAGTAGAT |
| CmGRAS9-RT-F  | CGGGTCGGGCTATTATGGACTTGG     | CmGRAS22-RT-F     | TCT<br>CACATTACCACGGACTTCAATGGAG |
| CmGRAS9-RT-R  | CATCATCGCACACCTCGTCGCTAT     | CmGRAS22-RT-R     | AG<br>CGATCTTGCCAACACATCACCACAC  |
| CmGRAS10-RT-F | GAACGGTTCACGGTTGAGCAACAATT   | CmGRAS23-RT-F     | GGAGACTTACAGGCAGTGGCAATCA        |
| CmGRAS10-RT-R | AACCCGACCCGACCAATTCCT        | CmGRAS23-RT-R     | CGACCTTACCTTCGACTTCACTTCCT       |
| CmGRAS11-RT-F | GGAAGGCGGATAGCGGATGTGAT      | CmGRAS24-RT-F     | TGGGTCCTACAGTGCTCCTTTCTTTG       |
| CmGRAS11-RT-R | GCCATTGTTCTTACCCTCCATTTCG    | CmGRAS24-RT-R     | ATCCTCTCCTCAGTCTCACGGTTCA        |
| CmGRAS12-RT-F | TGGTGGTGGTGAGTGGATGAGGAG     | CmGRAS25-RT-F     | GCCCTGAAAGGATGCTGCTTGAAAG        |
| CmGRAS12-RT-R | TCGGCTTGAACTCGGCAAACTGA      | CmGRAS25-RT-R     | TGCCCCGTGTTGCTATAAACCGAGAG       |
| CmGRAS13-RT-F | TGAACATGAACCTAGACACGCTACAG   | CmEF1 $\alpha$ -F | TTTTGGTATCTGGTCCTGGAG            |
| CmGRAS13-RT-R | AAGAACAAGTGACGATTGCCTCCTT    | CmEF1 $\alpha$ -R | CCATTCAAGCGACAGACTCA             |

