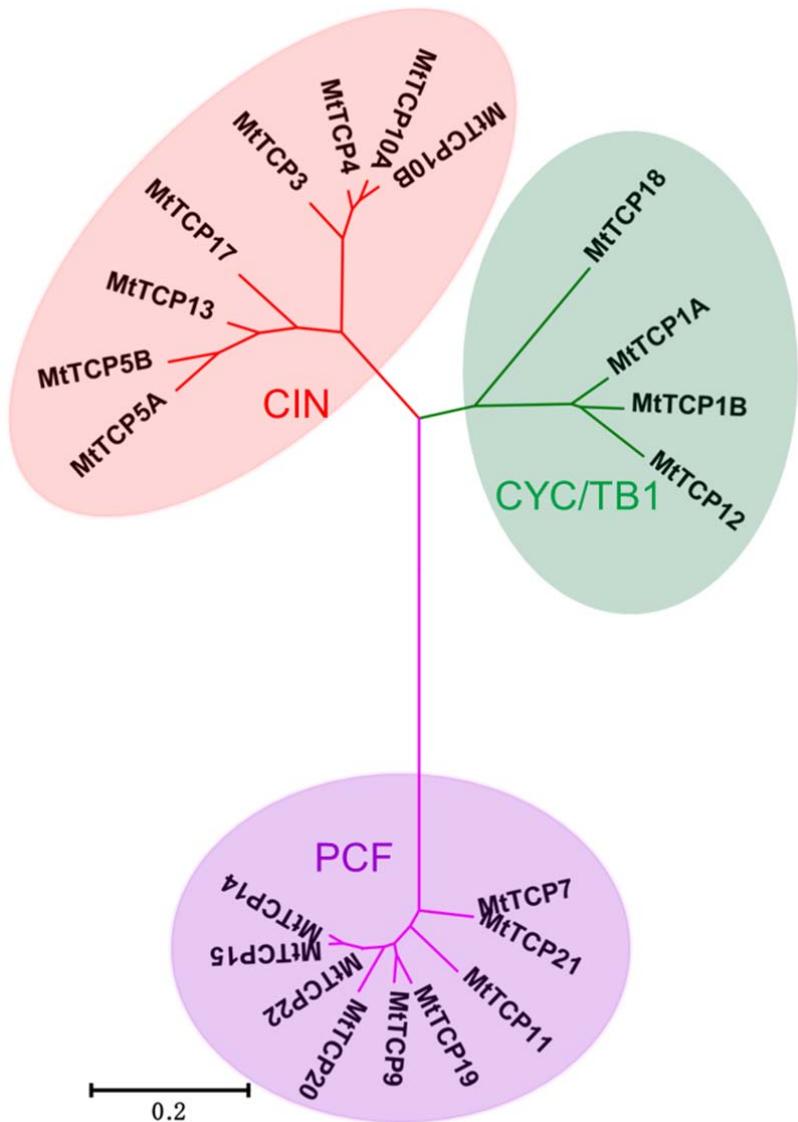
