**Table S15.** Analysis of KEGG pathways of miRNAs and their target genes of *X. sorbifolium.*

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Category** | **miRNA** | **Target Genes** | **Class** | **Term** |
| ko04075 | tcc-miR399e\_R1-15L21,  ata-miR396e-3p\_R1-15L21,  cme-miR156j\_R2-22L22,  ata-miR393-5p\_R1-18L21,  atr-miR393,  csi-miR393\_R1-21L22,  mes-miR393d,  gma-miR393k\_14G-A | TR13396|c0\_g1, TR3143|c0\_g1, TR3143|c0\_g2, TR3143|c0\_g3, TR3143|c0\_g4, TR3143|c0\_g5, TR3143|c0\_g6, TR3143|c0\_g7, TR3143|c0\_g8, TR3143|c0\_g9, TR4875|c0\_g1, TR5535|c0\_g1, TR6435|c4\_g4, TR17590|c0\_g1 | Environmental Information Processing; Signal transduction | Plant hormone signal transduction |
| ko00500 | ata-miR396e-3p\_R1-15L21,  hbr-miR408a\_R1-21L22\_6T-G,  ata-miR396c-3p\_R5-19L21,  bra-miR162-3p\_R1-17L21,  gra-miR8709a\_R23-1L24\_10T-C,  mes-miR394c\_R1-21L22 | TR1286|c0\_g1, TR1286|c0\_g2, TR1568|c0\_g1, TR3086|c0\_g1, TR5495|c0\_g1, TR6969|c0\_g1, TR7161|c0\_g1, TR7625|c0\_g4, TR7663|c0\_g1, TR1683|c0\_g1, TR6109|c0\_g1, TR9329|c0\_g1，TR11771|c3\_g1, TR14425|c0\_g2, TR15138|c0\_g1, TR15138|c0\_g2, TR1884|c0\_g1, TR7951|c0\_g1, TR8040|c0\_g1, TR9089|c0\_g1 | Metabolism; Carbohydrate metabolism | Starch and sucrose metabolism |
| ko00511 | novel-m0318-5p | TR12985|c0\_g1 | Metabolism; Glycan biosynthesis and metabolism | Other glycan degradation |
| ko00604 | novel-m0318-5p | TR12985|c0\_g1 | Metabolism; Glycan biosynthesis and metabolism | Glycosphingolipid biosynthesis - ganglio series |
| ko00531 | novel-m0318-5p | TR12985|c0\_g1 | Metabolism; Glycan biosynthesis and metabolism | Glycosaminoglycan degradation |
| ko00603 | novel-m0318-5p | TR12985|c0\_g1 | Metabolism; Glycan biosynthesis and metabolism | Glycosphingolipid biosynthesis - globo series |
| ko00640 | ata-miR396e-3p\_R1-15L21,  ata-miR156e-5p\_R1-19L20\_7A-G | TR11438|c3\_g10, TR11438|c3\_g11, TR11438|c3\_g12, TR11438|c3\_g13, TR11438|c3\_g14, TR11438|c3\_g15, TR11438|c3\_g1, TR11438|c3\_g2, TR11438|c3\_g3, TR11438|c3\_g4, TR11438|c3\_g5, TR11438|c3\_g6, TR11438|c3\_g9, TR13209|c0\_g1 | Metabolism; Carbohydrate metabolism | Propanoate metabolism |
| ko00061 | ata-miR396e-3p\_R1-15L21 | TR11438|c3\_g10, TR11438|c3\_g11, TR11438|c3\_g12, TR11438|c3\_g13, TR11438|c3\_g14, TR11438|c3\_g15, TR11438|c3\_g1, TR11438|c3\_g2, TR11438|c3\_g3, TR11438|c3\_g4, TR11438|c3\_g5, TR11438|c3\_g6, TR11438|c3\_g9 | Metabolism; Lipid metabolism | Fatty acid biosynthesis |
| ko00620 | ata-miR396e-3p\_R1-15L21,  ata-miR156e-5p\_R1-19L20\_7A-G | TR10002|c0\_g1, TR11438|c3\_g10, TR11438|c3\_g11, TR11438|c3\_g12, TR11438|c3\_g13, TR11438|c3\_g14, TR11438|c3\_g15, TR11438|c3\_g1, TR11438|c3\_g2, TR11438|c3\_g3, TR11438|c3\_g4, TR11438|c3\_g5, TR11438|c3\_g6, TR11438|c3\_g9, TR1837|c1\_g1 | Metabolism; Carbohydrate metabolism | Pyruvate metabolism |
