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      :          :          :          :          :          :          :
At2g24280 QNLDHFSFTPD SYKVFHOKY LINNRFWRK-----GGPIFVYTGNEGDIDWFASNTGFMLDIAPKFRALLVFIEHRFY
Os06g43930 QELDHFTITPNASAVFYQKYL VNDTFWRRSAAAGETPAGPIFVYTGNEGDIEWFATNTGFMFDIAPSF GALLVFIEHRFY
At5g65760 QQLDHFISFAD--L PKFSQRYLINSDFHWLG-----ASALGPFIFLYCGNEGDIEWFATNSGFWDIAPKFGALLVFIEHRY
Os01g56150 QRLDHF SFLE--EEGEGD GFFQORYLVGRGGGWAGAGGPIFFYCGNEGDIWF AANSGLVWEAATRF AALVVF AEHRY
Os11g05760 QRLDHF NELSASNGTFRORYLVNGTFWGG-----AAAPVFVYAGNEGDVALFASNTGFMWEAAPRFRAMLVFVEHRY
At5g22860 QTLDHFTFTPE SYMTFQORYAIDSTHWGG-----AKANAPILAF LGESSLSDSLAAIGFLRDN GPRNLALLVIEHRY
At4g36190 QTLDHYS PSHRKFQRYYEYLDHLRVPD-----GPIFLMICGEGPCNGITN--NYISVLAKKFDAGIVSLEHRY
At4g36195 QTLDHYS PSHRKFQRYYEYLDHLRVPD-----GPIFMMICGEGPCNGIPN--DYITVLAKKFDAGIVSLEHRY
At2g18080 -----D YFRSPD-----GPMFMICGEGPCSGIAN--DYINSLNKKLN-----
Os10g36760 -----SADHRQFKORYYEFLDYRAPK-----GPIFLYICGESSCNGIPN--SYLAVMAKKFGAAVVSPEHRY
Os10g36780 QRLDHFSP TDRH QFKORYYEFADYHAGG-----GPVFLRICGESSCNGIPN--DYLAVLSKKFGAAVVSPEHRY

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      :          :          :          :          :          :          :          :          :
At2g24280 GESTPFG--KKS HKSAETLGYLNSQALADYAILIRSLKQNL--SEASPVVVFGGSYGGMLAAWFRLKYPHITIGALAS
Os06g43930 GESKPPG--NESNSSPEKLG YLTSTQALADFAVLITSLKHNL--AVSSPVVVF GGSYGGMLASWFLRKYPHVTIGAVAS
At5g65760 GESMPYGS R-EEAYKNATLSYL TTEQALADFAVFIDLKRNLS--AEACPVVLF GGSYGGMLAAWMR LKYPHIAIGALAS
Os01g56150 GESMPFGSK-DKAYNNSKSLAYLTAEQALADYAVLLTDLKKNLS--SEGSPVVLF GGSYGGMLAAWMR LKYPHIAVGALAS
Os11g05760 GESLPFGGTRAAAFADASAAGYLTAQALADFAELILSLKSNLT--ACKAPVVIF GGSYGGMLAAWMRMKYPHIVMGAVAS
At5g22860 GETMPFG-SAE EALKNASTLGYLNAQALADYAAILLHVKEKYS--TNHSPITIVIGGSYGGMLAAWFRLKYPHIALGALAS
At4g36190 GKSSPFGSLATKNLKYLSKQALSDLA TFRQYYDSLNVKFNRSNVENPWFFF GVSYSGALS AWFRLKFPHLTCGSLAS
At4g36195 GKSSPFGSLATENLKYLSKQALFDLA AFRQYYDSLNVKFNRS GDVENPWFFF GASYSGALS AWFRLKFPHLTCGSLAS
At2g18080 -----ISSGSDNPWFFFGISYSGALS AWFRLKFPHLTCGSLAS
Os10g36760 GKSSPFS LTTENL RFLSSKQALFDLAVFRQYYEILNAKYNRS--GADSSWVFVGGSYAGALS AWFRLKFPHLTCGSLAS
Os10g36780 GKSSPFS LTTENL RFLSSKQALFDLAVFRQHYEILNARYNRS--SGFDPNWFVFGVSYSGALS AWFRLKFPHLTCGSLAS

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      *          :          :          :          :          :          :          :
At2g24280 SAPILHFDNIVPLSFYDAISQDFK DASINCFKVIKRSWEELEAVSTMKNGLQELS KKFRTCKGLHSQYSARDWLSGAFV
Os06g43930 SAPILQFDYITPWSFFYEAVSQDYKSEFNCFSVIKAAWDLIDERGSTDAGLLQLSKTFRACKTVKSVYSFRNWLWTAFAV
At5g65760 SAPILQFEDVVPPTFYDIASNDFKRESSCFNLIKDSWDALIAEGQKENGLLQTKTFHFCRVLNSTD DFLYLIADAYS
Os01g56150 SAPILQFEDVVPSTIFYDLVSNDFKRESLSCFQIKDSWKALDAQNGQDGLLKL SKTFHLC TIKNTGELSDWLSSAYS
Os11g05760 SAPILGLNGLSDPYSFYNVVSNDFKSESKHCYDVLNRNSWSEMYKALATDAGRARLNOTFNMCKGN--VDDIPGLVEKALI
At5g22860 SAPLLYFEDTRPKFGYYIYIVTKVFKEASERCYNITRNSWIEIDRVAGKPNGLSILSKQFKTCAPLNGSFDIKDFLDITIYA
At4g36190 SA-----VVRAYVEPFDQIAESAGPECETALQETNKLLLEGLKVNN--RAVKALFNATELDVDADFLYLIADAGV
At4g36195 SA-----VVRAYVEPFDQIGESAGPECKAALQETNKLLLEGLKVNN--RAVKALFNATELDVDADFLYLIADAEV
At2g18080 SA-----VVRAYVEPFDQIGESAGQECKLALQETNKLLLEGLKVNN--KAVKSLFNATELDVDADFLYLIADAAV
Os10g36760 SG-----VVLVSYNYTDFDKIGESAGPECKAALQETTKLV DGQLQSGR--NAVKQLFGASTLANDGDFLFLADAAA
Os10g36780 SG-----VVLAVYNFTDFDKVGD SAGPECKAALQEVTRLVDEQLRLDS--RSVKVLF GA EKLKNDGDFLFLADAAA

