

Total 154 sequences (149 plant) All have DEAD or DExD

56 At sequences (From Mingaetal2004) Not the two pseudogenes *AtRH54* and 55)

5 E. coli sequences

47 Rice best homologues

46 Maize best homologues (4 were added)

>AtRH01

MDSVVPWMRAPVDVSNVENCALDTLPCLNPCLKKALENMGISSLFPVQVAVWHETIGPGG
FERDICVNSPTGSGKTLASYALPIVQLLASRPVRCRLRALVVLPTRDALQVKDVFDAIAPA
VGLSVGSAVGQSSIAGEISQLIKTPKLDAGICYDPDDLSONLESASVDILVATPGRLMDHI
NNTKGFTEHLRYLVVDETRLLREAYQSWLPTVLQTLTQTSDDSLFSPFTPFVPSAFGSL
QTVRRQSVVERGFKGPYPRLVKMLVSATLTQDPSKLIQLDLHHPFLFMTTGGSRYLPEKL
ECLRLICETGMKPVYLVALLKSWEGEKCIIFTSSVETTRRLCKLLNFFGDPKIKAKEYSG
GLNQSLRSKELKAFRKGDIVQLVASDALTRGMDVKGVNTVINYDMPFFAKTFIHRAGR
RAGQAGRCFTLLSNHEVRRFSKLLLEKVGSDSCPIYPIPTSLDSIRATYTPALEKLELV
ESEAPKKGRQAFRHNSRTGNSQTKLNKPRSEA

>AtRH02

MATANPGRGGRRGGGAMDDDKLVFETTDGIEPITSFNMDGIKEDVLRGVYEEYGFKEKPSA
IQQRVMPILQGRDVIQAQSGTGKTSMIALSVCQVVDTSREVOALILSPTRELATQTE
KTIQAIGLHANIQAACIGGNSVGEDIRKLEHGHHVVSQVTPGRVCDMIKRRSLRTRAIKL
LILDESDEMLSRGFKDQIYDVYRYLPPDLQVCLVSATLPHEILEMTSKFMTEPVKILVKR
DELTLLEGIKQFFVAVEKEEKWFDLTLCDLYDTLTITQAVIFCNTKRVVYDYLSEKMRSHNFT
VSSMHGDMPPQKERDAIMNEFRSGDSRVLITTDVWARGIDVQQVSLVINYDLPNNRELYIH
RIGRSGRFRKGVAINFVKSDDIKILRDIEQYYSTQIDEMPMNVADLI

>AtRH03

MASTVGVPSLYQVPHLEISKPNKRSNCLSLSLDKPFFFTPLSLVRRTRRIHSSLLVPS
AVATPNSVLSSEAFKSLGLSDHDEYDLGDNNNVEADDGEELAI SKLSLPQRLEESLEKR
GITHLFP IQRAVLVPALQGRDIIARAKTGTGKTLAFGIP I IKRLTEEAGDYTAFRRSGR
PKFLVLAAPTRELAKQVEKEIKESAPYLSTVCVYGGVSYTIQQSALTRGVVVVGT
DLIEGRSLKLGVEVEYLVLDEADQMLAVGFEEAVESILENLP TKRQSMLFSATMPTWV
ARKYLDNPLNIDLVDGQDEKLAEGIKLYAIATTSTSKRTILSDLITVYAKGGKTIVFTQT
KRDADEVSLALSNSIATEALHGDISQHQRETLNAFRQ GKFTVLVATDVASRGLDIPNVD
LVIHYELPNDPETFVHRSGRTGRAGKEGSAIIMHTSSQKRTVRSLE RDVGCHEFFIS
VGDLLESSADQVVATLNGVHPDSIKFFSATAQKLYEEKGTDALAAALAHLSGFSQPPSSR
SLLSHEKGVWTLQLIRDPTNARGFLSARSVTGFLSDLYRTAADEVGKIFLIADDRIQGAV
FDLPEEIAKELLEKDVPEGNLSMITKLPPLQDDGPPSSDNYGRFSSRDRMPRGGGSSRGS
RGGRRGSSRRGRDSWGGDDDRGSRSSGGSSWSRGGSSSRGSSDDWLI GGRSSSSSRAPS
RERSFGGSCFICGKSGHRATDCPKRGF

>AtRH04

MAGSAPEGTQFDARQFDQKLNEVLEGEQDEFFTSYDDVHESFDAMGLQENLLRGIYAYGFE
KPSAIQQRGIVPFC KGLDVIQQAQSGTGKTATFCSGVLQQLDFSLIQCALVLAAPTRELA
QQIEKVMRALGDYLGVKVHACVGGTSVREDQRILQAGVHVVGTPGRVFDMLKRQSLRAD
NIKMFVLDEADEMLSRGFKDQIYDIFQLLPKIQVGVFSATMPPEALEITRKFMSKPVRI
LVKRDELTLLEGIKQFYVNVEKEEKLETLC DLYETLAITQSVIFVNTRRKVDWLTDKMRS
RDHTVSATHGDMQNTDRIIMREFRSGSSRVLITTDLLARGIDVQQVSLVINFDLPTQPE
NYLHRIGRSGRFRKGVAINFVTRDDERMLFDIQKFYNVVVEELPSNVADLL

>AtRH05

MAGQKQELPVSGEPLAVESPMNTNKKKKKSKKNKHTEENHEVEEVPQEV TNGVEEELS
NKEKKKKRREEKESEKNKKKDVPEKKLEAEDLGESESEQQKVVVTGKGVEEAKYAALKTF
FAE SNLPENVLDCCKTFEKPSPIQSHTWPFLLDGRDLIGIAKTGSGKTLAFGIPAIMHVLKKN
KKIGGSKKNPTCLVLSPTRELAVQISDVLREAGEPCGLKSI CVYGGSSKGPQISAIRS
GVDIVIGTPGRLRLDIESNVLRSLSDVSVVLDVLEADRMLDMGFEEPVRFILSNTNKVRQMV
GVFSATWPLDVHKLAEQEFMDPNPKVIIGSVDLAANHDVMQIIEVLDERARDQRLIALLEK
YHKSQKNRVLVFALYKVEAERLERFLQQRGWKAVSIHGNAQSERTRSLSLFKEGSCPLL
VATDVAARGLDIPDVEVVINYTFPLTTEDYVHRIGRTGRAGKKGVAHTFFFTPLNKGLAGE
LVNVLREAGQVVPADLLKFGTHVKKKESKLYGAHFKEIAADAPKATKITFDNSDDED

>AtRH06

MNNNNNNRGRFPFGIGAGPGDPNFQSRPNPPQPQQYLQSRTPFPQQPQPQPQQYLQS
QSDAQQYVQRGYPQQIQQQQQQLQQQQQQQQQQEQQWSRRAQLPGDPSYIDEVEKTVQSE
AISDSNNEDWKATLKLPPRDNRQTEDVTATKGNFEDYFLKRDLLRGIYEKGFEPKPSPI
QEESIPIALTGSDILARAKNGTGKTAFACTPLEKIDPENNVIAVILVPTRELALQTSQ
VCKELSKYLKIEVMVTTGGTSLRDDIMRLYQPVHLLVGTTPGRILDLAKKGVCVLKDCA
VMDEADKLLSVEFQPSIEELIQFLPESRQILMFSATFPVTVKSFKDRYLKPYIINLMDQ
LTLMGVTTYAFVEERQKVHCLNTLFSKLQINQSIIFCNSVNRVSELLAKKITELGYS
CFYIHAKMVQDHRNRVFDHFRNGACRNLVCTDLFTRGIDIQAVNVVINFDFPRTSESYL
HRVGRSGRFGHLGLAVNLVTYEDRFKMYQTEQELGTEIKPIPSLIDKAIYCQ

>AtRH07

MPSLMLSDKKEEKKMKKKMALDTPELDSKKGKKEQKLLKLSDSDEESEEKKKSKKKDKKRK
ASEEEDEVKSDSSSEKKKSSKVKLGVEDVEVDNPNNAVSKFRISAPLREKLNKANGIEALF
PIQASTFDMVLDGADLVGRARTGQKTLAFVLPILSLVNGPAKSKRKMGYGRSPSVLVL
LPTRELAKQVAADFAYGGLSLSSCCLYGGDSYPVQEGKLRGVDIVVGTTPGRIKDHI
EQNLDFSYLQFRVLDEADEMLRMGFVEDVELILGKVEDSTKVQTLFSLATLPSWVKNIS
NRFKRDQKTIDLGVNDKMKASNSVRHIAIPCNKAAMARLIPDIISCYSSGGQTIIFAETK
VQVSELSGLLDGSRALHGEIPQSQREVTLGAFRNGKFATLVATNVAARGLDINDVQLIIQ
CEPPREVEAYIHRSGRTGRAGNTGVAVTLYDSRKS SVSRIEKEAGIKFEHLAAPQPDEIA
RSGGMEAAEKVKQVCDSSVPAFLEAAKELLETSGLSAEVLAKALAKTAGFTI IKKRSL
LTSMENYVTLHLEAGKPIYSPSFVYGLLRVLPDDKVEMIEGLSLTADKTGAVFDVKQSD
LDFIAGAQSAGSMSLEVVKVMKPKLQEREPLPQKRFGGGGRGNRFGGGGGNRFGGGGGR
RGGSGGRGQRY

