

CLUSTAL W (1.83) multiple sequence alignment

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S.tuberosum      -----MVRTVDLRS----- 10
S.esculentum    -----REKLIINSVKMVRTVDLRS----- 20
M.truncatula    -----MAPPSSLLETATVVEKMVTRNVDLRS----- 25
G.max           -----FACYLVGGFVSVQEKMVTRIVDLRS----- 24
A.thaliana(THA1)-----MVMRSVDLRS----- 10
A.thaliana(THA2)-----MVTPTTIRTVDLRS----- 14
O.sativa        -----DPTPTFAADRASSRPVSTRASPLVP-----RLGRRLI 33
T.aestivum      -----LVPNSARAPLHSPNSSLAAIPIRLGSGSIPSTDSGP-----ESYVILL 44
Z.mays          HAVAVDCARGGAPADSPVPLFQGAASFRRSLYKTPPPRVLEGHRXAPRLPTGLAVPRPLV 60

S.tuberosum      -----DTVTKPTEAMRNAMANAEVDDDDVLGYDPTAQRLEAEMAR 49
S.esculentum    -----DTVTRPTEAMRNAMANAEVDDDDVLGYDPTAQRLEAEMAR 59
M.truncatula    -----DTVTKPTEAMRAAMASAEVDDDDVLGYDPTALLLETEMAR 64
G.max           -----DTVTKPTEAMRAAMASAEVDDDDVLGYDPTAFRLETEMAR 63
A.thaliana(THA1)-----DTVTRPTDAMREAMCNAEVDDDDVLGYDPTARRLEEEMAR 49
A.thaliana(THA2)-----DTVTKPTEAMRANAEVDDDDVLGNDPTALRLEKEVAE 53
O.sativa        PCSRWLGGAPQNGDQRRGGPTVDTVTKPSDAMRAAMAAADVDDDDVLGADPTAHRFEMEMAR 93
T.aestivum      KRELQLQPHRQDGDQGGPPLRHGHQAIIGHAAAMAAAEVDDDDVLGADPTAQRFEAEMAR 104
Z.mays          PAEQSQSQHEHDGDQRRGGPPVGHGHQAVRRHAAAMAAADVDDDDVLGADPTAAPLRGGDGR 120
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S.tuberosum      ITGKEAGLFVPSGTMGNLISVLTHCQIRGSEIILGDYSHIHIYENGGISTLGGVHPRTVK 109
S.esculentum    ITGKEAGLFVPSGTMGNLISVLTHCQIRGSEIILGDYSHIHIYENGGISTLGGVHPRTVK 119
M.truncatula    MMGKEAALFVPSGTMGNLICVLVHCDIRGSEVILGDNCHINIYENGGISTIGGVHPRQVK 124
G.max           TMGKEAALFVPSGTMGNLVSVLVHCDVRGSEVILGDNCHINIFENGGIATIGGVHPRQVK 123
A.thaliana(THA1)MMGKEAALFVPSGTMGNLISVMVHCDVRGSEVILGDNCHIHVYENGGISTIGGVHPKTVK 109
A.thaliana(THA2)IAGKEAAMFVPSGTMGNLISVLVHCDERGSEVILGDDSHIHIYENGGVSSLGGVHPRTVK 113
O.sativa        ITGKEAALFVPSGTMANLISVLVHCDTRGSEVILGDNSHIHIYENGGISTIGGVHPKTVR 153
T.aestivum      IMGKEAALFVPSGTMGNLVSVLVHCDTRGSEVILGDNSHIHIYENGGIATLGGVHPRTVP 164
Z.mays          APGQGGGAVRALGHHGQPRLRPRHCDVRGSEVILGDASHIHVYENGGISTLGGVHPRTVP 180
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S.tuberosum      NNEDGTMDDLIEAAIRDPSFEICYPTTRLICLENQAHSNGRCLSAEYTDKVGELAKKY 169
S.esculentum    NNEDGTMDDLIEAAIRDPSFEICYPTTRLICLENQAHSNGRCLSAEYTDKVGELAKKY 179
M.truncatula    NNDDGTIDIDLIEAAIRDPRGELMFPSTRICLENHANSNGRCLSVYEYTDKVGELAKKH 184
G.max           NNDDGTIDIDLIEAAIRDPMGELFYPTTKLICLENHANSNGRCLSVYEYTDKVGELAKKH 183
A.thaliana(THA1)NEEDGTMDEAIEAAIRDPKGSTFYBSTRICLENHANSNGRCLSVYEYTKVGEIAKRH 169
A.thaliana(THA2)NEEDGTMIEIGAEAAVRSPKGLDHPVTKLICLENQANCGGRCLPIEYIDKVGELAKKH 173
O.sativa        NNPDGTMIDKIVVAIRHPDGYLYPTTRLICLENHANSNGRCLSAEYTDKVGELAKKH 213
T.aestivum      NNPDGTMVDKIVVAIRHRDGMYYPTTRLICLENHANSNGRCLSVYEYTDKVGELAKKH 224
Z.mays          NNPDGTMDLARIVGAI RNPDGALLYPTTRLICLENHANSNGRCLSVYEYTDKVGELAKKH 240
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S.tuberosum      GLKLHIDGARIFNASVALGVPVHRLVQAADSVSVCLSKGLGAPVGSVIVGSKSFIARAKI 229
S.esculentum    GLKLHIDGARIFNASVALGVPVHRLVQAADSVSVCLSKGLGAPVGSVIVGSKSFIARAKI 239
M.truncatula    GLKLHIDGARIFNASVALGVPVDRLEVAADSVSVCLSKGIGAPVGSVIVGSKNFITKAKR 244
G.max           GLKLHIDGARIFNASVALGVPVDRLEVAADSVSVCLSKGIGAPVGSVIVGSKNFIAKARR 243
A.thaliana(THA1)GVKLHIDGARIFNASVALGVPVHKLKKAADSVQVCLSKGLGAPVGSVIVGSKSFIKAKT 229
A.thaliana(THA2)GLKLHIDGARIFNASVALGVPVHKLKKAADSVQVCLSKGIGAPVGSVIVGSKNFITKARH 233
O.sativa        GLKLHIDGARIFNASVALGVPVHRLVQAADSVSVCLSKGLGAPVGSVIVGSKNFIEKAKI 273
T.aestivum      GLKLHIDGARIFNASVALGVPVHRLVQAADSVSVCLSKGLGAPVGSVIVGSKAFIDKAKI 284
Z.mays          -----
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S.tuberosum      LRKTLGGMRQIGVLCAAAFALQENLVKLEGDHRKAKSLAELNLIKGLKVDVATVETN 289
S.esculentum    LRKTLGGMRQIGVLCAAAFALQENLVKLEGDHRKXXX----- 278
M.truncatula    LRKTLGGMRQIGILCAAALVALKENVKGLES DHKTRLLADGLNEIKGLRVNPCS IETN 304
G.max           LRKTLGGMRQIGLLCAAALVALKENVKGLES DHKARLLADGLKEVKGLRVDAGSVETN 303
A.thaliana(THA1)VRKTLGGMRQIGVLCAAALVALQENLPKLQHDHKKAKLLAEGLNQMGKIRVNVAAVETN 289
A.thaliana(THA2)LRKTLGGMRQIGVLCAAALVALHENVAKLEDDHKKARVLAEGLNRIERLRVNVAAVETN 293
O.sativa        LRKTLGGMRQVIGILCAAAYVAVRDTVTKLADHRRKVLADGLKLIKHFVDTTTSVETN 333
T.aestivum      LRKTLGGMRQVIGILCAAAYVAVRDTVTKLADHHTKAKVLADGLKLIKQITVDLASVETN 344
Z.mays          -----
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S.tuberosum      IVYCDILKGSRISETELVKTLQYGLLILPEGPLRVRFVLHHQISESDVHYAVSCLQRAL 349
S.esculentum    -----
M.truncatula    IIFIDIVDGSRITTEKIFKYLEERGIILLMQEKASRLRVVLHHQISASDVQYTLSCFQQAV 364

