

**Table S2 ADK amino acid sequences of different plant species for phylogenetic tree construction**

**Arabidopsis (*Arabidopsis thaliana*)**

>At5g50370

MATSSAASVDMEDIQTVDLMSSELLRRMKCASKPDKRLVFIGPPGSGKGTQSPVIKDEFCL  
CHLSTGDMLRAAVAAKTPLGVKAKEAMDKGELVSDDL VVGIMDEAMNRPKCQKGFILD  
GFPRTVTQAEKLDDEMLNRRGAQIDKVLNFAIDDSVLEERITGRWIHPSSGRSYHTKFAPPK  
VPGVDDLTGEPLIQRKDDNADVLSRLDAFHKQTQPVIDYYAKKENLVNIPAEKAPEEVT  
KVVKKVVST

>AT5g63400

MATGGAAADLEDVQTVDLMSSELLRRLKCSQKPKRLIFIGPPGSGKGTQSPVVKDEYCLC  
HLSTGDMLRAAVASKTPLGVKAKEAMEK GELVSDDL VVGIIIDEAMNPKKCQKGFILDGFP  
RTVTQAEKLDDEMLKRRGTEIDKVLNFAIDDAILEERITGRWIHPSSGRSYHTKFAPPKTPGV  
DDITGEPLIQRKDDNADVLSRLAAFHSQTQPVIDYYAKKAVLTNIQAEKAPQEV TSEVK  
KALS

>AT5g47840

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LKIMISGAPASGKGTQCELITHKYGLVHISAGDLLRAEIASGSENGRRAKEHMEK GQLVPD  
EIVVMMVKDRLSQTDSEQKGWLLDGYPRASQATALKGFQFPDLFIVLEVPEEILIERVV  
GRRLDPVTGKIYHLKYSPPETEIAVRLTQRFDDTEEKAKLRLKTHNQVSDVLSMYDDIT  
IKIEGNRSKEEVFAQIDSSSELLQERNTAPSSLLS

>AT5g35170

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KEFMNSGSLVPDEIVIAMVAGRLSREDAKEHGWLLDGFPRSFQAQSLDKLVNKPDI FILL  
DVPDEILIDRCVGRRLDPVTGKIYHIKNYPPESEIKARLVTRPDDTEEKVKARLQIYKQNS  
EAIISAYS DVMVKIDANRPKEV VFEETQTLLS QIQLKRMIKTDKASPVQDKWRGIPTRLNN  
IPHSRDIRAYFYEDVLQATIRSIKDGNTLRVDINPELNPEMDVYRIGTLMELVQALALSFA  
DDGKRKVKVCVQSMGEGALAGMPLQLAGTRKILEYMDWGDDETLGTFVKLGAIGGKE  
VDEEDDMFILVAPQNAVGNCIIDDLQAMTTAAGKRPVVLINPRLKDLPASSGIMQTMGRE  
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>AT3g01820

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LVPKSVV FALLSKRLEEGYARGETGFILHGIPRTRFQAETLDQIAQIDL VVN LKCS EDHLVN  
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>AT2g39270

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EFIISLLSKRLQAGKDKGESGYILDGFPRTVTQAEILEGVTNIDLVINLKLREEALLAKCLGR  
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>AT2g37250

MARLVVARSSSLFGFGNRFYSTSAEASHASSPFLHGGASRVAPKDRNVQWVFLGCP  
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LEAGEARGESGFILDGFPRTMRQAEILGDVTDIDLVVNLKLP EEVLVDKCLGRRTCSQCGK  
GFNVAHINLKGENRPGISMDPLLPPHQCMSKLVTRADDTEEVVKARLRIYNETSQPLEE  
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Tomato (*Solanum lycopersicum*)

>SIADK1

MGTVVESANQGAVSLPTNKKVTVIFVLGGPGSGKGTQCANIVEHFGYTHLSAGDLLRAEI  
KSGSENGTMISNMIKEGKIVPSEVTVKKLQRAIQENGNKFLIDGFPRNEENRAAFELVTGI  
EPEFVLFFDCPEAEMEKRLLGRNQGREDDNIETIKKRFNVYMESSLPVIEHYNSKGKVRKI  
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>SIADK2

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>SIADK3

MALLSRIRAAAKPLIRTESLSYGSAAAQLVDYDYDDYEYEEFQNRSCVMEESEGSVPRR  
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VPEEVIFGLLSKRLEEGYCSGESGFILDGIPRSKIQAEILDKTVDIDLVLNLKRAEDLVSKKD  
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>SIADK4

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AIESAENRKLIDGFPRESENRVAYERIIGAEPNFVLFDCPEEVMVKRVLNRNEGRVDDNE  
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>SIADK5

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S

>SIADK6

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>SIADK7

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>SIADK8

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RAKEYMDKGQLVPNEIVVTMVKERLMCPDSQEKGWLLDGYPRSLSQAVALKFQPNLFI  
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QNVESVLSMYKDTIFQVDGVSKEEVFAQIDGALTQLEAKE

>SIADK9

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>SIADK10

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AKGEAGFILDGFPRTVRQAEILTEVTDIDLVVNLKLPERVLVEKCLGRRICSECGKNFNVAS  
IDVAGENGAPRISMAPLNPPSQCISKLITRADDTEAIVKERLSIYWDKSPVEDFYRSQGKL  
LEFDLPGGIPESWPKLLEVLNLDEQEHLKLSAAA

>SIADK11

MAMIASVTMNFPHISTHNISSNQTFSPICTNPNPSNFSSSSSSSIPISSNSIRLSSSIAYSEQLIAS  
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GSERFLLQYWSYATQILFSQTNGLIEQQKFVFCGFLVHISTGDLLRAELSAAGTDIGNKAKE  
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NIGSIGGKEVEKQDDVFILVAPQNAVGNCCIIDDMRAMTDAAGNRPIILVNPCLKDLPASSGI  
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**Potato (*Solanum tuberosum*)**

>Sotub04g013920

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>Sotub09g006620

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>Sotub03g005270

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S

>Sotub05g016010

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KLDEMLQKQGAKIDKVLNFAIDDAILEERITGRWIHPSSGRSYHTKFQPPKVPGVDDVTGE  
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>Sotub01g028550

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>Sotub08g022760

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>Sotub11g015570

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>Sotub06g024300

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>Sotub03g020180

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>Sotub12g007490

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**Rice (*Oryza sativa*)**

>Os12t0236400

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>Os11t0312220

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KKTRLQIDINIPELNPEMDVYRIGTLMELVRELSLFSADDGKRVKVCVQGSMEGQGAFAFAGI  
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>Os08t0118900

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TM

>Os08t0109300

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EFMEKGQLVPDEIVVMVKERLLQPD AQEKGWLLDGYPRSYSQAMALETLNIRPDIFILL  
DVPDELLVERVVGRRLDPVTGKIYHLKYSPPENEEIASRLTQRFD DTEEKVKLRLQTHYQN

VESLLSIYEDVIVEVKGDALVDDVFAEIDKQLTSSLDKKTEMVASA

>Os07t0412400

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>Os03t0130400

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LGRRICGQCCKNFNLACIDVKGENGLPPIYMAPLLPPNNCMSKLITRADDTEEVVRNRLQI  
YNDMSQPVEGFYRQQGKLEFDLPGGIPESWPKLLHVLNLEDQEEMKLATA