>AtRH08

MNNRGRYPFGIGAGRGAFNPNPNYQSRSGYQQHPPQYVQRGNYAQNHQQQFQQAPSOPH
QYQQQQQQQQWLRGQIPGGNSNGDAVVEVEKTVQSEVIDPNSEDWKARLKLPA
PDRYRTEDVTATKGNFEDYFLKRELLMGIYEKGFERPSPIQEESIPIALTGRDILARAKNGTG
KTA AFCIPVLEKIDQDNNVIAVIVPTRELALQTSQVCKELGKHLKIQVMVTTGGTSLK
DDIMRLYQPVHLLVGTTPGRILDLTKKGVCVLKDCSVLMDEADKLLSQEFQPSVEHLISF
LPESRQILMFSATFPVTVKDFKDRFLTNPYVINLMDLTLKGITQFYAFVEERQKIHCLN
TLFSKLQINQSIIFCNSVNRVSELLAKKITELGYS CFYIHAKMLQDHRNRVFDHFRNGACR
NLVCTDLFTRGIDIQAVNVVINFDFPKNAETYLHRVGRSGRFGHLGLAVNLITYEDRFNL
YRIEQELGTEIKQIPPHIDQAIYCQ

>AtRH09

MISTVLRSSILGTSRRTLAASVTSINAALFHNLA PAAATVSDLANGATNVKSLPSNSSPF
GVKVRDFHVKSVPSEFRSSIVSSAGFAAQEYAPSYENDGGIGDSESVGSSGGGDGLAIAD
LGISPEIVKALKGRGIEKLFPIQKAVLEPAMEGRDMIGRARTGTGKTLAFGIPIDKIIK
FNAKHGRGKNPQCLVLAPTRELARQVEKEFRESAPSLDTICLYGGTPIGQMQRELNYGID
VAVGTTPGRIIDL MKRGALNLSEVQFVVLDEADQMLQVGF AEDVEIILQKLP AKRQSM
MFSATMPSWIRSLTKKYLNNPLTIDLVDSDQKLDAGITMYSIAADSYGRASIIGPLVKEHGK
GGKCI VFTQTKRDADRLAFGLAKSYKCEALHGDISQAQRERTLAGFRDGNF
SILVATDVARGLDVPNVDLVIHYELPNNTETFVHRTGRAGKKSAILIHGQDQTRAVK
MIEKEVGRSFNELPSIAVERGSASMFEGVGARS GSGGSGGGYGSYSSSGRSGGGSYGGY
GGSSGRSGGGGSYGGSGSSSRYS GSGSDRSSGFGSFGSGSSGGFSDRSSQSSGRSS
FGGFGSNDGKRSY

>AtRH10

MEEENEVVKTF AELGVREELVKACERLGWKNPSKIQAEALPFALEGKDVIGLAQTGSGKT
GAFaipilqALLEYVYDSEPKKGRDPDPAFFACVLSPTRELAIQIAEQFEALGADISLRC
AVLVGGIDRMQQTIALGKRPHVIVATPGRLWDHMSDTKGFSLKSLKYLVLDEADRLLNED
FEKSLNQILEEIPLERKTF LFSATMTKKVRKLQRACLRNPVKIEAASKYSTVDTLKQYR
FVAAKYKDCYLVYILSEMPESTSMIFTRTCDGTRFLALVLRSLGFRAIPISGQMTQSKRL
GALNKFKGECNIVCTDVASRGLDIPSVDVVINYDIPTNSKDYIHRVGR TARAGRSVG
VGLSLVNQYELEWYIQIEKLIKGLPEYPAEEDEVL SLLERVAEAKKLSAMNMKESGGRKRR
GEDDEESERFLGGNKDRGNKERGGNKDKKSSKFKR

>AtRH11

MSASWADVADSEKAVSQSKPPYVPHLRNRPSEPVAAPLPQNDHAGYGGQPAGSRWAPPS

SGGGGASGGGYRNDGGRTGYGYGAGGGGGGGGGWNNRSGGWDRRERREVNPFGDDAELEPV
FTEQENTGINFDAYEDIPVETSGGDVPPPVNTFADIDLGDALNLRCKYVRPTPVQRH
AIPILLAERDLMACAQTGSGKTA AFCFPIISGIMKDQHVERPRGSRAVYPPFAVILSPTRE
LACQIHDEAKKFSYQTGVKVVVAYGGTPIHQQLRELERGCDILVATPGRLNDLLERARVS
MQMIRFLALDEADRMLDMGFEPQIRKIVEQMDMPRGRVQTMLFSATFPSQIQRLAADFM
SNYIFLAVGRVGSSTDLITQRVEFVQESDKRSHLMDLLHAQRETQDKQSLTLVVFVETKRG
ADTLENWLCMNEFPATSIHGDRTOQEREVALRSFKTGRTPILVATDVAARGLDIPHVAHV
VNFDFLPNDIDDYVHRIGRTGRAGKSGIATAFFNENNAQLARSLAELMQEANQEVPEWLTR
YASRASFGGGKKRSGGRFGGRDFRREGSRSRGGGGGGGGSDYYGGGGYGGGGYGGAPS
GGYGAGVTSAWD

>AtRH12

MNTNRGRYPPGVGTGRGAPPNDYHQSYRQQQPPQDQQYVQRGYSQNPQQMLQQHQQQ
QQQQQWSRRPQLPGNASNANEVVQOTTQPEASSDANGQDWKATLRLPPDTRYQTADVTA
TKGNFEDYFLKRDLLKGIYEKGFEPSPIQEESIPIALTGSDILARAKNGTGKTGAFCI
PVLEKIDPNNNVIQAMILVPTRELALQTSQVCKELSKYLNIQVMVTTGGTSLRDDIMRLH
QPVHLLVGTGPRILDLTKKGVCVLKDCAMLVMDEADKLLSAEFQPSLEELIQFLPQNRQF
LMFSATFPVTVKAFKDRHLRKPYPVINLMDQLTLMGVTQYYAFVEERQKVHCLNTLFSKLQ
INQSIIFCNSVNRVELLAKKITELGYSIFYIHAKMVQDHRNRVHFHEFRNGACRNLVCTDL
FTRGIDIQAVNVVINFDFPRTSESYLHRVGRSGRFGHLGLAVNLVTYEDRFKMYQTEQEL
GTEIKPIPSNIDQAIYCQ

>AtRH13

MVTGDKESSLMKKRNRKSHKRKREEDFERIDSLPWSSSIPIGEDDEGESFSTLFSGSGQL
DGGFLSLEEIDEADYHLTLPTIESEITERKQSPEDDDDTNETVDEMI EGEEAEEDGEGRD
DEDEDEDEETRKKKAKRNRKKEKKKKEKKKKKQKINEAAKNQDASAVSCDGDVTVEEQV
EEEEIPPEFSAWSSMRLHPLLKMSIYRLDFKEPTKI QKACFNVAAYQKDVIGAAETGSG
KTLAFLGLPILQRLLDEREKVGKLYALKGEEAQKYAADGYLRALITPTRELALQVTEHLE
NAAKNLSVKVVPVGGMFSEKQERRLKEKPEIVVATPGRLWELMSAGEKHLVELHLSLFF
VLDEADMVERGHFRELQSILDLLPVTDKPNEGKTQTVKSNDTVNLNPKKRQTFVFSAT
IALSSDFRKKLKRGSKSKQSSSSEVNSIEVL SERAGMRDNVAIDLTTTSLAPKIEES
FIKCEEKEDAYLYILSVHGQGRITVFCSTVTDLRHISGLLKLGLDVCTLFSEMKQRA
RLKSIDRFRASENGILIATDLVARGIDIKNVRTI IHYKLPHSAEVYVHRCGR TARAFADG
CSIALIEPNETSKFYTLCKSFSMESVKIFPLDNSYMPAVRKRLYLARQIYEIERKGSREN
ADRTWLKKAESMELELDDEESEEEERVDNVRQRKATSARLNKLKEELSTLLSHMPQPKKF
SGRYFAGVGVSTLMQNQFVELKKQQAQMIGGDIKRRKLVVINQNCIEPLQAFVLVVTR
C

>AtRH14

MAATAAASVVRYAPEDHTLPKPWKGLIDDRGTGYLYFWNPETNVTQYEKPTPSLPPKFSPA
VSVSSSVQVQQTDAYAPPKDDDKYSRGSERVS RFSEGGRS GPPYSNGAANGVGD SAYGAA
STRVPLPSSAPASELSPEAYSRHEITVSGGQVPPPLMSFEATGFPPPELLREVLSAGFSA
PTPIQAQSWPIAMQGRDIVAIAKTGSGKTLGYLIPGFLHLQIRNDSRMGPTILVLSPTR
ELATQIQEEAVKFRSSRISCTCLYGGAPKGPQLRDLERGADIVVATPGRLNDILEMRR
SLRQISYLVLDEADRMLDMGFEPQIRKIVEKEIPTKRQTLMYTATWPKGVRKIAADLLVNP
AQVNI GNVDL VANKSITQHIEVVAPMEKQRRLEQILRSQEPGSKVIIFCSTKRMCDQLT
RNLTRQFGAAAIHGDKSQPERDNVLNQFRSGRTPVLVATDVAARGLDVKDIRAVVNYDFP
NGVEDYVHRIGRTGRAGATGQAFTFFGDQDSKHASDLIKILEGANQRVPPQIREMATRGG
GGMNKFSRWGPPSGGRGRGGDSGYGGRGSFASRDSRSSNGWRERERSRSPERFNRAPP
SSTGSPRSFHETMMMHR

>AtRH15

MGDARDNEAYEEELLDYEEDEKVPDSGNKVNGEAVKKGYVGIHSSGFRDFLLKPELLRA
IVDSGFEPHSEVQHECIPQAILGMDVICQAKSGMGKTAVFVLSTLQQIEPSPGQVSALVL
CHTRELAYQICNEFVRFSTYLPDTKVSVFYGGVNIKIHKDLLKNECPHIVVGTGPRVLAL
AREKDL SLKNVRHFILDECDKMLESLDMRRDVQEIFKMTPHDKQVMMSATLSKEIRPVC
KKFMQDPMEIYVDDEAKLTLHGLVQHYIKLSEMEKTRKLNLDLDFNQVVFVKS VSR
AAELNKL LVECNFPSICIHSGMSQEERLTRYKSFKEGHRILVATDLVGRGIDIERVNIV
INYDMPDSADTYLHRVGRAGRFGTKGLAITFVASASDSEVLNQVQERFEVDIKELPEQID
TSTYMP