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G.max          MVFIDIEEGTKTRAEKICKYMEERGILVMQESSRMRVVLHHQISASDVQYALSCFQQAL 363
A.thaliana(THA1)MIFMDMEDGSRLTAEKLRKNLEENGILLIRGNSSRIRIVIHQITTSVDVHYTLSCFQQAM 349
A.thaliana(THA2)IIYVDIPEDPKFGAEAEACKSLEDVGVLVIPQATFRIRIVLHHQISDVVDEYVLSCFEKIF 353
O.sativa       MVFFDIVD-SRISPKLQCQVLEQRNVLAMPAGSKSMRLVIHYQISDSDVQYALTTCVEKAA 392
T.aestivum     MVFFDIAD-PRITPKLQCQVLEQRNVLAMPASSKSVRLVTHYQISDSDVQYTLTCIEKAV 403
Z.mays         -----
               ::  :                :  :: :          :  :  :  :  :  .
S.tuberosum    AGVAEENGDK----- 359
S.esculentum  -----
M.truncatula   QIENG----- 370
G.max         AVKGVQNEMG----- 373
A.thaliana(THA1)LTMQEPSRT----- 358
A.thaliana(THA2)HS----- 355
O.sativa       EEILTGSKKFEXSDKRYYQEFIRAL-EITPFVPTDASVQRPACLSSH-- 439
T.aestivum     EEILSGNAKFEXPDKRHYHEFIWALGHFLSRHLWSAAVQYPACLWPWPLQ 453
Z.mays         -----

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Medicago truncatula (TC95044), *Glycine max* (TC205585), *Solanum tuberosum* (TC76119), *Oryza sativa* (TC275073), *Triticum aestivum* (TC265508), *Zea mays* (TC309851), *Solanum esculentum* (TC166175)

Supplemental Figure 12. TC (Tentative Consensus) sequences of the species were derived from EST consensus sequences found in the TIGR database (<http://www.tigr.org/tdb>) using a BLAST search. The sequences were aligned using Clustal W (version 1.81). Stars represent identity at that position in all sequences. Colons represent similarity at that position. The conserved Gly residue that is changed to Arg in the *tha1-1* mutant is indicated by an arrow.