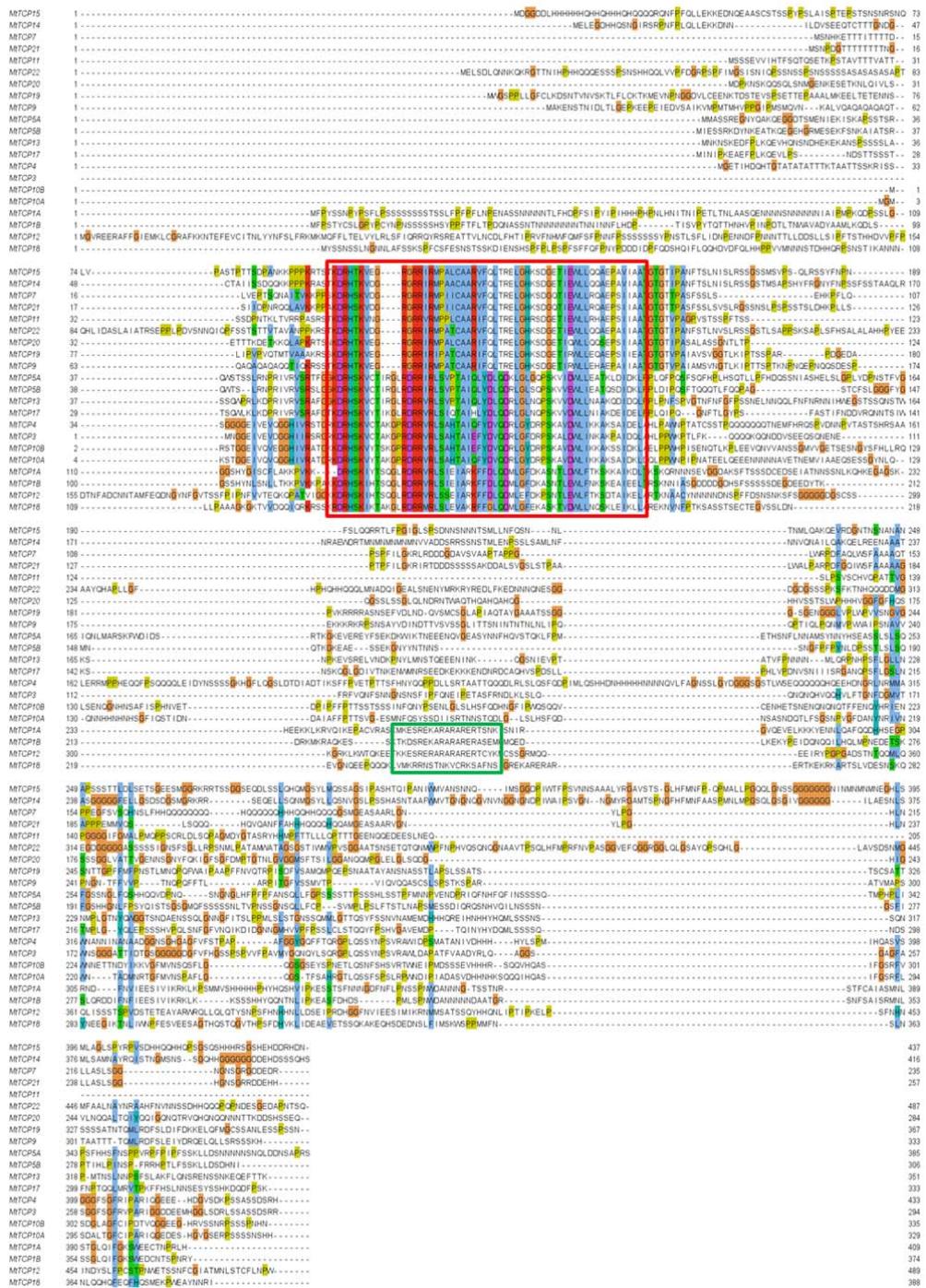


