ATG18

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| **AtATG18a** | at3g62770 |
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| **AtATG18b** | at4g30510 |
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| **AtATG18c** | at2g40810 |
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| **AtATG18d** | at3g56440 |
| **AtATG18e** | at5g05150 |
| **AtATG18f** | at5g54730 |
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| **AtATG18g** | at1g03380 |
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| **AtATG18h** | at1g54710 |

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| **PvATG18a** | phvul.001g205000 |
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| **PvATG18b** | phvul.003g152800 |
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| **PvATG18c/I** | phvul.009g041700 |
| **PvATG18c/II** | phvul.007g196400 |
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| **PvATG18f/I** | phvul.011g140900 |
| **PvATG18f/II** | phvul.005g091300 |
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| **PvATG18g/I** | phvul.001g146700 |
| **PvATG18g/II** | phvul.007g183100 |

>AtATG18g.I.AT1G03380.1

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LRSHSYVYVLRFRSSVCMIRCSSRVVAVGLANQIYCVDALTLENKFSVLTYPVPQPVRQG

TTRVNVGYGPMAVGPRWLAYASKSSMTMKTGRLSPQTFTSSPSLSPSSSSGGSSFMARYA

MESSKQLANGLINLGDMGYKTLSKYCQDMLPDGSTSPASPNAIWKVGGVSGSDAENAGMV

AVKDLVSGALVSQFKAHTSPISALCFDPSGTLLVTASVCGNNINVFQIMPSRSHNAPGDL

SYEWESSHVHLFKLHRGITSAIVQDICFSQQSQWVAIISSKGTCHIFVLNSSGSDAAFQP

CEGEEPTRLPASSLPWWFTQSLSSNQQSLSPPTAVALSVVSRIKYSSFGWLNTVSNATTA

ATGKVFVPSGAVAAVFHKSVTHDLQLNSRTNALEHILVYTPSGHVVQHELLPSVCTESPE

NGLRVQKTSHVQVQEDDLRVKVEPIQWWDVCRRSDWLETEERLPKSITEKQYDLETVSNH

LTSHEDACLSLDMNSHFSEDKYLKSCSEKPPERSHCYLSNFEVKVTSGMLPVWQNSKISF

HVMDSPRDSSSTGGEFEIEKVPAHELEIKQKKLLPVFDHFHSTKATLEDRFSMKCYHTSA

TGSHQVNGKICQDIINCHSKPGSIESAESSEEGSTKQMENLHDSDHMSNSIKSSLPLYPT

VNGIYKEIEKNNANGWMEKPVTAKLSTLKETRITNGFTTPPILTDSVNEQMLSTGKPPMG

FGFALHEEHCKAVADPKEEHLKKKLDEVTNVHHLNVNNNNTEKLQGDKMVHGMVSFVGD

>AtATG18h.I.AT1G54710.1

MKSNSKVNINNNGDNHNQTKNNGTNGFLPNSLKFISTCIRTASSGVRSASASVAASLSSD

SHELKDQVLWSSFDRLHTSESSFKNVLLLGYTNGFQVLDIDDSNDVTEFVSRRDDPVTFL

QMQPLPAKCDGVEGFRSSHPILLAVADEAKGSGPIVTSRDGSVRNGYEDPLALSPTVVRF

YSLRSHNYVHVLRFRSTVYMVRCSPRIVAVGLGSQIYCFDALTLENKFSVLSYPVPQLGN

QGISGVNVGYGPMAVGARWLAYASNSPLSSSIGRLSPQNVTPPGVSPSTSPNNGNLVARY

AMESSKHLAAGLLNLGDKGYKTISKYCQDLKHDGPGPSLSSSPGRKVGRVGSHSAESDVV

GTVIVKDFESRAIIAQFRAHTSPISALCFDPSGTLLVTASIHGNNINVFRIMPTPTKNGP

GAQSYDWSSSHVPLYKLHRGMTSAVIQDICFSSYSQWIAIVSSKSTCHIYVLSPFGGENV

LEIRNSQFDGPTLAPTLSLPWWSSPSFMTTHFSYPPPASVTLSVVSRIKCNNFFHAASSV

VGKPTFPSGCLAAVFHQSVPQESQSSSPALDYLLVYTPSGHVVQYKLIPSLGGDQAESNT

RNGATSGLTSEEELRVKVEPVQCWDVCRRADWPEREENICGLTYGGRKNAELTVDTSDSE

DQTKPLEKHHVYLANAEVLINSGRKPIWQNSEISFYPMYPPDSDGKNLNSHQGGGETEIG

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YPEDEERRGSAHFALTPNQNPHTGIVTFKQPVVSISSAVKDTDYIDDDAHVLPKNASLPA