>AtRH16

MGKTKLKPVEDVNSEVVDEVEKAEVEEQNRNDREQEEEQKEEEAPKSFEELGLDSRLIRA
LTKKGIKPTLIQQSAIPYILEGKDVVARAKTGSFKTLAYLLPLLQKLFSAHSVSKKKLA
PSAFILVPSRELCQQVYTEVSSLIELCRVQLKAVQLTSSMSASDMRNALAGLPEILVSTP
ACIPKCF AAGVLEPTAVSESL SILVLDEADLLSYGYEDNLRSVTSIIPRRCQCLLMSAT
TSSDVEKLLKLLILHNP IVLTLTEDNDKEEAVPSNVQQFWISCSAQDKLLHILALLKLEVV
QKKILIFINTIDMGFRLKLFLEKFGIKSAILNGELPQNSRLHILEQFNAGLFDYLIATDD
NSQTKKQKEEAKGEANKENKKNKRSPKLD AEFVVRGIDFKKVHTVINFDMPQSVTGY
IHRIGRTGRAYSSGSSVSLISPDEMEGFEDIKSFSLASDKNKDIDIITPFPLLTENAVESL
RYRAEDVAKSVTKI AVRESRAQDLRNEI INSEKKAHF EANPRDL DLLRHDKPLSKTAPA
PHLKDIPEYLVDAKTQEASKMVKLARAAMGNTRRSGGGGRNNKKNKR SRKGS DPLKTFN
PNGSKRGAVGQKDGKDSSTKKQKTV

>AtRH17

MKRAQQSARETKQEAKDASKAKSGLFASCSFSSLGLDTKLSDQLKERMGEAPTIVQAQA
IPVILSGRDVLVNAPTGTGKTIAYLAPLIHHLQGHSPKVD RSHGTFALVIVPTRELCLQV
YETLEKLLHRFHVIWPGYVMGGEKKAKEKARLRKGISIL IATPGRLLDHLKNTASFVHKN
LRWVIFDEADSILELGYGKEIEQI IKLLGSGQNEQGEEDDIVPKGIQKQNL LLSATLNDK
VNDLAKLSLDDPVMIGLDNNTKLQONLSIESPAAPSDAEDMVIHVNK SANPLSEYGI PS
QLVQRYLRVPCGARLVALLSVLKNL FEREASQKV VVFFSTRDAVDFHYSLLSEFQWPPNS
ETEEEGTKELFLKCKTFRLLHGSMEQEDRRSAFGTFKTEKQAVLLSTDVAARGLDFPKVRC
IIQYDCPGEATEYVHRVGR TARIGEKG EALLFLQPIE IDYLKELKKHGASL TEYPLMKVL
DKFPIPGNMPRIKKVLSLESHPWV I SLQRALES LTYAEPKMKSLAKNAFVSWVRGYAAHK
GELKSI FVVKKLHLGHVAKSFALREQPSLVGKSHHKETMKRKRDERQKQGGKRRKMSG
TGNRSTQKT

>AtRH18

MDSSANINKALTETRFSDLEPPLSGDIEEALNQSDFEFCTPVQAATIPLLCSYKDVAVDA
ATGSGKTLAFVPLVEILRRSTSFPPKPHQVMGVIISPTRELSTQIYNVAQPFVSTLANV
NSVLLVGGREVKADMKIIIEEGCNVLIGTPGR LSDIMERMEILD FRNLEILILDEADRLL
EMGFQRQVNYIISRLPKQRRTGLFSATQTEGVEELAKAGLRNPVRVEVRAKSKSESSQQL
TNSKTPSGLHLEYMECEADKSSQLVDLLIKNSDKKLVFFMTCASVDYWGLVLSKIPAL
KSISLIP IHGDMQNARDKALASFTKASSGALLCTDVAARGLDIPGIDYVVQYDPPQDPN
MFNHRAGR TARLGRQGRAIVFLLPKEEAYVEFMRI RRVPLEERKCS EDASDVIP IIRSA
MKDRAVMEKGLKAFVSVFRAYKEHHC SFIFRWKDL EIGKLAMGYGLLYLPSMSEVKQHRL
SSEGFTPV EGVKFE EIKFKDKYREKQRQONLQVRKEKRQE EKKKGGKRKRVDASASNDPK
KASRKLTKGQRQTIQTAEDEEVMDRDYKLMIKVKKGLIKEDEYERLTGDDDLF

>AtRH19

MAGSAPEGTQFDTRQFDQRLNEVL DGQDEFFTSYDEVHESFDAMGLQENLLRGIYAYGFE
KPSAIQQRGIVPFCKGLDVIQQAQSGTGKTATFCSGVLQQLDYALLQCQALVLAPTRELA
QQIEKVMRALGDYQGVKVHACVGGT SVREDQRILQAGVHV VVGT PGRVFDMLRRQSLRPD
CIKMFVLDEADEMLSRGFKDQIYDIFQLLPKIQGVVFSATMPPEALEITRKFMSKPVRI
LVKRDELTLLEGIKQFYVNVEKEDWKLETCLDLYETLAITQSVIFVNTRR KVDWLTDKMRS
RDHTVSATHGMDQNT RDIIMREFRSGSSRVLITTDLLARGIDVQVSVLVINFDLPTQPE
NYLHRIGRSGRFRKGVAINFVTLDDQRMLFDIQKFYNV VVEELPSNVADLL

>AtRH20

MSRYDSRTGDSTSYRDRSDSGFGGTSSYGSSGSH TSSKKDNDGNESPRKLDLDGLTPFE
KNFYVESPAVAAMTDTEVEEYRKLREITVEGK DIPKPVKSFRDVGFPDYVLEEVKAGFT
EPTPIQSQGWPMAMKGRDLIGIAETGSGK TSYLLPAIVHVNAQPMLAHGDGP IVLVLAP
TRELAVQIQQEASKFGSSSIKTTTCIYGGVPKGPQVRDLQKGV EIVIATPGR LIDMMESN
NTNLRRVTYLVLDEADRMLDMGFDPQIRKIVSHIRPDRQTLYWSATWPKEVEQLSKKFLY
NPYKVIIGSSDLKANRAIRQIVDVI SESQKYNKLVKLEDIMDGSRI LVFLDTKKGCDQI
TRQLRMDGWPALS IHGDKSQAERDWVLS EFRSGKSPIMTATDVAARGLDVKDVKYVINYD
FPGSLEDYVHRIGRTGRAGAKGTAYTFFTVANARFAKELTNILQEAGQKVSP ELASMGRS
TAPPPPGLGGFRDRGSRGWS

>AtRH21

MKRTINEVVGSTSVNTLDSSIAKKPVFLTKKQREELALKRRQDQISEQRVREQLGRPEP
ETEDVSNGDTNRDKDRDRDRDRERDRDRDRDRDRDRDRDRDRDRDRDRDRERERDRERDR

RERDREPDRRNREKEREVEEVKAREKARVEKLVEREKEKELDAIKEQYLGGKKPKKRVIRP
SEKFRFSFDWENTEDTSRDMNVLYQNPHEAQLLFGRGFRAGMDRREQKKQAAKHEKEMRD
EIRKKDGIIVEKPEEAAAQRVREEAADTYDSFDMRVDRHWSDKRLEEMTERDWRIFREDFN
ISYKGSRIIPRPMRSWEESKLTSELLKAVERAGYKKPSPIQMAAIPLGLQQRDVIIGIAETG
SGKTAAFVLPMLAYISRLPPMSEENETEGPYAVVMAPTRELAQQIEEETVKFAHYLGFVRV
TSIVGGQSIIEEQGLKITQGCEIVIATPGRLIDCLERRYAVLNQCNYVVLDEADRMIDMGF
EPQVAGVLDAMPSSNLKPENEEELDEKKIYRTTYMFSATMPPGVERLARKYLNRNPVVVT
IGTAGKTDLISQHVIMMKESEKFFRLQKLLDELGEKTAIVFVNTKKNCDISIAKNLDKAG
YRVTTLHGKKSQEQREISLEGFRAKRYNVLVATDVVGRGIDIPDVAHVINYDMPKHIEMY
THRIGRTGRAGKSGVATSFLTLDHTEVFYDLKQMLVQSNSAVPPELARHEASRFKPGTVP
DRPPRHSDTVYIN

>AtRH22

MILSRSVSVLHLCGVSSSAPSKLLSQRFKVSFALAYGSSVSFRLSSLNRSRDKWVRGFAS
ATEAEVEKKGNDTFFADHTVSWKSLGLSDNVSIALRDSGFRPSLTQAVCIPSILSGKDV
IVAAETGSGKTHGYLAPIIDQLTNTALDSEVTNREERPFPLKNIISLILCPNVMLCEQVVR
MVNGLVDEDEGNPLLRVEAVCGSQGWPDRLPDIIVSTPAALLNNIEPKNRRLLEFLRCVKY
VVFDEADMLLCSGFQNQIIRLINMLRFDEKQVSRLAKSNLGRPMEIDASVPQIDLENEEDD
AEFDEGSISEEDEEEEEEEYLDLIAQMPVSVEAEAGSDTKKGWRRVRKIYTRSKQYIFIAA
TLPVNGKKTAGGILKHMFDQAVVWSGNFLHRNSPRLKQKWVEVTVDSQVDALIEAVKNNN
NTNTERTMVFANTVEAVEAVADILEKASIQCYRYHKNHKLDERANILADFRETGGVFVCT
DAAARGVDVPNVSHVIQADFASSAVDFLHRIGRTARAGQYGTVTSLYTEANRDLVEAIRE
AVKMGQPVETAFAFRKRGRFNKVKKRAFLKAEAEAEPEQAVRY

