Fig. S2. Translated amino acid alignments of CsGCN5L1 (A), CsHUB2 (B), CsGOLS (C), CsRADSAM (D), CsSAMS (E), CsAUR3 (F), CsHSPTF90 (G), and CsHSPTF (H) with truncated orthologous sequences from Arabidopsis and other species. GenBank accessions are provided with species names. Alignment was performed in ClustalW2 (http://www.ebi.ac.uk/Tools/clustalw2/). Identical residues are indicated with "*", conserved substitutions with ":" and semi-conserved substitutions with "." below the alignment. The residues in red font form part of a conserved domain indicated in the red boxed area above the alignment; residues in grey highlight form part of a conserved domain indicated in the grey boxed area above the alignment (Marchler-Bauer *et al*., 2009). Conserved domain name, protein name and sequence similarity of the conserved domain with the *C. sativa* sequence are provided in the boxed area.

Marchler-Bauer A, Anderson JB, Chitsaz F *et al*. 2009. CDD: specific functional annotation with the Conserved Domain Database. *Nucleic Acids Research* 37(D): 205–210.

A

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pfam06320, GCN5-like protein 1, 2E-37                                   LLKEHQAKQAKLREVQERLKREAIASANALTDALVDTVNAGVAQAYINQKRLEAEAKALQATSAAFAKQTEQWLALIEAF
Populus trichocarpa XM_002319385.1   MNSPQRPSARTRRPHLPECEKPP--QSNPTGNDLESSLLQIFTDHNHTSLRLRETTVIETEKAKKEAARVADLLVDKVNGGVQESFVNEKRIEMEIRSLAASIVRFMKQSDQWLTATHSI 118
Arabidopsis thaliana NM_128586.2     MNTPMSLSAARGR-MLPFLEKE---KSEEESETLESSLLQLIDDNRRSSLQLREKTERSRKEAIRHAARTADLLVKAVNGGVEECFVNEKRIESEIRNLAITVAKFGKQTDQWLAVTHAV 116
Vitis vinifera XM_002269992.1        MFTQPLPVARARVLSPAEIERP-----NADPSGLEASLLQLIQDHHQTSLKLRDETEKAKNDAIRTAMRVSDLLVDTVNGGVQEAFINEKRIELESRALTATVIRFAKQTHQWLAASHAI 115
Ricinus communis XM_002517680.1      MSSPQLPLARPRVASPWEIDKP-----QPEPGSLEGSLLQLIQDHHQTSLRLRENTEKAKKDAIRKAAKVSGLLMDAVNGGVQESFINEKRIEFEIRALAATVSRFMRQTDHWLTATHAI 115
Castanea sativa HO847125             --PPQLPLASGRVPSSSPSSSFSFDAQHADPGGLEAALLQIMHDHHHTSFRLRDQAERAKKDAIQNAARVSDLLVDAVNSGVQESFINEKRIEREIRALAVTIARFMKQTNQWLTPTHAI 118
Picea glauca BT119057.1              -------MAK-----------------------LEAALIQMMNDHSHSNAQLRDQLEKVKKDALATATHVSDLLVDSVNSGVQESFINEKRIELETRALSATVQRYIKQTNQWLAVVHAL  90
                                             *                       **.:*:*:: *: ::. :**:      :.*   * :.:.**:. **.**:*.*:****** * * *: :: :: :*:.:**:  *::

pfam06320                            NTALKEIGDVENWARTIENDMRSIASALEEAYEGKR
Populus trichocarpa XM_002319385.1   NTAIKEIGDFENWMKTMEYDCKSITTAIHNIHKE----- 152
Arabidopsis thaliana NM_128586.2     NSAVKEIGDFENWMKTMEFDCKKITAAIRNIHEDQQ--- 152
Vitis vinifera XM_002269992.1        NTAIKEIGDFENWMKTMDFDCRSINAAIRNIHQP----- 149
Ricinus communis XM_002517680.1      NTAIKEIGDFENWLKTMEFDCKSINAAIRTIHQ------ 148
Castanea sativa HO847125             NTAVKEIGDFENWMKTMEFDCKSITAAIQNIHQA----- 152
Picea glauca BT119057.1              DSALKEIGDFENWMKIMEYDCESISLALQYIHKKENPQL 129
                                     ::*:*********:* *::**..*. *:: **:
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B