Supplementary Figure 1. Some known TCP family members of different species.



Supplementary Figure 2. Phylogenetic analysis of MtTCP proteins using the TCP domains. Phylogenetic analysis using only the TCP domain amino acid sequences. Multiple sequences were aligned using Clustal W and the phylogenetic trees were constructed using MEGA7.1 by the Neighbor-Joining method with bootstrap replication of 1,000 times.



Supplementary Figure 3. Multiple amino acid sequence alignment of MtTCP proteins. Multiple sequence alignment of MtTCP proteins using full-length amino acid sequences. Sequences were aligned using Jalview. Red box shows the conserved TCP domain. Green box shows the R domain.

MtmiR319A

5' auua g u a cu u uuu a g ac g u aa -ac a
 uuu aaaaga gaag **gagcuuccuucaguca** ca ggaaggg aagggg ga uuaccu cug ucauu au ca cacaauag aauu u
3' aau uuuuacu uuu**c** **cucgagggaagucagu** gu ucuuuuu uuccuu uu agugga gac aguua ug gu guguauc uugg g
auua a u **c** **uc** u - -cu a g gu g u aa gua g

MtmiR319B

5' --u a uu cuc u aa u a - g ac uc aa u aaauua
 aag **gagcu** **cuuuagucca** auggg gac uaagauu caauu g cu cug ucauuca ca ug ugagua u
3' uuc **cucga** gaagucagggu uaucc uug auucuaa guuaa c ga ggc aguaagu gu ac acucau g
cuu **c gg** uca u - a a g gu ga aa u auacaaa

MtmiR319C

5' c a g c ----- a g a
 agaa ug **ggaguucciu** cag **ccaaagc** gccu gu ag a
3' ucuu **accucgaggga** guc **gguuuug** cggu ca uc u
u g **a a** uauuaaa - - u

MtmiR319D

5' -agaa uc a cu u a uuu -- g ac u aa agaaga a
 aaauagu aag **gagcucucuucaguca** ca ggauagga aagg ugaa uuagcu cug ucauuca ca cacaaua agcaug u
3' uuugucg uuc **cucgagggaagucagu** gu ucuguucu uuuc acuu aaucga ggc aguaagug gu guguau ucguau a
auuaa uu **c** **uc** u c --u ua g gu u aa ----a a

Supplementary Figure 4. Stem-loop structure of the MtmiR319. Website predicted stem-loop structure diagram of MtmiR319. The sequences in pink areas with black lines are the mature sequence of MtmiR319.

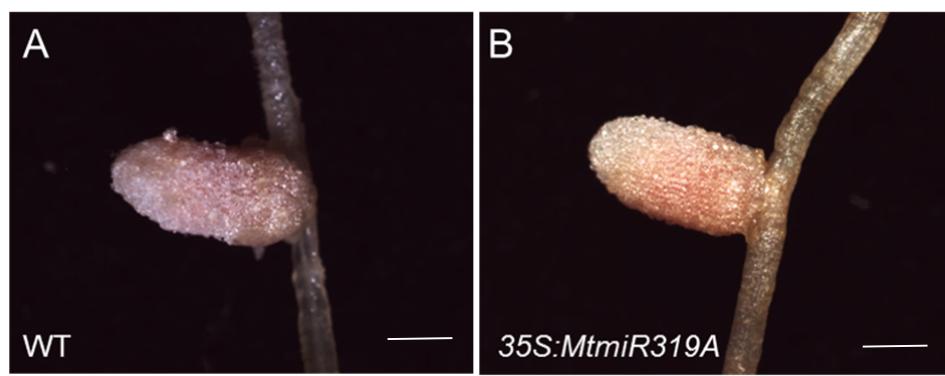


Supplementary Figure 5. Nodules at different developmental stages in wild type.

(A-D) The size and shape of nodules at 0, 7, 14, and 21 days post inoculation (dpi) inoculated with *S. meliloti* 1021 strain. Bar = 2 mm.



Supplementary Figure 6. Three weeks old plants of wild type and 35S:*Mtmir319A* without inoculated with *S. meliloti* 1021 strain. Bar = 1cm.



Supplementary Figure 7. Nodules of wild type and 35S:*MtmiR319A* plants after three weeks inoculated with *S. meliloti* 1021 strain. Bar = 2 mm.

Supplementary Table 1 Primers used in this study.

