# Supplementary Materials: Genome-Wide Identification and Expression Profiling Analysis of the Galactinol Synthase Gene Family in Cassava (Manihot esculenta Crantz)

**Ruimei Li, Shuai Yuan Yingdui He, Jie Fan, Yangjiao Zhou, Tingting Qiu, Xuejun Lin, Yuan Yao, Jiao Liu, Shaoping Fu, Xinwen Hu and Jianchun Guo**

**Table S1.** The primers were used for gene cloning and qRT-PCR analysis of *MeGolS* genes.

| Gene | Forward primer (5′-3′) | Reverse primer (5′-3′) |
|---|---|---|
| MeGolS1 | GATGTCTCCTAACGCAACCA | AGCAGATGGAGCAGTTCT |
| MeGolS2 | GATGTCTCCTAACGCAACCA | TTTAAGCAGCAGATGGAGCA |
| MeGolS3 | ATTGACAGCCTTAGGCAGCAGA | ATAAACTTTTCAAGCAGCAGAGGG |
| MeGolS4 | CCCACTCTCTGTCTGCGATTCT | GCTTTTGCTCTTTTACATATTCCG |
| MeGolS5 | CTCTTCATGGCTCCTGATCTCAC | ATTGACAGCCTTAGGCAGCAGA |
| MeGolS6 | GATCATGGCTCCAAATCTCACC | TGATAGTCTGATACAGCTTAGGCAGC |
| MeGolS7 | CCCAACCAGCAAAGCAAATA | ACAGCCTTAGGCAGCAGATG |
| MeGolS8 | ATTGCTCTTACTCCTTTACCACTATCGC | GCCTTCGCTGTTCTATTGCCATC |
| QMeGolS1 | CATCTCATGCCATCAGTTTCC | CCATTGCCAGCCAAGAAC |
| QMeGolS2 | CGTAACACAATCGTGGACCCC | TTGCCTTCCTTAAACCCTTGG |
| QMeGolS3 | GAAGATGAAACTTTGACAAGGACA | AGGGAAAGGGTAGTATTACAGCAA |
| QMeGolS4 | TTACCCTCCAGAAAACCAAACTC | CCATCAGGCAAATCAAATAGGT |
| QMeGolS5 | CTTGCATCCAATTTCTTTTCTACA | GCCGACAACTTTCACA |
| QMeGolS6 | GACTACAAGAACACCGTGGGC | TGATACAGCTTAGGCAGCAGAT |
| QMeGolS7 | GCCCAACCAGCAAAGCAAAT | GCGGTGGTGAGATCAGGAGC |
| QMeGolS8 | AAGACAGTCGCCGTCACTCCTC | TCCACATTCTCTTGGTGACGCC |
| β-tubulin | GTGGAGGAACTGGTTCTGGA | TGCACTCATCTGCATTCTCC |

**Table S2.** List of the putative motifs of GolS proteins from cassava and Arabidopsis.

| Motif | Width | Best possible match |
|---|---|---|
| 1 | 50 | INYSKLRIWEFVEYSKMIYLDGDIQVFENIDHLFDLPDGYFYAVMDCFCEMEME |
| 2 | 50 | WRHPENVELDKVKVVHYCAAGSKPWRYTGKEENMDREDIKMLVKKWWDIYMEME |
| 3 | 50 | SRAYVTFLAGNGDYVKGVVGLAKGLRKVKSAYPLVVAVLPDVPEEHRQILMEME |
| 4 | 50 | PPLYFNAGMFVFEPNLSTYEDLLKTVKITPPTPFAEQDFLNMFFKDIYKPMEME |
| 5 | 23 | TWSHSPQYKIGYCQQCPDRVTWPMEME |
| 6 | 21 | GCIVREIEPVYPPENQTQFAMMEME |
| 7 | 11 | PPVYNLVLAMLMEME |
| 8 | 15 | NDESLDYKNTVAAAGMEME |
| 9 | 15 | SEAGVVHYVTAPSAAMEME |
| 10 | 21 | MAPDLTTAAKTTTGLVKQASJMEME |