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TIGR02169, HUB2, 5E-04                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                
Vitis vinifera XM_002283381.1          EKNDLEVKMKEALQDSGRKDIKAEFHVMASALSKEMGMMESQLNRWKETAHEALSLREQVQSLKALLNKKTNEQKCLADKCEEQMVEIKSLKALIEKLQKGKLELQIFVDMHGQESYDNR- 120
Ricinus communis XM_002530823.1        EKNDLEVKMEEAMQDSGRKDIKAEFHVMAAALSKEMGMMEAQLKRWKETAHEALSLCKEAQSLRILLSEKTNEQKSLTSKCAEQMLEIKSLQTVIEKLQKDKLELQIILDMYGQEGYDSR- 120
Castanea sativa HO847187               KKMSLKLRWKKLCRMQGERILNQSFVWLRLCLKKWEWKLSSDGRR---QPHDALSLSEEAQSLKAQLDRKSNEMQSLSDKCAEQMMEIKSLKELIDKLQKEKLELQIFLDLYGQESHDNR- 117
Arabidopsis thaliana NM_104398.4       EKNGLELETEEAIQDSERQDIKSEFIAMASTLSKEMEMMEAQLKRWKDTAQDALYLREQAQSLRVSLSNKADEQKGLEDKCAKQMAEIKSLKALIEKLLKEKLQLQNLASICTRECNDDR- 120
Triticum aestivum AK333481.1           EKNDLEIKVEESLQDSGKKDFKDEIHVMAAALSKEMEMMENQLNRSKDAASEALALREEAESLRTLLAKKISEQKEISDRYNAQVSEIKSLKELIETLEKENQELEFIVDMYGKECSESR- 120
Picea sitchensis EF676133.1            ERNNLEIRLEEVVQESGRKDIVTEFKVMVSTLHKEMGMMQTQLSRFKEIACEVHSLRAEVHSLTDILTRKTSECKHLSDKCADQAGELKSLQDEIKELQETEQELKLILDMYGREFSDSR- 120
                                        :: .*::. ::  : . .: :  .:  :   * *    :. :  *    . :.  *  :..**   * .* .* : : .:   *  *:***:  *. * : : :*: : .:  :*  :.*

TIGR02169                               ELADLNAAIAGIEAKINELEEEKED--KALEIKKQEWKLEQLAADLSKYEQELYDLKEEYDRVEKELSKLQREL
Vitis vinifera XM_002283381.1           DLMEIKESEHKAHMQAEVLRNALDEHSLELRVKAANEAEAACQQRLSAAEAEIADLRAKLDASERDVLELKEAIRIKDVEAEAYISEIETIGQAYEDMQTQNQHLLQQVTERDDYNIKLV 240
Ricinus communis XM_002530823.1        DLLEIRESERKAQSQAEVLKIALDEHSLELRVKAANEAEAACQQRLCAAEAEIAELRAKLDASERDVWELTEAIKSKDREAEAYISEIETIGQAYEDLQTQNQHLLQQVTERDDYNIKLV 240
Castanea sativa HO847187                DLVDIKESERRAHSQAEVLRNALDEHSLELRVKAANEAEAACQQRLSAAEAEIADLRVKLDASERDVLELTEAIRNKDAEAEAYIAEIETIGQAYEDMQTQNQHLLQQVTERDDYNLKLV 237
Arabidopsis thaliana NM_104398.4        GLAEIKDSQRKAQAQAEELKNVLDEHFLELRVKAAHETESACQERLATAKAEIAELRTQLDLSEREVLELKEGIKVKEQEAEASIAEMETIGQAYEDMQTQNQHLLQQVAERDDYNIKLV 240
Triticum aestivum AK333481.1            TITEIKESENRARKQAEYLRTSLEEHSLELRVKAANEAETACQRRLCIAEAELEELRTDVDASERDVLELKEAIRIKEAEGDAYISEIETIGQAYEDMQTQNQHLLQQVADRDDFNIKLV 240
Picea sitchensis EF676133.1             DVMEVRQAECKAWAQVEMLKSALDEHSLELRVKAANEAEAACQQRLAAAEAEMACWRERLDASERDVFELTEALKAKNEEGEAYISEIETIGQAYEDMQTQNQRLLQQVTERDEYNIKLV 240
                                         : :::::: :*  *.* *:  *:** ********:*:*:***.**. *:**:   *  :* ***:* **.*.:: *: *.:* *:*:*********:*****:*****::**::*:***