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DAPSDGKLDDDEDDDMLGGVFAFSEEG

>AtATG18c.I.AT2G40810.1

MSSTVSNPQGILQPGSFLLPESESMKKEEAELVSVCWNQDSSCFAAGTSHGFRIYNCEPF

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IRAVKLRRDRIVVVLEHKIYVYNFMDLRLLHQIETQANPRGLCCLSHHSNTSVLACPGLN

RGEIRVEHFGLNMVQIINAHDSSIACMTLTLDGLLLATASTKGTLIRIFNTMDGTRLQEV

RRGVDRADIYSIALSPNVQWLAVSSDKGTVHIFSLRVRVVGEDSYSTENGALLTQQNYSN

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>AtATG18d.I.AT3G56440.1

MDPRRNFQPGGYDSRNTFTSGSFGPPDFGESDEAELVSVSWNQDYSCFAAGTSHGFRIYN

CEPFKETFRRELKDGGFKIVEMLFRSNILALVGGGPNSQYPSNKVLIWDDHQGRCISEFT

FRSEIRAVKLRRDRIVVVLEHKIYVYNFMDLRLLHQIENMANPRGLCCLSHHMNTSVLAC

PGIRRGEVRVEHFGLNMVQIINAHDSNIACMTLTLDGLLLATASTKGTLIRIFNTMDGTR

LQEVRRGVDRADIYSIALSPNVQWLAVSSDKGTVHIFSLRVRVIGEDAYSTEHETSSNSL

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GSFYRCNFDPVNGGEMTQLEHFHFLKQDSPR

>AtATG18a.I.AT3G62770.1

MATVSSSSWPNPNPNPDSTSASDSDSTFPSHRDRVDEPDSLDSFSSMSLNSDEPNQTSNQ

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AVVEMLFRCNILALVGGGPDPQYPPNKVMIWDDHQGRCIGELSFRSDVRSVRLRRDRIIV

VLEQKIFVYNFSDLKLMHQIETIANPKGLCAVSQGVGSMVLVCPGLQKGQVRIEHYASKR

TKFVMAHDSRIACFALTQDGHLLATASSKGTLVRIFNTVDGTLRQEVRRGADRAEIYSLA

FSSNAQWLAVSSDKGTVHVFGLKVNSGSQVKDSSRIAPDATPSSPSSSLSLFKGVLPRYF

SSEWSVAQFRLVEGTQYIAAFGHQKNTVVILGMDGSFYRCQFDPVNGGEMSQLEYHNCLK

PPSVF

>AtATG18b.I.AT4G30510.1

MANLSSLPSPIYCVSFNQDNSGFAISWKDSFKIFDSTTGRLCYERAAGAFVIVEMLYSSD

LLAIVGAGEQASLSPRRLCLFKTTTGLPLRELNFLTSILAVRMNKKRLVVVLLEKTFVYD

LNTLVMLDTIDTVPNPKGLSAFSPSLEGCYLAVPASTTKGSVLVYNVMDLQSHSEIDAHR

SPLAAIALSSNGMYIATGSEQGTLIRVHLVSEATKSYSFRRGTYPSTIYSLSFGPSTQLP

DILIATSSSGSIHAFSLSLAINQRSKRSTSFLGSVLPDSVSDALDPAHHHVLQNAVSSGI

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FSITTG

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MNSIVSTVRGILTLSRSETFDSPRDEAKSDLKVLSVAWNQVCSGFIVGTNHGFNVYSCKP

MIKKSISRAPHESGFKVAEMLFLSNLFAFVGNGYNNSEYPPNKVFVWDDYRNCCLSELTF

KSEVIAVKLAREHVVVVLKQNIYVYTFNNLKVDRVIETLMNPKGLCCVTHVESKAVLACP

GFHPGQVQVHDLRWNVIKFIKAHDSAIACMTLTLDGSLLATASTKGTLIRIFNAVDGTLL

QEFRRGVERAEIYNVAISSNLKWVAASSEKGTLHVFRLRPDILSFDPASSSSFIRVILPK

YLYENERSFAQFSLPASTKFIVGFGSENTVLLVGIDGSFRRCKFDHADGGQMVELEHKYF

FSLQETGNTMVGGV

>AtATG18f.I.AT5G54730.1

MKKNGDGSSPKSPDGVVSRSARSSFRALSNCLKVISSGASTVARSAVSAASSAVESHHDQ

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NSGVLDDRFYKSRPLLAVCGDYSSKKISSDNPGSETVATPTNVYVYSLKSQSYVHTLKFR

ATIYSVRCCSRIVAVLQAAQIDCFDAATLEMDYRIVTNSIVCGSLGVGYGPLAVGPRWIA

YSGSRIATSSSAIFTSEIVSLSTSSPSVAQFARDSSKQLASGIANLGDKGYRSLTKYCSE

VLPNPYIPGLKGIGVGNEKVADAESIGMVIVKDITNKSVITQFKAHKSPISALCFDQSGL

LLVTASIQGHNINVFRIMPTISTSRAVKTTTFAHLFRLQRGFTNAVIQDICFSKDSNLIV

VGSSRGTSHLFEINPEKEGDAPVPMSAISRIRSGNSSGWIGTVSGAASAAAGMVAGSVPG

TVTSTFCYCDEKSNNNYYGSVADMCSKTNLLVFAPSGCMTQYALREHQVGVGHETAAMTG

FDSESGLETEGKLAVDPIRRWSMIQNQSRRETHDPHSDIYGGGTSVDSKSKVFPEVVRKQ

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GGGGREMEIEGIQTRTIEARTRDLVPVWGYLQSPRSQQVINESIQSPSTTTQDDKVATLE

GHGTETDLGAVHSEEQTQSEPVDKEGIAEEKNHSEDEDEEQVD