Table S3 Predicted cis-acting elements in the promoter regions of MeGolSs

| Type | *cis*-element | Organism | function | MeGolS1 | MeGolS2 | MeGolS3 | MeGolS4 | MeGolS5 | MeGolS6 | MeGolS7 | MeGolS8 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| Hormone-relative elements | ABRE | Arabidopsis t | cis-acting ele | / | 385/+/6, 1284 | / | 297/-/7, 1393/ | 247/+/6, 488/- | 489/+/6, 917/- | 619/+/6, 1071 | 1268/+/10, 1271/-/6, 1269/+/9 |
| | TGA-box | Glycine max | part of an aux | / | / | / | 460/-/8 | / | / | / | / |
| | TGA-element | Brassica oler | auxin-respons | / | / | / | 382/-/6 | / | 963/-/6, 1343/ | / | / |
| | CGTCA-moti | Hordeum vul | cis-acting reg | / | / | 220/-/5 | 463/+/5 | 510/+/5 | / | / | / |
| | TGACG-moti | Hordeum vul | cis-acting reg | / | / | 220/+/5 | 463/-/5 | 510/-/5 | / | / | / |
| | ERE | Dianthus cary | ethylene-resp | / | / | 467/+/8, 507/- | 1127/+/8 | / | / | / | / |
| | GARE | Brassica oler | gibberellin-re | / | / | / | / | 1231/+/7 | / | 1040/+/7 | / |
| | P-box | Oryza sativa | gibberellin-re | / | / | / | 13/+/7 | / | 976/+/7 | / | / |
| | TATC | Oryza sativa | cis-acting ele | / | / | / | 411/+/7 | / | / | / | / |
| | TCA-element | Nicotiana tab | cis-acting ele | 154/+/9 | / | / | 142/+/9 | 451/-/9 | 585/-/9 | / | 1071/+/9 |
| Stress-relative elements | HSE | Brassica oler | cis-acting ele | 514/-/9, 1359/ | 588/+/10 | 511/+/9, 798/- | 1343/-/8 | 109/-/9 | 9/+/9, 123/+/9 | 80/-/9, 410/-/9 | 21/-/9, 1220/-/8, 131/-/9, 91/+/9, 156/-/9 |
| | LTR | Hordeum vul | cis-acting ele | / | 102/+/6, 1233 | 517/-/6, 526/- | / | / | / | / | |
| | MBS | Arabidopsis t | MYB binding | / | / | 1/+/6 | / | 203/+/6, 1253 | 427/-/6, 1116/ | 837/+/6 | 416/+/6 |
| | TC-rich repe | Nicotiana tab | cis-acting ele | 288/+/9, 1428 | 975/-/9 | 372/+/9, 1447 | 197/+/9, 1019 | 1094/+/9 | / | / | 1125/-/9, 1413/+/9 |
| | WUN-motif | Brassica oler | wound-respon | / | / | / | 574/-/9 | / | / | / | / |
| | ARE | Zea mays | cis-acting reg | 657/-/6 | 245/+/6, 1236 | 1393/-/6 | 835/-/6 | / | 805/-/6 | 484/+/6, 1035 | / |
| | GC-motif | Zea mays | enhancer-like | / | / | / | / | / | / | / | 1364/+/6 |
| Tissue specific-relative elements | Skn-1_motif | Oryza sativa | cis-acting reg | 1119/+/5 | 420/-/5, 932/+ | 858/-/5 | 100/-/5, 1240/ | 467/-/5, 1385/ | / | / | 441/+/5 |
| | GCN4_motif | Oryza sativa | cis-regulatory | / | 1222/+/7 | / | / | / | / | 1045/-/7 | / |
| | CCGTCC-bo | Arabidopsis t | cis-acting reg | / | / | 1242/+/6 | / | 1016/+/6 | 453/+/6, 1243 | / | 391/+/6 |
| | CAT-box | Arabidopsis t | cis-acting reg | / | 1130/+/6 | / | / | / | / | / | 1369/+/6 |
| | RY-element | Helianthus an | cis-acting reg | 1458/-/8 | / | / | / | / | / | 762/-/8 | / |
| | as-2-box | Nicotiana tab | involved in sh | 884/+/9 | / | / | / | / | / | / | / |
| | Nodule-site2 | Glycine max | | / | / | / | / | 107/+/5 | / | / | / |