TIGR02169
Vitis vinifera XM_002283381.1           SESVKTKQMQSFLLSEKQALAKQLQQVNNALESLKMRIAQSEEQMKVCLAEALKY 295
Ricinus communis XM_002530823.1        SESVKTKQALSSLLSEKQALTKQLQQVNTSVEYLKIRISQSEEQMKVCLTEAIRS 295
Castanea sativa HO847187                SESVKTKQAQNALLLEKQALEKQLQQINASIESLKMRISHSEEQMEPCLTEVIKC 292
Arabidopsis thaliana NM_104398.4        SESVKTKHAYNTHLSEKQVMEKQLHQVNASVENFKARIAHNEEQMKGCFSEAYKL 295
Triticum aestivum AK333481.1            SDSVKTKQASASLLSEKHLLQKQLHQVNSSLESSKQKLSRGEEQMKAYVAQAIKA 295
Picea sitchensis EF676133.1             SESVKAKQLQNSLLLEKQAVAKQLQHTNVSVEFSKQKISRLEEQLRIYLDQVGKA 295
                                        *:***:*:     * **: : ***:: * ::*  * :::: ***:.  . :. :
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C

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PLN00176, GOLS, 1E-76                SKMIYLDGDIQVFDNIDHLFDLPDGYFYAVMDCFCEKTWSHTPQYKIGYCQQCPEKVTWP-AEMGPPPPLYFNAGMFVFEPSLSTYEDLLETLKVTPPTPFAEQDFLNMFFRDVYKPIPLVYNL
Populus trichocarpa XM_002319436.1  SKMIYLDGDIQVFDNIDHLFDMPDGCFYAVMDCFCEKTWSNSPQYKIGYCQQCPDKVQWP-AEMGPKPPLYFNAGMFVYEPNLSTYHDLLETLKITSPTLFAEQDFLNMFFRDVYKPIPSDYNL 123
Arabidopsis thaliana NM_104537.2     NKMIYLDGDIQVFDNIDHLFDLPNGQFYAVMDCFCEKTWSHSPQYKIGYCQQCPDKVTWPEAKLGPKPPLYFNAGMFVYEPNLSTYHNLLETVKIVPPTLFAEQDFLNMYFKDIYKPIPPVYNL 124
Coffea arabica GQ497219.1           SKMIYLDGDIQVFENIDHLFELPGGYFYAVKDCFCEKTWSHTPQYQIGYCQQCPDKVQWP-QELGPKPPLYFNAGMFVYEPSLPTYDDLLSTLKITPPTPFAEQDFLNMFFRDVYRPIPPTYNL 123
Capsicum annuum EF566470.1           SKMIYLDGDIQVFDNIDHLFDLPDGYFYAVMDCFCEKTWSHTPQYKVGYCQQCPDKVQWT-QDLGPKPSLYFNAGMFVYEPSLSTYDDLLKTLKVTPPTPFAEQDFLNMYFRDVYKPIPNNYNL 123
Castanea sativa HO847224             SKMIYLDGDIQVFENIDHLFDLPDNHFYAVMDCFCEKTWSDTPQHKIGYCQQCPDKVQWP-AELGPKPPLYFNAGFFVYEPNLSTYHDLLETLQVTSPTTFAEQDFLNMFFNDIYKPISPVYNL 123
Ammopiptanthus nanus GU942748.1      SKMIYLDGDIQVFENIDHLFDLPDNYFYAVMDCFCEKSWTHTPQYQIGYCQQCPDKVEWP-SNFGPKPPLYFNAGMFVYEPNLVTYRDLLEALQVTKPTSFAEQDFLNIFFREKYKPIPNVYNL 123
                                     .************:******::*.. **** ******:*:.:**:::********** *.  .:****.******:*****.* ** :**.:::::. ** ********::*.: *:**.  ***
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D