>AtRH23

MAGMASDGTQYDPRQFDTKMNAIILGEEGEETFYTNVDEVCDSFDAMELQPDLLRGIYAYG
FEKPSAIQQRGIIIPFCGLDVIQQAQSGTGKTATFCSGVLQQLDISLVQCQALVLAPTRE
LAQQIEKVMRALGDYLVGKAQACVGGTSVREDQRVLQSGVHVVVGTGPRVFDLLRRQSLR
ADAIKMFVLDDEADEMLSRGFKDQIYDIFQLLPKQVGVFSATMPPEALEITRKFMNKPV
RILVKRDELTLLEGIKQFYVNVKKEEWKLETLCDLYETLAITQSVIFVNTRRKVDWLTDKM
RSRDHTVSATHGMDQNTDRIIMREFRSGSSRVLITTDLLARGIDVQQVSLVINFDLPTQ
PENYLHRIGRSGRFRGKGVAINFMTSEDERMMADIQRFYNVVVEELPSNVADLL

>AtRH24

MSNRKFGMEGFGINRQTSYSFERSQAPQRLYVPPSSRGGDNSEDADLDNIDYMENEEAE
DIEEGGSAAASGGEVDEIDPLDAFMEGIHQEMKSAPPPKPEKLERKDDDDDPVESYLK
AKKDLGLTLAADALNAGYNSDEEVYAAAKAVDAGMLDYSDDDNPVVDKRKIEPITALDH
SSIDYEPINKDFYEELESISGMTEQETTDYRQRLGIRVSGFDVHRPVKTFEDCGFSSQIM
SAIKKQAYEKPTAIQCQALPIVLSGRDVIIGIAKTGSGKTAAFVLPIMIVHIMDQPELQRDE
GPIGVICAPTRELAHQIFLEAKKFSKAYGLRVSAVYGGMSKHEQFKELKAGCEIVVATPG
RLIDMLKMKALTMMRASYLVLDEADRMFDLGFEPQVRSIVGQIRPDRQTLFSATMPWKV
EKLAREILSDPIRVTVGEVGMANEDITQVVNVIIPSDAEKLPWLEKLPGMIDEQDVLVFA
SKKATVDEIEAQLTLNSFKVAALHGDKDQASRMETLQKFKSGVHHVLIATDVAARGLDIK
SLKATVVNYDIAKMDMHHVHRIGRTGRAGDRDGVAYTLVTQREARFAGELVNSLVAAGQNV
PPELTDLAMKDGRFKSKRDGRKGGKGRGGGGNKGVRGVDFGLGIGFSSESSRTPSSKA
APSRSGAINSVRTGVMAQFKNSFVAATPSNPQNQAYPNKRP.SLMGFVSGGTIGGDMGRTQ
SQAPPVAPTQNASSHNSQNHSSQSENPRERKRRSGWDN

>AtRH25

MNSDGPKSGKKREIRAKLVKLLTSDDEDGSGKLVKDNNKSLKRGREGKSDVDEPLIKKPA
STTPLVTQIAKTSDSYLSKTRFDQFPLSPLTLKGIEDAGFKTMTVVQEATLPLILQKDI
LAKAKTGTGKTVAFLPSIEAVIKAPPASRDNRHPPIIIVLVVCPRELACQAAAANILL
KYHPSIGVQVVIIGTKLPTEQRRLOKSPCQILVATPGRLKDHIDNTSGFATRLMGVKVLV
LDEADHLLDMGFRREIERIIAAVVKQRQTFLLSATVSDVVRQICHVALKRDHEFVNCVQE
GAGETHQKVSQMYMIASLDRHFSLLYGLLKKHITDNGYKVIIFCTTAMVTRLVADLLGK
LSLNVREIHSRKPQSYRTRVSDEFKRSKSIILVTSVSDVARGVDYDPVSLVVMGLPSDRE
QYIHLRGTGRKGEKEGVLVLLAPWEEYFLSSVKDLPIITKSSLPPIDHEAVKKVQKGLIQ
VEMTNKEAAYQAWLGYYSQKKIARDTTRLVELANEFSSRSMGLSIPPAIPVNILGKMGLK
NVPGIRVAPGFDKPKAKRNYRSR

>AtRH26

MSSKFPLGVRFITHSLPCTRLASMNAGAL IYSFRSVPVLSKAFPFRLLKY IGLGSRVNFST
RPERSQPEFARRSGAGGEIRASKSLIEDEAEELSDWVSDLRTSSLRGKFTSDEDNADPEVV
RRNVDRDTSRGP RRREGQSDRFGGAKRGEKEMDRFGSPNRRRTSGEPADSFNGKRLGD
REGSRNDRVQKSSSESSFRGRSDRNVDSGSSFRGRSDKNVDSGSSFRGRNDRNVDSGSSF
RGRSDRNVDSGSSFRGRSDRNVDSGSSFRGRNDRNVDSGSSFRGRNDRNVESGFRREP GS
ENNRGLGKQTRGLSLEEEEDSDDDENRVGLGNIDDLPSSEDSDEDDENDEPLIKKAASAK
AVQTDKPTGEHVKTSDSYLSKTRFDQFPLSPLSLKAIKDAGFETMTVVQEATLP I ILQ GK
DVLAKAKTGTGKTVAFL LPAIEAVIKSPPASRDSRQPP I I VLVVCP TRELASQAAA EANT
LLKYHPSIGVQVVI GGTKLPTEQRRMQTNPCQILVATPGRLKDHI ENTSGFATRLMGVKV
LVLEADHLLDMGFRRIER I IAAVPKQRQTFLFSATVPEEV RQICHVALKRDHEF INCV
QEGSGETHQKVTQMYMIASLDRHFSLLHVL LKEHIADNVYKVI I FCTTAMVTRLVADLL
SQLSLNVREIHSRKPQSYRTRVSD EFRKSKAI ILVTS DVSARGVDYDPVSLVVMGLPSD
REQYI HRLGR TGRKGE GEGVLLLAPWEEYFMSSVKDLPI TKSP LPP IDPEAVKRVQKGL
SQVEMKNKEAAYQAWLGYYSQKMIARDTTRLVELANEF SRSMGLDSPA I PKNVLGKMG
LKNVPGLRTK

>AtRH27

MANLDMEQHSS ENEE I KKKKHKKRARDEAKK LKQPAMEE EEPDHEDGD AKENNAL IDEEPK
KKKKKKNKKRGDTDDGEDEAVAE EEPK KKKKKKNK KLQQRGDTNDEEDEV IAE EEPK KKK
KKQRKDTEAKSEEE EVEDKEE EKKLEETS IMTNKTFESLSLSDNTYKSIKEMGFARMTQI
QAKAI PPLMMGEDVLGAARTGSGKTLAFLIPAVELLYRVKFTPRNGTGV LVICPTRELAI
QSYGVAKEL LKYHSQTVGKVIGGEKRKTEAE I LAKGVNLLVATPGRLLDHLENTNGFIFK
NLKFLVMDEADRILEQNFEE DLK I LNL LKPKRQTSLFSATQSAKVEDLARVSLTSPVYI
DVDEGRKEVTNEGLEQGYCVVPSAMRLLFLLTFLKRFQ GK KIMVFFSTCKSTKFHAELF
RYIKFDCL EIRGGIDQNKRTPTFLQFIKAETGILLCTNVAARGLDFPHVDWIVQYDPPDN
PTDYIHRVGR TARGE GAKGKALLV LTPQELKFIQYLKAAKIPVEEHEFE EKKLLDVKPFV
ENLI SENYALKESAKEAYKTYI SGYDSSHSMKDVFNHQLNLTEVATSFGFSDPPKVALKI
DRGGYRSKREPVNKFKRGRGGGRPGGKSKFERY

>AtRH28

MPSSFF FEDASDDELELIRNQEDSSEEDVKEGEAE EHEAGED EDEGEE EYEEEDDDEE EED
EKRRDADAQSPWDFASYSSSVGEEHARRHTTS IDEKISKAIQHRPVPISINEEEEE EEE
EEDASDAETDKQEEYLS EDEDAEAYKPEDATPKPFFSTVDGVSFHADTFMELNLSRPLL R
ACETLGYKKPTPIQAACIPLALTGRDL CASAITGSGKTA AFALPTLERLLFRPKRVFATR
VLILTPTRELAVQIHSMIQNLAQFTDIKCGLIVGGLSVREQEVVLR SMPDIVVATPGRMI
DHLRNSMSVDLDDLAVLILDEADRLLQTGFATEITELVRLCPKRRQTMLFSATMT EEVKE
LVKLSLNKPLRLSADPSARRPPGLTEE VVRIRRTREANQEAVLLSLCTR TFKSKVIIFSG
TKQAAHRLKILFGLAGLKA AE LHG NLTQAQRLDSLELFRKQEVDFLIATDVAARGLDIIG
VQTVINYACPREIDSYVHRVGR TARAGREGYAVTFV TSDRSLLKVI AKKVGSKLKS RVI
PEQSI V KWSQI IDEMEDQYSAVISAERDERALRKAEMEFAKAENMLEHRDEIYARPKRTW
FMTEKEKKLVAQA EKDSAGNPAGGELVSADRAEDLKMKEKRKREREKNLPRKKRRKLEAA
REMLEDN EGE EEE EDEEGDEKGRSRGKDKKKQETDKKGLTLKDLGYMRAKAVKAKQRAI
DSGKMERPKPKDKQSRSKPRNQPRGEEMKDLFKSDMGEKKQGRGGAAAAAKPRTKSKNSF
KSKARYKRR