**Table S4.** Predicted miRNAs targeted to MeGolS genes.

| miRNA_Acc. | Inhibition | Target_Acc. | Expectation | UPE$ | miRNA_start | miRNA_end | Target_start | Target_end | miRNA_aligned_fragment | Target_aligned_fragment | Multiplicity |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR156a | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156b | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156c | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156d | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156e | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156f | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156g | Cleavage | *MeGolS1* | 5 | 2.337 | 1 | 20 | 37 | 55 | UGACAGAAGAGAGUGAGCAC | AUUCUCUCUCUCUUCU-UCA | 1 |
| mes-miR156h | Cleavage | *MeGolS1* | 5 | 2.248 | 1 | 21 | 37 | 56 | UUGACAGAAGAUAGAGAGCAC | AUUCUCUCUCUCUUCU-UCAA | 1 |
| mes-miR156i | Cleavage | *MeGolS1* | 5 | 2.248 | 1 | 21 | 37 | 56 | UUGACAGAAGAUAGAGAGCAC | AUUCUCUCUCUCUUCU-UCAA | 1 |
| mes-miR156j | Cleavage | *MeGolS1* | 5 | 2.248 | 1 | 21 | 37 | 56 | UUGACAGAAGAUAGAGAGCAC | AUUCUCUCUCUCUUCU-UCAA | 1 |
| mes-miR156k | Cleavage | *MeGolS1* | 4 | 2.337 | 1 | 21 | 36 | 55 | UGACAGAAGAGAGAGAGCACA | UAUUCUCUCUCUCUUCU-UCA | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR403a | Translation | *MeGolS1* | 5 | 19.774 | 1 | 21 | 891 | 911 | UUAGAUUCACGCACAAACUCG | AUUGUAUGUGCAUGAAUUCAA | 1 |
| mes-miR403b | Translation | *MeGolS1* | 5 | 19.774 | 1 | 21 | 891 | 911 | UUAGAUUCACGCACAAACUCG | AUUGUAUGUGCAUGAAUUCAA | 1 |
| mes-miR403a | Translation | *MeGolS2* | 5 | 15.125 | 1 | 21 | 891 | 911 | UUAGAUUCACGCACAAACUCG | AAUGUUUGUGUUUGAGCCUGA | 1 |
| mes-miR403b | Translation | *MeGolS2* | 5 | 15.125 | 1 | 21 | 891 | 911 | UUAGAUUCACGCACAAACUCG | AAUGUUUGUGUUUGAGCCUGA | 1 |
| mes-miR164a | Translation | *MeGolS3* | 5 | 4.984 | 1 | 21 | 1982 | 2002 | UGGAGAAGCAGGGCACGUGCA | GCUACUUGGCCUCCUUCUUCU | 1 |
| mes-miR164b | Translation | *MeGolS3* | 5 | 4.984 | 1 | 21 | 1982 | 2002 | UGGAGAAGCAGGGCACGUGCA | GCUACUUGGCCUCCUUCUUCU | 1 |
| mes-miR164c | Translation | *MeGolS3* | 5 | 4.984 | 1 | 21 | 1982 | 2002 | UGGAGAAGCAGGGCACGUGCA | GCUACUUGGCCUCCUUCUUCU | 1 |
| mes-miR164d | Translation | *MeGolS3* | 5 | 18.401 | 1 | 21 | 758 | 778 | UGGAGAAGCAGGGCACAUGCU | GACAUGGGCUCUCCUCCUCCC | 1 |
| mes-miR403a | Cleavage | *MeGolS3* | 5 | 20.952 | 1 | 21 | 2282 | 2302 | UUAGAUUCACGCACAAACUCG | GUAAUUUGUGUGUGAAAUUGC | 1 |
| mes-miR403b | Cleavage | *MeGolS3* | 5 | 20.952 | 1 | 21 | 2282 | 2302 | UUAGAUUCACGCACAAACUCG | GUAAUUUGUGUGUGAAAUUGC | 1 |
| mes-miR159a | Cleavage | *MeGolS4* | 5 | 12.619 | 1 | 21 | 150 | 169 | UUUGGAUUGAAGGGAGCUCUA | CUGAGCUUC-UUCAAUCUGCA | 1 |
| mes-miR159b | Cleavage | *MeGolS4* | 5 | 12.619 | 1 | 21 | 150 | 169 | UUUGGAUUGAAGGGAGCUCUA | CUGAGCUUC-UUCAAUCUGCA | 1 |
| mes-miR2275 | Cleavage | *MeGolS4* | 5 | 14.521 | 1 | 22 | 1751 | 1772 | UUUGGUUUCCUCCAAUAUCUUA | ACAUAUCUAGUGGGAGACCAAA | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR169a | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169aa | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169ab | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCUA | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169ac | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCUA | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169b | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169c | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169d | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169e | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169f | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169g | Cleavage | *MeGolS5* | 4.5 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGGAUGACUUGCCGA | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169i | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | GAGCCAAGAAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169j | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | GAGCCAAGAAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169k | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | GAGCCAAGAAUGACUUGCCGG | UCUGCAAC-CAUUCUUGGCUG | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR169l | Cleavage | *MeGolS5* | 4 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGAAUGACUUGC CGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169m | Cleavage | *MeGolS5* | 4 | 22.38 2 | 1 | 21 | 1346 | 1365 | CAGCCAAGAAUGACUUGC CGG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169n | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | GAGCCAAGAAUGACUUGC CGA | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169o | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169p | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169q | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169r | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CCG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169s | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169t | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CCG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169u | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169v | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CCG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169w | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169x | Cleavage | *MeGolS5* | 5 | 22.38 2 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGC CCG | UCUGCAAC-CAUUCUUGGCUG | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR169y | Cleavage | *MeGolS5* | 5 | 22.382 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCUG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR169z | Cleavage | *MeGolS5* | 5 | 22.382 | 1 | 21 | 1346 | 1365 | UAGCCAAGGAUGACUUGCCCG | UCUGCAAC-CAUUCUUGGCUG | 1 |
| mes-miR2111a | Cleavage | *MeGolS5* | 4.5 | 13.409 | 1 | 21 | 1246 | 1266 | UAAUCUGCAUCCUGAGGUUUA | AAGACAUCAAGAUGCUGGUUA | 1 |
| mes-miR2111b | Cleavage | *MeGolS5* | 4.5 | 13.409 | 1 | 21 | 1246 | 1266 | UAAUCUGCAUCCUGAGGUUUA | AAGACAUCAAGAUGCUGGUUA | 1 |
| mes-miR172e | Translation | *MeGolS6* | 5 | 18.608 | 1 | 21 | 893 | 913 | GGAAUCUUGAUGAUGCUGCAG | UUGGAUCAUUGGCAGGAUUUC | 1 |
| mes-miR172f | Translation | *MeGolS6* | 5 | 18.608 | 1 | 21 | 893 | 913 | GGAAUCUUGAUGAUGCUGCAG | UUGGAUCAUUGGCAGGAUUUC | 1 |
| mes-miR397 | Translation | *MeGolS6* | 3.5 | 16.77 | 1 | 20 | 1047 | 1066 | UUUGAGUGCAGCGUUGAUGA | GUAUCAAAGAUGCGCUUAAA | 1 |
| mes-miR159c | Translation | MeGolS7 | 5 | 13.896 | 1 | 21 | 1310 | 1330 | AUUGGAGUGAAGGGAGCUCUG | UUGAGGUUCUAUGAUUCUAAU | 1 |
| mes-miR159d | Translation | MeGolS7 | 5 | 13.896 | 1 | 21 | 1310 | 1330 | AUUGGAGUGAAGGGAGCUCUG | UUGAGGUUCUAUGAUUCUAAU | 1 |
| mes-miR169g | Cleavage | MeGolS7 | 5 | 24.658 | 1 | 21 | 1503 | 1523 | CAGCCAAGGAUGACUUGCCGA | AUCCGGAAUCAUUCUUGGCUG | 1 |
| mes-miR169h | Translation | MeGolS7 | 4.5 | 16.035 | 1 | 21 | 273 | 293 | UGAGCCAAGGAUGACUUGCCG | GACCAAGUUUGCCAUGGCUCA | 1 |
| mes-miR169l | Cleavage | MeGolS7 | 5 | 24.658 | 1 | 21 | 1505 | 1523 | CAGCCAAGAAUGACUUGCCGG | CCGGAA--UCAUUCUUGGCUG | 1 |
| mes-miR169m | Cleavage | MeGolS7 | 5 | 24.658 | 1 | 21 | 1505 | 1523 | CAGCCAAGAAUGACUUGCCGG | CCGGAA--UCAUUCUUGGCUG | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR828a | Translation | MeGolS7 | 5 | 14.857 | 1 | 22 | 1640 | 1662 | UCUUGCUCAAA-UGAGUAUUCCA | AAUAAUAUUUAGUUUUAGCAAGU | 1 |
| mes-miR828b | Translation | MeGolS7 | 5 | 14.857 | 1 | 22 | 1640 | 1662 | UCUUGCUCAAA-UGAGUAUUCCA | AAUAAUAUUUAGUUUUAGCAAGU | 1 |
| mes-miR1446 | Cleavage | *MeGolS8* | 4 | 20.505 | 1 | 20 | 531 | 550 | UUCUGAACUCUCUCCCUCAU | UUGAGAGAGAGAGAACAGAA | 1 |
| mes-miR159a | Cleavage | *MeGolS8* | 5 | 13.554 | 1 | 21 | 4760 | 4780 | UUUGGAUUGAAGGGAGCUCUA | CUGAAGUUGAUUCAAUUCAAA | 1 |
| mes-miR159b | Cleavage | *MeGolS8* | 5 | 13.554 | 1 | 21 | 4760 | 4780 | UUUGGAUUGAAGGGAGCUCUA | CUGAAGUUGAUUCAAUUCAAA | 1 |
| mes-miR171b | Translation | *MeGolS8* | 4 | 20.57 | 1 | 21 | 115 | 135 | UUGAGCCGUGCCAAUAUCACG | GGUGUUAUUGGCUUGGCUAAA | 1 |
| mes-miR171c | Translation | *MeGolS8* | 4 | 20.57 | 1 | 21 | 115 | 135 | UUGAGCCGUGCCAAUAUCACG | GGUGUUAUUGGCUUGGCUAAA | 1 |
| mes-miR171d | Translation | *MeGolS8* | 5 | 20.57 | 1 | 21 | 115 | 135 | AUGAGCCGUGCCAAUAUCACG | GGUGUUAUUGGCUUGGCUAAA | 1 |
| mes-miR2275 | Translation | *MeGolS8* | 5 | 22.746 | 1 | 22 | 8070 | 8091 | UUUGGUUUCCUCCAAUAUCUUA | UUCUUUAUUGGAGAAAGCCCAA | 1 |
| mes-miR319a | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCCU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR319b | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCCU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR319c | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCCU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR319d | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCCU | AUGGAGAUCUCUGCGGUCCUA | 1 |