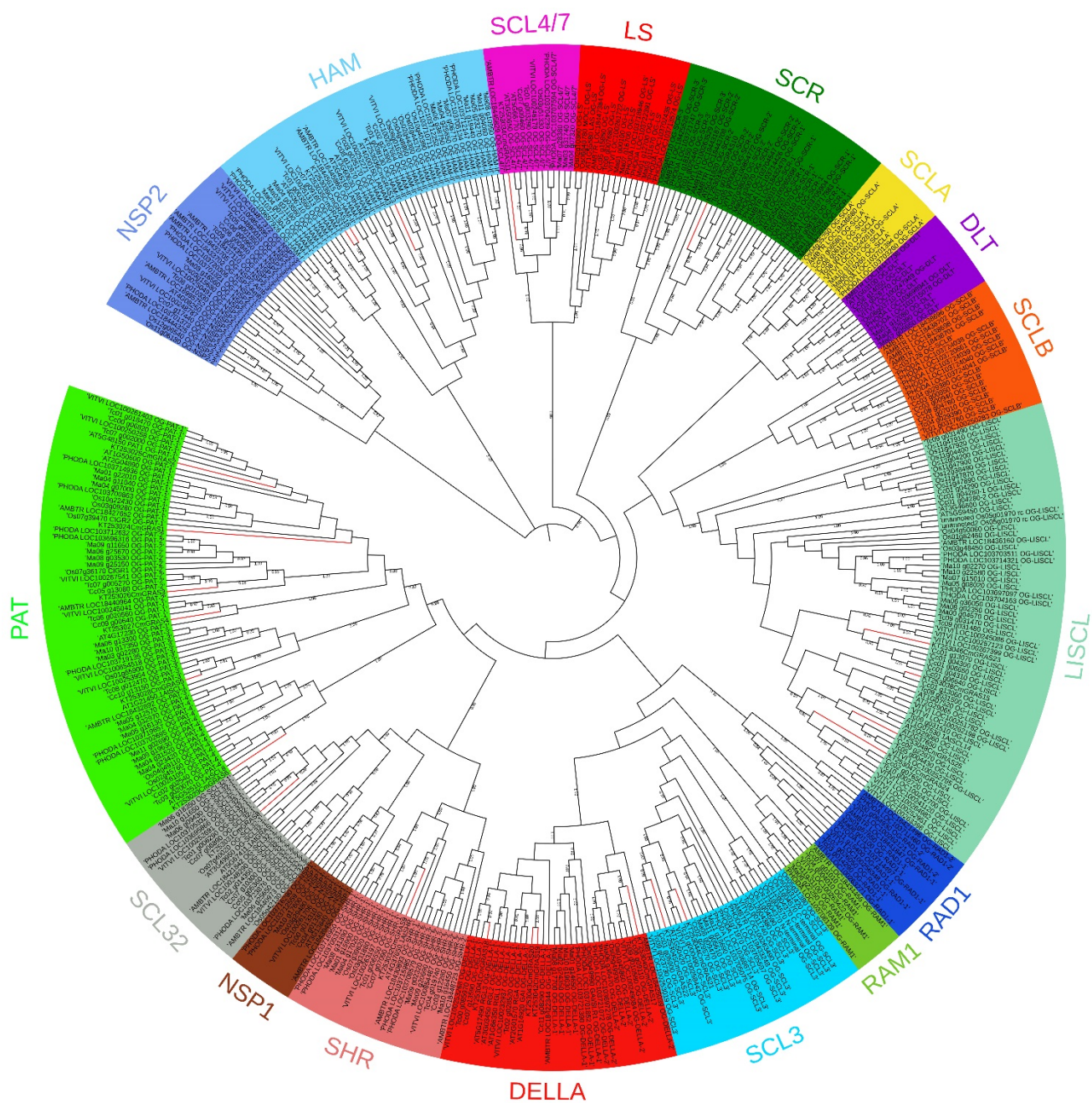


Fig. 1 Suppl. GRAS protein phylogeny. The CmGRAS and proteins of eight representative species of angiosperms: *Musa acuminata*, *Phoenix dactylifera*, *Oryza sativa*, *Arabidopsis thaliana*, *Vitis vinifera*, *Theobroma cacao*, *Coffea canephora*, and *Amborella trichopoda*. PAT - phytochrome A signal transduction; SCL32 - scarecrow-like 32; NSP1 - nodulation signaling pathway 1; NSP2 - nodulation signaling pathway 2; SHR - short root; DELLA - SCL3: scarecrow-like 3; RAM1 - reduced arbuscular mycorrhization 1; RAD1 - required for arbuscule development 1; LISCL - *Lilium longiflorum* SCR-like; SCLA - scarecrow-like A; DLT - dwarf and low-tillering; SCLB - scarecrow-like B; SCR - scarecrow; LS - lateral suppressor; SCL4/7 - scarecrow-like4/7; HAM - hairy meristem.

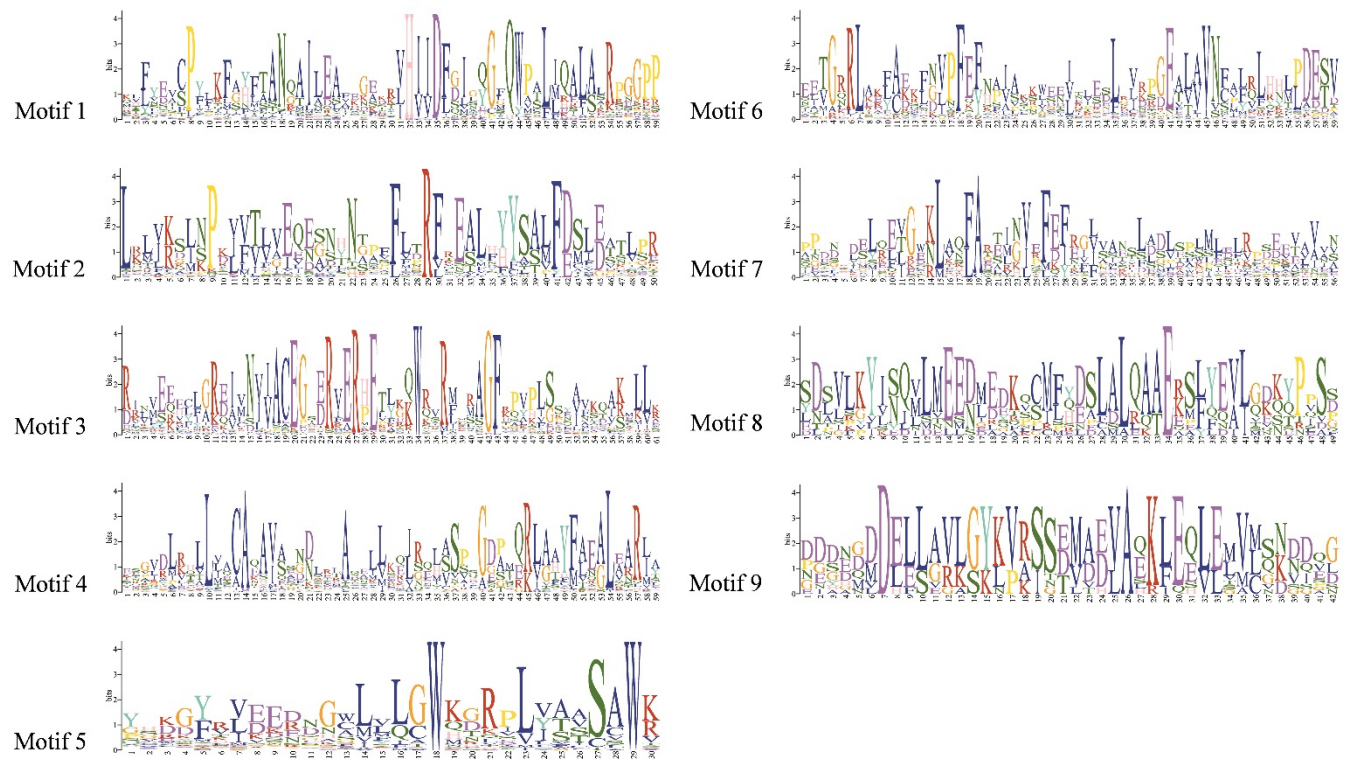


Fig. 2 Suppl. GRAS protein motifs as derived by *MEME* analysis. Motifs 1 - 6 refer to VHIID, PFYRE, RVER, LHRI, SAW, LHRIL, respectively; motifs 7 - 9 are not known.