>AtRH29

MVEGKGFVSSVTELRKEKQKKKKGSGGFESLNLGPNVFNAIKKKGYKVPTPIQRKTMP
LILSGVDVAMARTGSGKTA AFLIPMLEK LKQHVPQGGV RALILSPTRDLAEQTLKFTKE
LGKFTDLRVSLLVGGDSMEDQFEELTKGPDV I IATPGRLMHLLSEVDDMTLRTVEYV VFD
EADSLFGMGFAEQLHQIL TQLSENQ TLLFSATLPSALAEFAKAGLREPQLVRLDVENKI
SPDLKLSFLTVRPEEKYSALLYL VREHISSDQQT LIFVSTKHHVEFVNSL FKLENIEPSV
CYGDMQDARKIHVSRFRARKTMLLIVTDIAARGIDIPLLDNVINWDFPPRPKIFVHRVG
RAARAGRTGCAYSFVTPEDMPYMLDLHLFLSKPVRPAPTEDEV LKNMEEVMTKTSQAIDS
GVTVYGRFPQKTIDLIFNRTREMIDSSAELDSLERTSTKAFRLYSKTKPSPSKESIRRAK
DLPREGLHPIFRSIIETGELEAMSFFQKIKNFRPKQTILEAEGEVAKSKHVKGPAQWVD
VMKKKRAIHEE IINTRHQQNQKTSNNHLEMEAEPTTSFVDGTVEGSKVSGKKRKAQETFK
DDEFFISSIPVNHSEAGLSLRGNEGFGSNRLDAAVLDLVADDGQGIKQQSNYHWDKKG
KKYIKLNNGDRVTASGKIKTESGAKATAKKTGIYKRWQERSHKKVSRDSGDADETTMSG
RGGRDGKRRQGSVPNAHVRS EIKDL DQVRKERQOKANKVSYLQSKRGGRRGGRGARGGRG
GGARGRRGGRDFGGGGRDFGSSSDRGGRRSGGRDFGRRGGASTSSRGGKRGGRRGGGK
RGRGR

>AtRH30

MSSYDRRFADPNYSYRQSRGAPVGSQPMPSAAPYNPRYTGGGGGYGSPVMAGDNSGYN
RYPSPFQPPSGGFSVGRGGGRGGYGQYGDNRGGGNWGGGGGRGGSSKRELDVSLPKQNF
NLVHFEKNFYVESPTVQAMTEQDVAMYRTERDISVEGRDVPKPMKMFQDANFPDNI LEAI
AKLGFTEPTPIQAQGWPMALKGRDLIGIAETGSGKTLAYLLPALVHVSAQPRLGQDDGPI
VLILAPTRELAVQIQEESRKFLRSGVRSSTCIYGGAPKGPQIRDLRRGVEIVIATPGRLI
DMLEQCQHTNLKRVTYLVLEADRMLDMGFEPQIRKIVSQIRPDRQTLWSATWPREVETL
ARQFLRDPYKAIIGSTDLKANQSINQVIEIVPTPEKYNRLTLTKQLMDGSKILIFVETK
RGCDQVTRQLRMDGWPALAIHGDKTQSERDRVLAEFKSGRSPIMTATDVAARGLDVKDIK
CVVNYDFPNTLEDYIHRIGRTGRAGAKGMAFTFFTHDNAKFARELVKILQEAGQVVPPTL
SALVRSSSGSYGGSGGGRNFRPRGGGRGGGFGDKRSRSTSNFVPHGGKRTW

>AtRH31

MPLNFPLRIRFFAHSLSGTHLSYNTSSSVPLLFRIFFSSGLNHFEFGSRINFSTRPNRDQP
EFERRIRDGGEIRASKSLIEDEEELSNWVSGFRTGSSRGILKSDDEDEEDRSRGRNQEK
GIRNQVDSFRNKRYGGDRERGFNSRIQGSSEASFRGRKETSFSRDREDEKGLRKREDLR
LEDESSDEDVKSVMGDIIGDLLSEDEEEDQDYDFLKKKAVSAFGFDKENVIEADKTRNA
NDSYLTKTRFDHYPLSPLSLKAIKDAGYETMTVVQEATLPIILKGDVLA KAKTGTGKT
VAFLLPSIEVVVKSPPSPDNKRPPILALVICPTRELANQAATEANTLLKYHPSIGVQVVI
GGTRLGLEQKRMQTNPCQILVATPGRLKDHIENTPGFATRLKGVKVLVLEADHLLDMGF
RKDIERIIISAVPKERQTFLLFSATVPEEVQICLVALRRDHEFVNCVHEGTIETHQQVRQM
HMIASLDRHFSLLYTLLREHIMGNVDYKIVFCTTAMVTKLVADLLGELNLNVREIHSRK
PQSYRTRVSNFRKSKGLILVTSDVSARGVDYDPDVTLVLQVGLPKDREQYIHRIGRTGRK
GKEGEGILLAPWEEYFLSSLDLPITKSPLPSIDPETVKKVQKALCHVEMRNKEAAYQA
WLGYYNSQKMIGRDKDRLVELANEFSSRMGLDNPPAIPKLIILGKMGLKNVPGLRANFIPS
YI

>AtRH32

MVKIKKTKGMRKQIRLNEVEEINLLKQWIESQKPDSGFNPLSLRPLPKDSKIGKSEDKN
GTVFSRYAGVRKFAQLPISDKTKRGLKDAKYVDMTDVQSAIIPHALCGRDILGAARTGSG
KTALFVIPILEKLRHRERWSPEDGVGCIISPTRELAQAQTFGVLNKVGKFKHFSAGLLIGG
REGVDVEKERVHEMNILVCPAGRLLQHMDETPNFECPLQILILDEADRVLD SAFKGQLD
PIISQLPKHRQTLFSATQTKKVKDLARLSLRDPEYISVHAEAVTATPTSLMQTVMIVPV
EKKLDMLWSFIKTHLNSRILVFLSTKKQVKFVHEAFNKL RPIPLKSLHGKMSQEKRMGV
YSQFIERQSVLFCCTDVLARGLDFDKAVDWWVQVDCPEDVASYIHRVGR TARFYTQKSL
LLFLTPSEEKMIKLEKQEAQVP IKLIKANNQKLEQVSRLLAALLVKYPDLQGVAFITYL
RSIHKRRDKEIFDVSKLSIENFSASLGLPMTPRIRFTNLKTKKKGVYESSIAMEIENAQ
EY EAPLVVKKDLLGEDLEEDFALKPRKEGKVEKSTKEEEVLIPGNRVLKNKLLKINLHR
PFGSRVLDDEEGNSLAPLASVAEAGTEVALDEERMNDYKVKVGAEMRKADIEDKKV
DKER RREKRMKQIKRKRGAMEDEEEEEEDHDGSGSSDDETGRNSKRAKIVSDNEENGK
INTDLSVADLEEMALKFITQ

>AtRH33

MAMAMRLPAISRAVTEVASSPVGLRRLFCASNARFSFLSPPARRQAEPSTNLFHSGLSKR
ITSERSLWNRIFSRNMGGPRTFFPGLNKWQWKRMEKKAREKENKLLDQEKQLYEARIR
TEIRAKMWGHPDSGEKTAKLKQSHGPMSPKEHIKTLADR FMKAGADDLWNDNDGPVKKFD
QGSRSKSDSIDSTPIDVRLVSATCDSMGKHRVLDSSRRGFSMSRFRKRNESSCDEGDDV
DAKKLDTLSPFSPKFSGTKEKVKSSSTSVVGVIRNKGLFGRRKFRKNDSSTEEDSDEEGNE
GKMIGWMDLRKTGSSASLGNHDIKLTKRVNRNVTDEELYPLDINRVREDLSKKQSVDNV
MEEKQEPHDSIYSAKRFDESCISPLTLKALSASGIVKMTRVQDATLSECLDGKDALVKAK
TGTGKSMAFLLPAIETVLKAMNSGKGVHKVAPIFVLILCPTRELASQIAAEGKALLKNHD
GIGVQTLIGGTRFRLDQORLESEPCQIL IATPGRLLDHIENKSGLT SRLMALKLFI
VDEADLLLDLGFKRDEKIIDCLPRQRQSLLFSATIPKEVRRVSQLVLRDHSYIDTIGLGCVE
THDKVKQSCIVAPHESHFHLVPHLLKEHINMPDYKIVFVCTGMVTSLMYTLTLLREM
KLN VREIHARKPQLHRTCVSDEFKESNRLILVTSDVSARGMNPDPVTLVIQVGI
PSDREQYIHRIGRTGREGKGGKGLLLIAPWERYFLDELKDLPLEPIAPDLD
SRVKHQVDQSMKIDTSIKEAAYHAWLGYNSVRETGRDKTTLAELANRFCHSIGLEKPPAL
FRRTAVKMGLKGISGIPIRK

>AtRH34

MEGTLDEENLVFETTKGIKPIKSFDDMGMDKVLRGVYDYGKPKPSEIQQRALVPIKGR
DVIAQAQSGTGKTSMAIASVCQIVNISRKVVQLVLSPSRELASQTEKTIQAI GAHTNIQ
AHACIGGKSIGEDIKKLERGVHAVSGTPGRVYDMIKRGSLOTKAVKLLVLDSEDEMLSKG
LKDQIYDVYRALPHDIQVCLISATLPQEILEMTEKFMTDPVRIILVKPDELTLLEGIKQYV
DVDKEEWKFDTLCDLYGRLTINQAIIFCNTRQKVDWLTEKMRSSNFIVSSMHGDKRQKER
DDIMNQFRSFKSRVLIASDVWARGIDVQTVSHVINYDIPNNPELYIHRIGRAGRFGREGV
AINFVKSSDMKDLKDIERHYGTKIREMPADLV