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| mes-miR319e | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCCU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR319f | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCUU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR319g | Translation | *MeGolS8* | 4.5 | 22.099 | 1 | 21 | 3710 | 3730 | UUGGACUGAAGGGAGCUCCUU | AUGGAGAUCUCUGCGGUCCUA | 1 |
| mes-miR403a | Translation | *MeGolS8* | 4 | 17.527 | 1 | 21 | 1414 | 1434 | UUAGAUUCACGCACAAACUCG | AGGGUUUGUGCAUGGUUUUAA | 2 |
| mes-miR403a | Translation | *MeGolS8* | 4 | 19.082 | 1 | 21 | 1981 | 2001 | UUAGAUUCACGCACAAACUCG | AGGGUUUGUGCAUGGUUUUAA | 2 |
| mes-miR403b | Translation | *MeGolS8* | 4 | 17.527 | 1 | 21 | 1414 | 1434 | UUAGAUUCACGCACAAACUCG | AGGGUUUGUGCAUGGUUUUAA | 2 |
| mes-miR403b | Translation | *MeGolS8* | 4 | 19.082 | 1 | 21 | 1981 | 2001 | UUAGAUUCACGCACAAACUCG | AGGGUUUGUGCAUGGUUUUAA | 2 |
| mes-miR827 | Cleavage | *MeGolS8* | 4.5 | 19.894 | 1 | 21 | 3209 | 3229 | UUAGAUGACCAUCAACAAACA | AGUUUGGUGAUGGUUCUGUAA | 1 |