MtTCP1A-qRT-F	TTTTGTGCTATGCCAGCATGAA
MtTCP1A-qRT-R	TCCTCCCATGATTTCCAAAGA
MtTCP1B-qRT-F	ATAACAATGATGCTGCCACT
MtTCP1B-qRT-R	AAGATTGAAGCCCTGATG
MtTCP3-qRT-F	TTGTTGCGGCTGATTATCGA
MtTCP3-qRT-R	AAAGCCACCAGAACAAATCC
MtTCP4-qRT-F	CAGCGGAGGGAGGAGGAGAAA
MtTCP4-qRT-R	CCTGTTGAACGGACAATGTGAC
MtTCP5A-qRT-F	GCAAAGCAAGAAGGAGGTGATAC
MtTCP5A-qRT-R	TGATGTTGACCATTGCTTGATGTA
MtTCP5B-qRT-F	AACAAACCCATTTCAGCAACCA
MtTCP5B-qRT-R	TTCATACCATAAAACCACCTCCAA
MtTCP7-qRT-F	CACAGTAAAGTAGACGGACGAGGAA
MtTCP7-qRT-R	ACGTGCGGCGCAAATTAT
MtTCP9-qRT-F	TGTGCAGCTCGGATCTTCA
MtTCP9-qRT-R	GTTTCGCCATCGGACTTATGTC
MtTCP10A-qRT-F	TGGTTAACCGCCTGCGTTT
MtTCP10A-qRT-R	CCCCTATGGCGGAAAAAA
MtTCP10B-qRT-F	CATAGTTGAGGCCACCGGTAAC
MtTCP10B-qRT-R	TCGCGAGGACCTTTGATGT
MtTCP11-qRT-F	AAACCTTCCACCGCCGTAAC
MtTCP11-qRT-R	TGGTGTGGATCGGAAGAG
MtTCP12-qRT-F	TGATTACTCCTTATTCCCTGTTCAA
MtTCP12-qRT-R	TGGCTATTCCACAAAGTTGGA
MtTCP13-qRT-F	GCTTCATCACAAATGGCCAAGAT
MtTCP13-qRT-R	CCTTCCACCAAAAGCTCTGA
MtTCP14-qRT-F	CCTGTGCTGCCAGAGTGTTC
MtTCP14-qRT-R	CGTCTGCCGTCTGATTTATG
MtTCP15-qRT-F	CCGCCGCATCCGAAT
MtTCP15-qRT-R	GCCAAGTTCGCGTGTAAAGCT
MtTCP17-qRT-F	CAACCTCTTTGGGATCGTT
MtTCP17-qRT-R	AGACGGACGGCTCCAATTGAT
MtTCP18-qRT-F	GCAAGATCAAAACCGCGAAA
MtTCP18-qRT-R	AAACCTTTGCAACTTCAAGTGA
MtTCP19-qRT-F	CACCATGTTCTTCAATAGACACCAATGGC
MtTCP19-qRT-R	GTAGCAGAGATAATCGTATAGAG
MtTCP20-qRT-F	CACCATGGATACCGGCCCTGGAA
MtTCP20-qRT-R	GACCGCCGCCGTCTAGTT
MtTCP21-qRT-F	CACCATGAATACCGGACCTGGAGAGATG
MtTCP21-qRT-R	CTTCCGGTCGAACTGGACCGA

MtTCP22-qRT-F	CACCATGGACGGCGGAGACAACG
MtTCP22-qRT-R	ATCTTGTGGATCTTCCTCACCGC
MtTCP3-CDS-F	CACCATGAACGGTGGAGAGATAGTGGAAAG
MtTCP3-CDS-R	ACGGCGAGAATCTGAGGACG
MtTCP4-CDS-F	CACCATGGGAGAAACAATAACCGACCAGCAC
MtTCP4-CDS-R	ATGGCGAGAGTCGGAGGAAGCAGAG
MtTCP10A-CDS-F	CACCATGAGGAGTACTGGAGGAGAGATAG
MtTCP10A-CDS-R	GTTGTGATTAGGAGAAGAAGAA
MtTCP10B-CDS-F	CACCATGGGAATGAAGAGCACAGGAGG
MtTCP10B-CDS-R	GTGATGAGAATTAGAAGAAGAGGG
MtmiR319A-F	CACCATTAGGGTTAGGGTTCTTGTTTG
MtmiR319A-R	TTGGTCTAACCTCGCTACATCAC
MtUBI-qRT-F	CTGACAGCCCCTGAATTGTGA
MtUBI-qRT-R	TTTTGGCATTGCTGCAAGC