>AtRH35

MESIMEEADSIEYVSVAEERRAIAAQKILQRKKGKASELEEEADKEKLAEAKPSLLVQATQ
LKRDPVEVSATEQIILQEKEEMMEHLSDKKTLMVRELAKGITYTEPLLTGWKPPLHIRKM
SSKQRDLIRKQWHIIVNGDDIPPPKFNFKDMKFPRPVLDLTKKEKGIQVQPTPIQVQGLPVI
LAGRDMIGIAFTGSGKTLVFLPMIMIALQEEMMMP IAAGEGPIGLIVCPSRELARQTYE
VVEQFVAPLVEAGYPPLRSLLCIGGIDMRSQLEVVKRGVHIVVATPGRLKDMMLAKKMSL
DACRYLTLDEADRLVDLGFEDDIREVFDHFKSQRQTLF SATMPTKIQIFARSALVKPVT
VNVGRAGAAANLDVIEVEYVQKQAKIVYLLECLQKTSPPVLI FCENKADVDDIHEYLLLK
GVEAVAIHGGKDQEDREYAISSFKAGKKDVLVATDVASKGLDFPDIQHVINYDMPAEIEN
YVHRIGRTGRCGKTGIATTFINKNQSETLLDLKHLLEQAKQRI PPVLAELNDPMEEAET
IANASGVKGCAYCGGLGHRIRDCPKLEHQKSVAI SNSRKDYFGSGGYRGEI

>AtRH36

MEEPTPEEEGGITIMSKSRKNPKTVVNIQSQKLDSDQNTPOFEKFTNPNPSSDTTSATNF
EGLGLAEWAVETCKELGMRKPTPVQTHCVPKILAGRDLVGLAQTGSGKTAALFALPILHRL
AEDPYGVFALVVTPTRELAFQLAEQFKALGSCNLNRCSVIVGGMDMLTQTMSLVS RPHIV
ITTPGRIVLLENNDVPPVFSRTKFLVLDEADRVLDVGFQDELRTIFQCLPKSRQTLF
SATMTSNLQALLEHSSNKAYFYEAYEGLKTVDTLTQQFIFEDKDAKELYLVHILSQMEDK
GIRSAMI FVSTCRQCRLSLMLDELEVENIAMHSLNSQSMRLSALSKFKSGKVPILLATD
VASRGLDIPVLDLVINYDIPRDPDRDYVHRVGR TARAGRGLAVSII TETDVKLIHKIEEE
VGKKMEPYNKKVITDSLEVTKVRFVLYIKVLIKY

>AtRH37

MSASWADVADSENTGSGSSNQNSHP SRPAYVPPHLRNRPAASEPVAPLPANDRVGYGGPP
SGSRWAPGGSGVGVGGGGYRADAGRPGSGSGYGGGGWNNRSGGWDRREREVNPFFEN
DDSEPEPAFTEQDNTVINFDAYEDIPIETS GDNVPPVNTFAEIDLGEALNINIRCKYV
KPTPVQRHAIPILLEGRLMACAQ TSGSKTA AFCFPIISGIMKDQHVQRPRGSRTVYPLA
VILSPTRELASQIHDEAKKFSYQTGVKVVVAYGGTPINQQLRELERGVDILVATPGRLND
LLERARVSMQIRFLALDEADRMLDMGFEPQIRKIVEQMDMPRGRVQTLF SATFPREI
QRLAADFLANYIFLAVGRVGSSTDLIVQRVEFVLDSDKRS HLMDLLHAQRENGIQGKQAL
TLVFVETKRGADSLNWL CINGFPATSIHGDR TQQEREVALKAFKSGRTPILVATDVAAR
GLDIPHVAHVNF DLPNIDDDYVHRIGRTGRAGKSGLATAFFNDGNTSLARPLAELMQEA
NQEVPEWLTRYASRSSFGGKNNRSGGRDFRREGSFGSGRGGYGGGGGGYGGGGY
GGGGYGGGGYGGGGYGGASSGGYGGEP SAWD

>AtRH38

MADTVEKVPTVVESSSSSTVEASNSAEKTEPTTEKKKWDVEDDDDEEEAVSELNSLSIK
EEEKPDSILEEPEDSNIKAVTSGDTPYTSASRFEDLNLSP ELMKGLYVEMKFEKPSKIQA
ISLPMIMTPPHKHLIAQAHNGSGKTTCFVLGMLSRVDPTLREPQALCICPTRELANQNME
VLQKMGKFTGITAE LAVPDSTRGAPAA TRGAPVSAHVVIGTPGTLKKWMAFKRLGLNHLK
ILVFDEADHMLATDGFRRD SLKIMKDIGRVNPNFQVLLFSATFNETVKDFVARTVKDPNQ
LFVKREDLALDSVKQYKVVCPKEQNKIEVIK DQIMELGDIQOTIIFVKTKASAQKVHKAL
AEMGYDVT SVHGNTESDRDKIVKEFKECLTQVLIATDVIARGFDQQRVNLVVNYNLP TK
YETGEPDYEVYLHRVGRAGRFRGRK GAVFNLLLDGWDKEVMEKIEKYFEANVKEIKSWNS
EEEYKSALKEAGLLDE

>AtRH39

MVGASRTILSLSLSSSLFTFSKIPHVFPFLRLH KPRFHAFRPLYSA AATTSSPTTETNV
TDPDQLKHTILLERLRLRHLKESAKPPQQRPS SVVGVVEESSIRKKS KKLVENFQELGLS
EEVMGALQELNIEVPTEIQCIGIPAVMERKSVVLG SHTGSGKTLAYLLPIVQLMREDEAN
LGKKT KPRRPRTVVLCPTRELSEQVYRVAKSISHHARFRSILVSGGSRIRPQEDSLNNAI
DMVVGT PGRILQHIIEEGNMVYGDIA YLVLDEADTMFDRGFGEIRKFLAPLNQRALKTND
QGFTVLTATMTMAVQKLVDEEFQGIEHLRTSTLHKKIANARHDFIKLSGGEDKLEALL

QVLEPSLAKGSKVMVFCNTLNSRAVDHYLSENQISTVNYHGVEVPAEQRVENLKKFKDEE
GDCPTLVCTDLAARGLDLVDVHVVMFDFPKNSIDYLHRTGRTARMGAKGKVTSLVSRKDQ
MLAARIEEAMRNNELESLETTDNVRRDAARTHITQEKGRSVKQIREVSKQRNSRDKPSSS
SPPARSTGGKTPVRKSSSSSFSKPRKASSPPEKSSKPKRKILKTVGSRSAARGKTGSDR
RPGKKLSVVGFRGKSSSARAS

>AtRH40

MATTEDTPASAGPRYAPEDPTLPQPKGLIDGSTGILYYWNPETNVTQYERPSPAPPHSA
TTPKLAQIPVPSSGQGHQAQHEQAKPVGHVSQQHGFQQQPQQFPSQHVPRPQMMQQHPAQQ
MPQQSGQQFPQQQSQSMVPHPHGHPSVQTYQPTTQQQQQGMQNHQSQMPQQLSHQYASQ
QHVMGFRPHMQTQGLQNSHQTPQGGPHGQQFPSQQEYNSLAPKREGDEFHGGKKTGF'SQP
HLPNSERSPSQNTHFANAASQKTANANLAMAQKCNQPANAAVTQFQQPGANLIHQQLGP
RAPNQMDQTMHLHQKSHVSPFQSNNTYENNLQSRPGNDSYVNMMEVVPVGAQPLHPAAMP
KDIRISGGPPTNADPAMGQTGHGTYGHAGPAFPNKSLVRPHFVTSPDVPHLSPVEIYRKQ
HEVTTTTGENIPAPYITFESSGLPPEILREVSFIMNFI SGVGS SHIWCANVFVVFVQLLSA
GFPSPTPIQAQTWPIALQSRDIVAIAKTGSGKTLGYLIPAFILLRHRNDSRNGPTVLIL
APTRELATQIQDEALRFRSSRISCTCLYGGAPKGPQLKELEERGADIVVATPGRLNDILE
MKMIDFQQVSLLVLDEADRMLDMGFEPQIRKIVNEIPRRRQTLMYTATWPKEVRKIASDL
LVNPVQVNI GRVDELAANKAITQYVEVVPQMEKERRLEQILRSQERGSKVIIFCSTKRLC
DHLARSVGRHFGAVVIHGDKTQGERDWVLNQFRSGKSCVL IATDVAARGLDIKDIRVVIN
YDFPTGVEDYVHRIGRTGRAGATGVAFTFFTEQDWKYAPDLIKVLEGANQQVPPQVRDIA
MRGGGGGGPGYSQDRRGVMNRFDSGGGGTRWDSGGGGFGRGGGGFSGREGGFGRREGGFGG
REGGFGRGGFRGMRDDSFGRGGNRGRGFTGPDAGHMNVGGGGFGRFGMNNNME SRGFG
RGSGRGFRGVRGFRDNRRGRSRSRSPDLVRRRRSSSYSRSRSRSGSYSRSRSRSRWSR
SRSRSPRHSRDRGGHNRSRYSRSPSPVYERRDRAPRVSGFDIKPPVESVVNLDMNAAAA
IENVVPTLSERQNGVVESEVEAALVRPVVDEEP