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pfam04055, radical SAM, 4E-08          VSISLQSGDDEVLKIINRGHTFEEVLEALELLREA--GIPVVVDNIVGLPGENDEDLEETLELL
COG0621, MiaB, 1E-43                 PHLHLPVQSGSDRILKRMKRGYTVEEYLEIIEKLRAARPDIAISTDIIVGFPGETEEDFEETLDLVEEVRFDRLHVFKYSPRPGTPAALMPQVPEE-VKKERLRRLQELQQQISANQKLV
Castanea sativa HO847524             SFLHVPVQSGSDTVLNAMNREYTVSEFRTVVDTLTELVPGMQIATDIIYGFPGETDEDFAQTVSLVKEYKFPQVHISQFYPRPGTPAARMKKVPSNVVKK-RSRELTSIFEAFTPYNGME 120
Vitis vinifera XM_002268256.1        SFLHVPVQSGSDAILSAMNREYTVTEFRTVVDTLTELVPGMQIATDIICGFPGETDEEFAQTVSLIQEYRFPQVHISQFYPRPGTPAARMKKVPSAVVKK-RSRELTSIFEAFTPYNGME 120
Ricinus communis XM_002521770.1      SFLHVPVQSGSDNVLNAMNREYTVSNFRTVVDTLTELVPGMQIATDIICGFPGETDDDFAQTVSLINEYKLPQVHISQFYPRPGTPAARMKKVPSNIVKK-RSRELTAVFEAFTPYNGME 120
Populus trichocarpa XM_002327232.1   SFLHVPVQSGSDAILTAMNREYTVNEFRTVVDTLTELVPGMQIATDIICGFPGETDKDFSQTVNLIKAYKFAQVHISQFYPRPGTPAARMKKVPSNIVKQ-RSRELTSVFEAFTPYNGME 120
Arabidopsis thaliana NM_105867.3     TFLHVPVQSGSDSVLTAMNREYTASEFRTVVDTLTELVPGMQIATDIICGFPGETDEDFSQTVELIKDYKFPQVHISQFYPRPGTPAAKMKKVQSKIVKQ-RSRELTSVFEAFAPYTGME 120
Sorghum bicolor XM_002447814.1       SFLHVPVQSGSDAVLTAMNREYTVAEFRKVVDTLYELVPGMQIATDIICGFPGETDEDFSETVNLVKEYQFPQVHISQFYPRPGTPAARMKKVPSNEVKK-RSRELTSVFELFSPYQGME 120
                                     :*********** :*.*******. :**.***** ************* *******.:*::**.*:: *::.*****************:**** *  **: ******::** *:** ***

pfam04055
COG0621                              GKTLEVLVEEGGSKKGELIGRTENYRPVVFGGVYEDIGEFVEVKITEADEYSLIGEVVE
Castanea sativa HO847524             GRLERIWITEIATDGIHLVGHTKGYVQVLVIAPESMLGTSAIVKITSVGRWSVFGEVIETINHINDESSLRNNKPSQAKCS--------PCTNPIESCAC 211
Vitis vinifera XM_002268256.1        GRVERIWISEIATDGIHLVGHTKGYMQVLVVAPRSLMGTSAIVKITSVGRWSVFGELIETLNQVNDNISLNEEKFSLGKCS--------PCSVPGEICAC 211
Ricinus communis XM_002521770.1      GRVERIWITEIATDGIHLVGHTKGYVQVLVIAPETMLGTSAIVKITSVGRWSVFGEVIQTLNQTNRGVASAEKMPSGGKYS--------PCSDPCETCAC 211
Populus trichocarpa XM_002327232.1   GRVERIWITDIAADGIHLVGHTKAYVQVLIVAQESMLGTSAIVKITSVGRWSVFGEVIETLNQINQKSKSVEKMLSEEKCS--------PCSDPCDSCAC 211
Arabidopsis thaliana NM_105867.3     CREERIWITEVATDGIHLVGHTKGYVQVLVTGPESMLGTSAMARITSVGRWSVFGEVIETFSSANRETKSREE--TKLPCS--------SNVSTCETCTC 209
Sorghum bicolor XM_002447814.1       GKVERIWITEIATDGVHLVGHTKGYIQVLVIAPDSLLGTSANVKITSVGRWSVFGEVIEGSVVVGEAPKQTSAKLQKEHIQNQVEEAGCCATDSCGTCAC 219
                                      : *****:::*:**:*******.*:***: .  ::: **** .:*************:*:     .      .        .            .   *:*
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E