| ko01212 | ata-miR396e-3p\_R1-15L21 | TR11438|c3\_g10, TR11438|c3\_g11, TR11438|c3\_g12, TR11438|c3\_g13, TR11438|c3\_g14, TR11438|c3\_g15, TR11438|c3\_g1, TR11438|c3\_g2, TR11438|c3\_g3, TR11438|c3\_g4, TR11438|c3\_g5, TR11438|c3\_g6, TR11438|c3\_g9 | Metabolism; Overview | Fatty acid metabolism |
| ko00940 | tcc-miR399e\_R1-15L21,  ata-miR396e-3p\_R1-15L21,  cme-miR396e\_R1-20L21 | TR10475|c0\_g1, TR14398|c0\_g1, TR16003|c0\_g1, TR17215|c0\_g1, TR5475|c0\_g1, TR5495|c0\_g1, TR7625|c0\_g4, TR8248|c0\_g1, TR8304|c1\_g2, TR8304|c1\_g3, TR8304|c1\_g4 | Metabolism; Biosynthesis of other secondary metabolites | Phenylpropanoid biosynthesis |
| ko01200 | ata-miR396e-3p\_R1-15L21,  tcc-miR399e\_R1-15L21,  ata-miR156e-5p\_R1-19L20\_7A-G | TR10002|c0\_g1, TR11438|c3\_g10, TR11438|c3\_g11, TR11438|c3\_g12, TR11438|c3\_g13, TR11438|c3\_g14, TR11438|c3\_g15, TR11438|c3\_g1, TR11438|c3\_g2, TR11438|c3\_g3, TR11438|c3\_g4, TR11438|c3\_g5, TR11438|c3\_g6, TR11438|c3\_g9, TR13209|c0\_g1, TR15518|c0\_g1, TR1656|c0\_g1, TR1837|c1\_g1, TR9610|c0\_g1 | Metabolism; Overview | Carbon metabolism |
| ko00740 | ata-miR408-3p\_R1-17L20,  cpa-miR408\_R2-20L21,  ata-miR396e-3p\_R1-15L21 | TR3446|c0\_g1, TR6454|c0\_g1 | Metabolism; Metabolism of cofactors and vitamins | Riboflavin metabolism |
| ko00590 | cme-miR396e\_R1-20L21 | TR7311|c0\_g1 | Metabolism; Lipid metabolism | Arachidonic acid metabolism |
| ko03013 | ata-miR396c-3p\_R5-19L21,  novel-m0271-5p | TR6297|c0\_g1, TR9872|c0\_g1 | Genetic Information Processing; Translation | RNA transport |
| ko00051 | ata-miR396c-3p\_R5-19L21 | TR10033|c1\_g1, TR10710|c0\_g1, TR10710|c0\_g2, TR1426|c1\_g2, TR7161|c0\_g1 | Metabolism; Carbohydrate metabolism | Fructose and mannose metabolism |
| ko00290 | ata-miR396c-3p\_R5-19L21 | TR10167|c0\_g1, TR11467|c0\_g1, TR3069|c0\_g1 | Metabolism; Amino acid metabolism | Valine, leucine and isoleucine biosynthesis |
| ko00770 | ata-miR396c-3p\_R5-19L21 | TR10167|c0\_g1, TR11467|c0\_g1, TR3069|c0\_g1 | Metabolism; Metabolism of cofactors and vitamins | Pantothenate and CoA biosynthesis |
| ko03030 | ata-miR396c-3p\_R5-19L21 | TR15693|c0\_g1, TR15693|c0\_g2, TR1788|c0\_g1, TR8029|c0\_g1 | Genetic Information Processing; Replication and repair | DNA replication |
| ko01210 | ata-miR396c-3p\_R5-19L21 | TR10167|c0\_g1, TR11467|c0\_g1, TR12420|c0\_g1, TR3069|c0\_g1 | Metabolism; Overview | 2-Oxocarboxylic acid metabolism |
| ko03020 | cca-miR399 | TR8437|c0\_g1, TR8437|c0\_g2 | Genetic Information Processing; Transcription | RNA polymerase |
| ko00240 | cca-miR399 | TR8437|c0\_g1, TR8437|c0\_g2 | Metabolism; Nucleotide metabolism | Pyrimidine metabolism |
| ko00230 | cca-miR399 | TR8437|c0\_g1, TR8437|c0\_g2 | Metabolism; Nucleotide metabolism | Purine metabolism |

Note: Category, Unique tag information in the KEGG database; Class, The metabolic pathways that the target genes involved in; Term, the description of functions.