>AtRH41

MNEEGCVPHNSDVVKQKSIDQRAPLSGEPKCVICSRYEYICDETNDVCSLECKQALLR
RVDSARVFPATDECIFYVRDPGSSSHDAQLLRRKLDIHVQGGQSAVPPPVLFTTSCGLPPK
LLLNLLETAGYDFPTPIQMQAIPAALTGKSLLASADTSGSKTASFLVPIISRCTTYHSEHP
SDQRRNPLAMVLAPTRELQVQVEDQAKMLGKGLPFKLTALVGGDPMSGQLYRIQQGVELI
IGTPGRVVDLLSKHTIELDNIMTFVLDEVDCMLQRGFRDQVMQIFQALSQPQVLLFSATI
SREVEKVGSLAKEIILVSI GNPNKPNKAVNQLAIWVDAKQKQKLFDIILRSQNHFKPPA
VVYVSSRVGADLLANAITVVTGVKALS IHGEKPKKERRDVMGSFLGGEVPLVSTGVLGR
GVDLLVVRQVIVFDMPSTIKEYIHVIGRASRMGEKGTAI VFNEDDRNLF PDLVAALKSS
GAAIPKELINLTSREMHNKKRRVGY

>AtRH42

MEVEKSKYRSEDLDVVEEEDLKKSRDRDRSNERKKDKGSEKRREKDRRKKRVKSSDSE
DDYDRDDDEEREKREKERERRRRDKDRVKRRSERRKSSDSEDDVEEEDERDKRRVNEKE
RGHREHERDRGKDRKDREREERKDKEREREKDRERREREREEREKERVKERERREREDG
ERDRREREKERGSRNRNRRERERSREVGNEESDDDVKRD LKRRRKEGGERKEKEREKSVGRS
SRHEDSPKRKSVEDNGEKKKTRREELEDEQKKLDEEVEKRRRRVQEWQELKRKKEEAE
SESKGDADGNEPKAGAWTLEGESDDEEGHPPEEKSETEMDVDEETKPENDGDAKMVDLEN
ETAATVSESGGDGAVDEEEDIDPLDAFMNTMVLPEVEKFCNGAPPAVNDGTLDSKMNGKE
SGDRPKKGFNKALGRIIQGEDSDSDYSEPKNDDDP SLDEDEE FMKRVKKTKA EKLSLVD
HSKIEYEPFRKNFYIEVKDISRMTQEEVNTYRKELELKVHGKDVPRPIKFWHQ TGLTSKI
LDTMKKLNIEKPMPIQTQALPIIMSGRDCIGVAKTGSKTLGFVLPMLRHIKDQPPVEAG
DGP IGLVMAPTREL VQQIHSDIRKFSKPLGIRCVPVYGGSGVAQQISELKRGT EIVVCTP
GRMIDILCTSSGKITNLRVTFVLVMD EADMFMDFMGFEPQITRIIQNIRPERQTVLFSATF
PRQVETLARKVLNKPVEIQVGGRSVVKNDITQLVEVRPESDRFLRLELLGWESEKGI L
VVFVQSQEKCDALYRDMIKSSYPCLSLHGKDKQTDRESTISDFKNDVCNLLIATSVAARGL
DVKELELVNFDAPNHYEDYVHRVGRGTGRAGRKCAVTFI SEDDAKYAPDLVKALELSEQ
PVPDDLKALADGFMVVKQGI EQAHGTGYGGSGFKFNEEEVEVRKAAKKAQAEYGFEEED
KSDSEDENDVVRKAGGGEISQQQATFAQIAAIAAAAKAAAAAPVSAPVTANQLLANGGGL
AAMPGLVPTVPTLPSEGAGRAAMVAAMNLQHNLAQIADAMPEHYEAELEINDFPQNA
RWKVTHKETLGP ISEWTGAAITTRGQFYPTGRIPGGERKLYLFIEGPSEKSVKHAKAEL
KRVLEDITNQAMSSLPGGASGRYSVL

>AtRH43

MEVDDGYVEYVPVEERLAQMKRQVVEEPGKGMMEHLSDKKKLMSVGE LARGITYTEPLST
WKPPLHVRKMSTKQMDLIRKQWHITVNGEDI PPP IKNFMDMKFPSP LLRMLKDKGIMHP
TPIQVQGLPVVLSGRDMIGIAFTGSGKTLVFLVPMIILALQEEIMMPIAAGEGPIALVIC
PSRELAKQTYDVVEQFVASLVEDGYPRRLRSLLCIGGVDMRSQLDVVKKGVIHVVATPGRL
KDILAKKKMSLDACRLTLDEADRLVDLGFEDDIRHVFDFHFKSQRQTLLFSATMPAKIQI
FATSALVKPVTVNVGRAGAANLDVIEVEYVKQEAIVYLLECLQKTTPPVLIFCENKAD
VDDIHEYLLLLKGVEAVAIHGKQDEDRDYAISLFKAGKKDVLVATDVASKGLDFPDIQHV
INYDMPGEIENYVHRIGRTGRCGKTGIATTFINKNQSEITLLDLKHLLQEAQRIPVLA
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EV

>AtRH44

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YLGTTKPKKRVMKPKSKNFRFDWENTEDTL SGEMNVLYQNPHEAQPLFGRGCRAGIDRRE
QKKLMTGKHEREKREEDKHWSEKKLEEMNERDWRIFKEDFNISYRGSKIPHPMRNWEET
IPLGLEQRDVIGISATGSGKTA AFVLPMLAYISRLPPMREENQTEGPYALVMVPTRELAH
QIEEETVKFSRYLGFKA V SITGWESIEKQALKLSQGCEIVIATPGRLLDCLERRYVVLNQ
CNYLVLDEADRMIDMDFEPQVSEVLDMVPCSNLKPEKEDEELEEKKIYRTTYMFSATMLL
SVERLARKFLRNPVVVTIGETTKFITQQVIMTKESDKFSRLKKLIDDLGDDKTAIVFVNT
RNKVDYIVKNLEKVGRCRVTTLHAGKSQEQRDYSLEEFKKKRFNVLVTTDVLGRGLDILD
LAQVINYDMPNTMDLYTHRIGRTGRAGKTGVATTFLTLEDKDV F YGLKQKLNENSLVPP
ELARHEASKFKPGTFPDRFSHF

>AtRH45

MLEKSKSRKENDRDKDRDRSKKENGRDRTTEMRSRVKRC DSEEEERIRIRRDRKSSDFEEE
EYERDSKRRGEDKGRGRERDRDRGKYLKDREREREKEKGRKKQKKERSREDCNEESD
DVKCGLKRKRTERS RHGDDDDVEKKTREDEQVEDEQQLAEVEKRRRRRVQEWQELKRQNEE
AQIESKGPETGKAWTLDGESDDEVKSDSEMDVDRDTKLENGGDAKMVASENETAVTVSEN
GGDRAADEDEIDPLDAFMNTMVLPEVEKLSNIVIDGILDFKMNGKETGDQAKKGFNKAAL
GRIIQGEDSDSDYSEPKSDDPSLDEDEEFMKRVKKTAKKLSLVDHSEIEYEPFRKNF
YIEVKDISRMTQDAVNAYRKELELKVHGKDVPRPIQFWHQTGLTSKILD TLKKNLYEKPM
PIQAQALPIIMSGRDCIGVAKTGS GKT LGFVLPMLRH IKDQPPVEAGDGP IGLVMAPTRE
LVQQIYSDIRKFSKALGIICVPVYGGSGVAQQISELKRGT EIVVCTPGRMIDILCTSSGK
ITNLRRVTYLVMD EADRMDFMDFEPQITRIVQNIRPDRQTVLFSATFP RQVETLARKVLN
KPVEIQVGGRSVVKNDITQLVEIRPESERFSRLLELLGEWYEKGKEQTDRESAISDFKSD
VCNLLIATSVAARGLDVKELELVVNF DAPNHYEDYVHRVGR TGRAGRKGCAVTFI SEDDA
KYAPDLVKALELSEQVPDDVKAVAEGFMAKVKQGIEQAHTGYGGSGFKN EEEDEVK
AAKKAQAKEYGFEEKSDSEENDVVRKAGGDISQQQITLAQIAA IASAASKAPVTANQL
LPNGGGLATEPGIPPTDGAGRVAAMIAAANVQQYLAKIQADAIPEHYEAELEINDFPQNA
RWKVTHKETLGP ISEWSGASITTRGKFYEAGRIPGPEERKLYL FVEGPTEISVKTAKAEL
KRVLEDITNQTFSLPGGAQSGRYSVL

>AtrH46 (was wrong in Qi file)

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SGGSSARGPPSSAAGNELSPEAYCRKHEITVSGGQVPPPLMSFEATGLPNELLRECPNFM
PYALS FVPGAIFALGGANVVRCATSLGFLQI IWSALFGGPNFLRCPPAAGFNSYLVLPAN
GRMVYSAGFSAPSPIQAQSWPIAMQNRDIVAIAKTGSGKTLGYLIPGFMHLQR IHNDSRM
GPTILVLSPTRELATQIQVEALKFGKSSKISACLYGGAPKGPQLKEIERGVDIVVATPG
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RKIAADLLVNPAQVNI GNVDLVANKSITQTIEVLAPMEKHSRLEQILRSQEPGSKIIIF
CSTKRMCDQLARNLTRTFGAAA IHGDKSQAERDDVLNQFRSGRTPVLVATDVAARGLDVK
DIRVVVNYDFPNGVEDYVHRIGRTGRAGATGLAYTFFGDQDAKHASDLIKILEGANQKVP
PQVREMATRGGGGMKNFRRWGTPSSGGGGGRGGYGD SGYGGRGESGYGSRGDSGYGGRGD
SGGRGSWAPSRDSGSSGWGRERSRSPERFRGGPPSTSSPPRSFHEAMMMKNR