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pfam02773, S-AdoMet synthase, 5E-53                 IGGPQGDAGLTGRKIIVDTYGGWGAHGGGAFSGKDPTKVDRSAAYAARWVAKSLVAAGLARRCLVQVSYAIGVAEPLSIMVDTYGTSKKSEEELLEIVRKNFDL
Elaeagnus umbellata AF346306.1      LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRCIVQVSYAIGVPDPLSVFVDSYGTGKIPDKEILKIVKENFDF 120
Vitis vinifera XM_002280070.1       LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRCIVQVSYAIGVPEPLSVFVDSYGTGKIPDKEILKIVKENFDF 120
Carica papaya AF531479.1            LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRCIVQVSYAIGVPEPLSVYVDTYGTGKIPDKEILKIVKENFDF 120
Ricinus communis XM_002515158.1     LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRCIVQVSYAIGVPEPLSVFVDSYGTGKIPDKEILKIVKENFDF 120
Populus trichocarpa EF144263.1      LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRCIVQVSYAIGVPEPLSVFVDTYGTGKIPDKEILKIVKENFDF 120
Castanea sativa HO847411            LDEKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSIVANGLARRAIAQVSYAIGVPEPLSVFVDTYGTGKIPDKEILKIVKENFDF 120
Arabidopsis thaliana NM_116415.3    LDDKTIFHLNPSGRFVIGGPHGDAGLTGRKIIIDTYGGWGAHGGGAFSGKDPTKVDRSGAYIVRQAAKSVVANGMARRALVQVSYAIGVPEPLSVFVDTYGTGLIPDKEILKIVKETFDF 120
                                    **:*************************************************************:****:***.:.*********:****:**:**** *************.***

pfam02773                           RPGVIVKMLDLK---KPIYQQTAAYGHFGRD--DFPWE--------------------------------L
Elaeagnus umbellata AF346306.1      RPGMITINLDLKRGGNDRFLKTAAYGHFGRDDPDFTWEIVKP----------------------------LKWEKPQS-------- 170
Vitis vinifera XM_002280070.1       RPGMIAINLDLKRGGNGRFLKTAAYGHFGRDDPDFTWEVVKP----------------------------LKWEKA---------- 168
Carica papaya AF531479.1            RPGMITINLDLKRGGNSRFLKTAAYGHFGRDDPDFTWEVVKPSSGRSLNLKVLVVIIPACFIELIIGCLMLMLNSPYSIEVSYMMI 206
Ricinus communis XM_002515158.1     RPGMMTINLDLKRGGNSRFLKTAAYGHFGRDDPDFTWEVVKP----------------------------LKWEKDQA-------- 170
Populus trichocarpa EF144263.1      RPGMMTINLDLKRGGN-RFLKTAAYGHFGRDDPDFTWEVVKP----------------------------LKWEKPQA-------- 169
Castanea sativa HO847411            RPGMITINLDLEGGGNGRFLKTAAYGHFGRDDPDFTWEVVKP----------------------------LKWEKPQS-------- 170
Arabidopsis thaliana NM_116415.3    RPGMMTINLDLKRGGNGRFQKTAAYGHFGRDDPDFTWEVVKP----------------------------LKWDKPQA-------- 170
                                    ****::*****: *** ** ******************:***                            *  :.
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F