>AtRH47

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KNKPAIVVGTGPGRIAEISKGGKLLHTHGCRFLVLDDEVDELLSFNFREDIHRILEHVGRKRS
AGPKGEVDERANRQTILVSATVPFVSVIRAASWSHEPVLVQANKVTPLDTPVQPSAPVMSL
TPTTSEADGQIQTTIQSLPPALKHYICISKHQHKVDTLRRCVHALDAQSVIAFMNHSRQL
KDVVYKLEARGMNSAEMHGDLGKLGKLRSTVLKFKNGEIKVLVTNELSARGLDVAECDLVV
NLELPTDAVHYAHRAGRTGRLGRKGTVVTVCEESQVFIKVKMEKQLGLPFLYCEFDVDEL
VVTEEDKAIIR

>AtRH48

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SAKRFDESCISPLTLKALSASGILKMTRVQDATLSECLDGKDALVKAKTGTGKSMAFLLP
AIETVLKAMNSGKGVNKVAPIFALILCPTRELASQIAAEGKALLKFHDGIGVQTLIGGTR
FKLDQQRLESEPCQILIATPGRLLDHIENKSGLTSRMLALKLFIIVDEADLLLDLGFRRDV
EKIIDCLPRQRQSLLSATIPKEVRRVSQLVLRKRDHSYIDTIGLGCVETHDKVRQSCIVA
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RTRVSDEFKESNRLILVTSVDSARGMNPVDTLVIQVGIQSDREQYIHRLGRTGREGKGG
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>AtRH49

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NSVLLVGGREVEADMNTLEEEGANLLIGTPGRLSDMMKRMEFLDFRNLEILILDEADRLL
DMGFQKQVNYIISRLPKQRRTGFSATQTQAVADLAKAGLRNAMEVISGAESKSKTSSGL
YCEYLKCEADQKSSQLVHLLIENKNKLVVFFMTACVDYWGLVLSKIPTLKSISFFSTH
GKMDQKGRDTALASFTTEASSGVLLCTDVAARGLDIPGIDYVVQYDPPQDPDVF IHRVGR
ARMERQGRAIVFLMPKETDYVEFMRIRRVPLQERKCSENASDVIP IIRSLAIKDRAVLEK
GLQAFVSFVRAYKEHHCYSIFSWKGLEIGKLAMGYGILSFPYISEVKQDRIGIVGFTPVQ
GITFEDIKYKNKSREKQRQONLLARKDKLQOEKRGKRKKSKEAVDDSNKASRKRKLTGR
QRQTIQTAQDEEEMNLRL

>AtRH50

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LSVARDLDSFEGHGRAIDEVSNPRKFNDRNERAESRSSYSRDSSANSRGRREDRRFVAKELD
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GSGKTLAYLVPVIQRLREELQGHKSSPGCPRVIVLVPTAELASQVLANCRSISKSGVP
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DDEFEAALQNLINSSPVTAQYLFVTATLPLEIYNKLVVEFPDCEVVMGPRVHRVSNAL
FLVDCSGDDNAEKTPEAFQNKKTALLQIMEENPVSKTIIFCNKIETCRKVENIFKRVD
KERQLHVLFPFAALSQESRLTNMQEFTSSQPEENSLFLVCTDRASRGIDFSGVDHVFLFD
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T

>AtRH51

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QPLLEGKDVLLGAARTGSGKTLAFLIPAVELLFKERFSPRNGTGVIVICPTRELAIQTKNV
AEELLKHSQTVSMVIGGNNRSEARQRIASGSNLVIATPGRLLDHLQNTKAFIYKHLKCL
VIDEADRILEENFEEDMNKILKILPKTRQTALFSATQTSKVKDLARVSLTSPVHVDVDDG
RRKVTNEGLEQGYCVVPSKQRLILLISFLKKNLNKKIMVFFSTCKSVQFHTEIMKISD
VSDIHGGMDQNRRTKTFDFMKAKKGIILLCTDVAARGLDIPSVDWIIQYDPPDKPTEYI
RVGRTARGEGAKGALLVLIPEELQFIRYLKAAKVPVKELEFNEKRLSNVQSALEKCVAK

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>AtRH52

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AAGRDLMACAQTGSGKTA AFCFPIISGIMKQDHIERPRGVRGVYPLAVILSPTRELACQI
HDEARKFSYQTGVKVVVAYGGTPVNQQIRELERGVDILVATPGRLNDLLERGRVSLQMVR
FLALDEADRMLDMGFEPQIRKIVQQMDMPPPGVRQTM LFSATFPREIQR LASDFLSNYIF
LAVGRVGSSTDLIVQRVEFVHSDKRSHLMDLLHAQRENGNQKQALTLV FVETKKGADS
LENWLCINGFPATTIHGDRSQQEREVALRSFKTGRTPILVATDVAARGLDIPHVAHVNF
DLPNDIDDYVHRIGRTGRAGNSGLATAFFNDNNTTMAKPLAELMQEANQEVDPDLTRYAS
RASFGGKNNRRSGGRFRGGRDFRRESFSRGGGGADYGGGGYGGVPGGGYGAMPGGYGPV
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>AtRH53

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KYLNNPLTVDLVGDSDQKLAGITTYSI IADSYGRASIGPLVTEHAKGGKCI VFTQTKR
DADRLSYALARSFKCEALHGDISQSQRERTLAGFRDGHFNILVATDVAARGLDVPNVLDI
IHYELPNNTETFVHRTGRTRAGKKGSAI IYSQDQSRVKI IEREVGSRFTELPSIAVE
RGSASMFEGIGSRSGGSFGGMRDRGSSFGGRSGGGYGGSSGGYGGGRSGGSSNRYSGD
SDRSFGFSFGMRSPREGYSDRSSQSGGRSSFGGRSGGSSNRRSSGFDFGSDRSSQSGG
RSSFGGFGSNDGKRSY

>AtRH56

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IVDSGF EHPSEVQHECIPQAILGMDVICQAKSGMGKTAVFVLSTLQQIEPSPGQVSALVL
CHTRELAYQICNEFVRFSTYLPDTKVSVFYGGVNIKIHKDLLKNECPHIVVGTTPGRVLAL
AREKDL SLKNVRHFILDECDKMLESLDMRRDVQEIFKMTPHDKQVMMSATLSKEIRPVC
KKFMQDPM EIVYDDEAKLTLHGLVQHYIKLSEMEKNRKLNDLLDALDFNQVVI FVKSVSR
AAELNKL LVECNFP SICIHSGMSQEERLTRYKSFKEGHKRILVATDLVGRGIDIERVNI V
INYDMPDSADTYLHRVGRAGRFGTKGLAITFVASASDSEVLNQVQERFEVDIKELPEQID
TSTYMPS

>AtRH57

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CFACAPTGSKGTFAFICPMLIKLRPSTDGIRAVILSPARELAAQTAREGKKLIKGSNFH
IRLMTKPLVKTADF SKLWCDVLI STPMRLKRAIKAKKIDL SKVEYLVLDES DKLFEQSL
KQIDCVVKACSNPSIIRSLFSATLPDSVEELARSIMHDAVRVIIGRKN TASET VKQKLVF
AGSEEGKLLALRQSFAESLNPPVLIFVQSKERAKELYDELK CENIRAGVIHSDLPPGERE
NAVDQFRAGEKWVLIATDVIARGMDFKGINCVINYDFPDSASAYIHRIGRSGRAGRSGEA
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E

>AtRH58

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IESNSVTETTVP LTLRQICQGFVPEHILHRMEEIGFVFP TDIQREALPTLFTGRDCILHA
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KQVGSVRKLLTSFSSCDKRQTVFASASIPQH KHVFHDCIQKWKTRDVVHVHVSAIMPMP
LCLLHRFVMCEKTNKHQVLLALLESDAPESAIIFVGEQSEKSKKAGNDPSTLLMEFLKT
SYKGSLEILLLEGDMFNFSRAASL TEIRQGGGFLLVST DIAARGIDL PETTHIFNFDLPQ
TVT DYLHRAGRAGRKPFSDRKCIVANLITSEERFVLQRYENELMFSCEEMML

>EcoSrmB

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IKEENFDCRAVETLILDEADRMLDMGFAQDIEHIAGETRWRKQTLFLLFSATLEGDAIQDFAERLLEDPEV
SANPSTRERKKIHQWYYRADDLEHKTALLVHLLKQPEATRSIVFVRKRERVHELANWLREAGINNCYLEG
EMVQGKRNEAIKRLTEGRVNVLVATDVAARGIDI PDVSHVFNFDMPRSGDTYLHRIGRTARAGRKGTAIS
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>EcoDbpA

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DALPPIEQQFYETSSKGIPLLRLLSLHQSSCVVFCNTKKDCQAVCDALNEVQGSALSLHGDLEQRDR
DQTLVRFANGSARVLVATDVAARGLDIKSLELVNFEALWDPEVHVHRIGRTARAGNSGLAISFCAPPEEA
QRANIISDMLQIKLNWQTPPANSSIATLEAEMATL CIDGGKAKMRPGDVLGALTGDI GLDGADIGK IAV
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>EcoRH1B

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G

>EcoDEAD

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IEVGRDDGVEVRHIVGAIANEGDISSRYIGNIKLFASHSTIELPKGMPGEVLQHFTRTRILNKPMNMQLL
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>EcoRh1E

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>Os01g07080

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VQYDPPQDPNVFIHRAGRTRARYDQEGDAIVFLLPKEDTYVEFLKRRGVPLTERECSTNAV
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>Os01g07740

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>Os01g08930

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>Os01g10050

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