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cd00180, PKc, 2E-28                 SLLEELLREIEILKKLNHPNIVKLYGVFEDENHLYLVMEYCEGGSLKDLLKENGKLSEDEILRILLQILEGLEYLHSNGIIHRDLKPENILLDSNGKVKLADFGLS
Castanea sativa HO847372            KIQHQLKREMEIQTSLRHPNILRLYGWFHDSERIFLILEYAHGGELYGELRKRGFLSENKAATYIMSLAQALAYCHEKHVIHGDIKPENLLLDHEGRLKIADFGWS 106
Arabidopsis thaliana NM_130111.3    KIHHQLRREMEIQTSLRHPNILRLFGWFHDNERIFLILEYAHGGELYGVLKQNGHLTEQQAATYIASLSQALAYCHGKCVIHRDIKPENLLLDHEGRLKIADFGWS 106
Vitis vinifera XM_002270426.1       RLHHQLKREMEIQTSLCHPNVLRLYGWFHDSERIFLILEYCYGGELYRELRKTGYLTEKQAATYIASLTQALAYCHEKHVIHRDIKPENLLLDHEGRLKIADFGWS 106
Ricinus communis XM_002511696.1    RIHHQLKREMEIQTNLCHPNVLRLYGWFHDDERIFLILEYAQGGELYKELKKKGFLCEKQAATYIASLTNALSYCHKKDVIHRDIKPENLLLDHEGRLKIADFGWS 106
Populus trichocarpa XM_002308997.1 NIHHQLKREMDIQTSLSHPNILRLYGWFHDDQRVFMILEYAHGGELFKELRKCGYLSEQKAATYVASLANALAYCHEKDVIHRDIKPENLLLDHEGRLKIADFGWS 106
Physcomitrella patens XM_001773411.1 QVEHQLRREIEIQSHLRHPNILRLYGYFYDQARVYLILEYAAKGELYKELQRCKVFSEKRAATYVASLARALMYCHEKHVIHRDIKPENLLIGLKGELKIADFGWS 106
                                    .:.***:**::**: * ***:***:*:*:*. *:::****.  ***:  *::   : *::****: **:.** *** * *** ********:. :*.*********
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G

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PTZ00272, HSP83, 1E-42              TIARSGTKAFMEALEAGGDMSMIGQFGVGFYSAYLVADRVTVTSKNNSDESYVWESSAGGTFTITSTPESD-MKRGTRITLHLKEDQMEYLEPRRLKELIKKHSEFIGYDIELMVEKTTEKEVTDE
Castanea sativa HO847434            TIARFGTKEFMEALAAGADVSMIGQFGVGFYSACLVAEKVIVTTKHNDDEQYVWESQAGGSFTVTRDNFGEVLGRGTKITLYLKEDQLEYLEERRLKDLIKKHFEFISYPISLWIEKTTEKEIFDD 126
Glycine max FJ969431.1              TIARSGTKEFMEALAAGADVSMIGQFGVGFYSAYLVAEKVIVTTKHNDDEQYVWESQAGGSFTVTRDNTGEVLGRGTKITLYLKEDQLEYLEERRLKDLIKKHSEFISYPISLWIEKTTEKEISDD 126
Ricinus communis XM_002532131.1    TIARSGTKEFMEALAAGADVSMIGQFGVGFYSAYLVAEKVIVTSKHNDDEQYVWESQAGGSFTVTRD-SGENLGRGTKITLHLKEDQLEYLEERRLKDLIKKHSEFISYPISLWIEKTTEKEISDD 125
Vitis vinifera XM_002273208.1      TIARSGTKEFMEALAAGADVSMIGQFGVGFYSAYLVAEKVIVTTKHNDDEQYVWESQAGGSFTVTRDTSGERLGRGTKITLHLKEDQLEYLEERRVKDLIKKHSEFISYPISLWIEKTTEKEISDD 126
Populus trichocarpa XM_002299012.1 TIARSGTKEFMEALAAGADVSMIGQFGVGFYSAYLVAEKVIVTSKHNDDEQYVWESQAGGSFTVIRDTSGEPLGRGTKIVLYLKEDQLEYLEERCLKDLVKKHSEFISYPISLWIEKTTEKEISDD 126
Arabidopsis thaliana NM_124985.4   TIARSGTKEFMEALAAGADVSMIGQFGVGFYSAYLVADKVVVTTKHNDDEQYVWESQAGGSFTVTRDTSGETLGRGTKMVLYLKEDQLEYLEERRLKDLVKKHSEFISYPISLWIEKTIEKEISDD 126
                                    **** *************************** ***:**:**:******************** **  ** ******:.*:************ :***:*** ************** **** **
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H

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pfam00447, HSF DNA-binding, 3E-03      WEFSHPNFKRGDKELLSKIKRRKSEK
Populus trichocarpa EF147879.1      PDRWEFANEFFKKGEKHLLCEIHRRKTAQP-QVAINQHHHHQHHPHSPFGVNGP----SFFPFSSRTSISPS-DSDEQANNN--WCDS--PPLTSPPRGVAS-----ATVIGGGGGYNSS 105
Ricinus communis XM_002510154.1     PDRWEFANEFFKKGEKHLLCEIHRRKTAQP-QVAIN---HHHHHPHSPLGVNGP----SFFPFSSRVSISPS-ESDEQPNNNNNWCDS--PPLTSPRGGVPN-----ASVINGGGGYNSS 104
Castanea sativa HO847412            PYRWEFANKFFKKGEKHLLCEIDTRKTGQP-QVAIN-QHHHHHHPHSPLGVNGPS-CPSFFPFSDRVSISPS-DSDEQAK----WCDS--PPLLSSPRG------------GLGGNYNNS 98
Vitis vinifera XM_002284800.1       PDRWEFANEFFKKGEKHLLCEIHRRKTSQP-QVPMN----HHHHHHSPLGVNAG---PGFFPFPGRVSISPP-DSDDQAN----WCDS--PTLSSPTAATG--------VSVVSGGYNSS 97
Glycine max Z46955.1                PDRWEFANEFFKKGEKHLLCEIHRRKTAQP-QQGIMN--HHHHHAHSPLGVNVN--VPTFFPFSSRVSISTSNDSDDQSN----WCDS--PPRGATSLVNG----------AAAANYNTS 99
Malus x domestica HM122596.1        PDRWEFANEFFKKGEKHLLCEIHRRKTAQPHQVGLS----HHHHHHSQLGMNGHHHHPGFFPFPSPGSISPS-DSDEQPN----WCDSDSPPLLSPTGGINTNINSNNNNFMNINNNNTT 111
Arabidopsis thaliana NM_103602.2    PDRWEFANEFFKRGEKHLLCEIHRRKTSQMIPQQHSP-FMSHHHAPPQIPFSGG----SFFPLPPPRVTTPE----EDHY----WCDD--SPPSRPRVIP------------QQIDTAAQ 93
                                    * ******:***:*********. ***.*            :**  . : ..       ***:.     :.     ::      ***.  ..   .                   .

Populus trichocarpa EF147879.1      VFALSEDNERLRRSNNMLMSELAHMKKLYNDIIYFVQNHVKPVAPSN--SYSSSLLLCGP---APYATANPVTSNGSLAQKPLNQLLGYYPTTAPNNPKQAPQ--VHVLNSP----- 210
Ricinus communis XM_002510154.1     VTALSEDNERLRRSNNMLMSELAHMRKLYNDIIYFVQNHVKPVTPSN--SYPSSLLLC-----APTSTATPFTSNGSLIQKPLNQLLGYYNPPS-TNSKLVPQ--VQVLNSP----- 206
Castanea sativa HO847412            VTALSEDNERLRRSNSMLMTELAHMRKLYNDIIYFVQNHVKPVAPSN--TYPSSLLLCS----PQATAATPIGSNSPMVQKPLNQLFGYCHNNNPNQAFQN----THVMNSP----- 200
Vitis vinifera XM_002284800.1       VTALSEDNERLRRSNSILMSELAHMRKLYNDIIYFVQNHVKPVAPSN--SYPSSLVICNPPSSATTAAATITCSSTAMVQKPLNQLLGCYQSNP-KQAPRNHG--MGSFNSST---- 205
Glycine max Z46955.1                VTALSEDNERLRRSNNMLMSELAHMKKLYNDIIYFVQNHVKPVAPSN--SYSSSLLLCN----TPSATPISSANNVSMMQRPMNQLLGYYSTNPKQGATQITQPQTYVVNSP----- 205
Malus x domestica HM122596.1        VAGLAEDNERLRRSNTMLMSELAHMRKLYNDIIYFVQNHVKPVAPSN--SYPSSMLLCN----PQPPKHNGPNSN-------LNQLLGYYPAAPPPNAKQNPH---HIMNSSSPMSN 212
Arabidopsis thaliana NM_103602.2    VTALSEDNERLRRSNTVLMSELAHMKKLYNDIIYFVQNHVKPVAPSNNSSYLSSFLQKQQ---QQQPPTLDYYNTATVNATNLNALNSSPPTSQSSITVLEDDHTNHHDQSNMRK-- 205
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