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      *          :          :          :          :          :          :          :
At2g24280 YTAMVNYPTAANFMAPLPFGYPVEQMCKIIDGFPRGS--SNLDRAFAAASLYYNYSGSE--KCFE--MEQQTDDHGLDGW
Os06g43930 YTAMVDYPTPANFLMNLPA YPIKEMCKIIHGFPAGA--DIVDKAFAAASLYYNYTGDQ--TCFQ--LEDGEDPHGLSGW
At5g65760 YLAMVDYPYPADFMPLPGHP IREVC RKIDGAGSNA--SILDRIYAGISVYYNYTGNV--DCFK--LDD--DPHGLDGW
Os01g56150 YLAMVDYPMPADFMPLPGNPIKELCTKIDNQDGT--SILERIYAGVNYNYTGTV--DCFD--LND--DPHGM DGW
Os11g05760 YGSMMDYPTPSNFTLSLPAYPVREICRAIDKPTSGN--DTVSRIKAMTIYNYSTGGL--ACFPGAGAEDDDPYGMFPGW
At5g22860 EAVQYNR-----GPNFWAKVCNAINANPNRRYNLLDRIFAGVVALVGNRTCYDT-----KMFAQPTNNNIAW
At4g36190 MAIOYGNPDK----LCVPLVEAKNGGDLVEAYAKYVREFCMGVFGQSSKTSRKHLLD TAVT-----LESADRLW
At4g36195 MAIOYGNPDK----LCVPLVEAKNRDDLVEAYAKYVREFCMGVFGLSKTSRKHLLD TAVT-----PESADRLW
At2g18080 MAFOYGNPDK----LCVPLVEAKNGSDLVVTYSTYVREYCMRIWGLRVRTYRKHLRNTVVT-----ADSAVRLW
Os10g36760 IAFQYGNPDA----LCSPIVEAKNGTDLVETFARYVKDYIIGTFGASVASYDQEYLKNTTPP-----AESAVRLW
Os10g36780 IGFOYGPSDA----VCSPLINAKKTGRSLVETYAQYVQDF FIRRGTTVSSYDQEYLKNTTP-----DTS SRLW

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      :          :          :          :          :          :          :          :
At2g24280 QYQACTEMVMPMSCS--NQSMLPPYENDSEAFQEQCMTRYGVKPRPHWITTEFGGMR-----IETVLKRFGSNII FSNGM
Os06g43930 GWQACTEMVMPMTIS--NESMFPPTFTFYEGKSDDCFQSYGVRPRPHWITTEYGGNR-----IDLVLKRFGSNII FSNGM
At5g65760 NWQACTEMVMPSSNQ--ENSMFPGYGFYESSYKEECQSTFVRVNRPRKHWITTEYGGHD-----IATILKSFGSNII FSNGL
Os01g56150 DWQACTEMVMPMSYS--EDSMFPADKFNYTSYEKDCINSFGVEPRPQWITTEFGGHN-----ISVL LERFGSNII FSNGL
Os11g05760 TWQACTEVIMTMSYIGIGNATVFPDFNLTA YLAGCLATTGVPPRPHWIQSYFGGYD-----IRNV LKRSNII FSNGL
At5g22860 RWQSCSEIVMPVGYDK-QDTMFPTAPFNMTSYIDGCKSYHGVTPRPHWITTYFGIQE-----VKLILQKFGSNII FSNGL
At4g36190 WFOVCTEVAYFQVAPANDSIRSHQINTEYHLDLCKSLFGKG VYPEVDATNL YYGSD-----RIAATKIIFTNGS
At4g36195 WFOVCTEVAYFQVAPANDSIRSHQINTEYHLDLCKSLFGKG VYPEVDATNL YYGSD-----RIAATKIIFTNGS
At2g18080 WFOACTELGYFQVAPKYDSVRSHQINTTFHLDLCKSLFGKDVYPKV DATNL YYGSD-----RLAATKIIFTNGS
Os10g36760 WYQVCSEVAYFQVAPKND SVRS AKIDTRYHLDL CRNVFGEGVYPDFVMTNL YYGST-----RIAGSKIVFANGS
Os10g36780 WFOVCSEVAYFQVAPKND SIRSTEINTGYHLDL CRNVFGEGVYPDFVMTNL YYGST-----RIAASKIVFTNGS

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      **          :          :          :          :          :          :          :
At2g24280 QDPWSRGGVLKNISSI IALVTKKG--AHHADLRA-----ATKDDPEWLKEQRROE--
Os06g43930 RDPWSRGGVLKNISSI IALVTEKG--AHHLDFRS-----ATKDDPDWVVEQRROE--
At5g65760 LDPWSGGSVLKNLSIT IALVTKEG--AHHLDLRP-----STPEDPKWLVDQREAE--
Os01g56150 LDPWSGGSVLKNISSESVAIAPLG--AHHLDRP-----ASKDDPDWLVRLESE--
Os11g05760 RDPWSAGGILKSISNSI IALVEPKG--GHVDLRF-----STKEDPEWLKKVRRQE--
At5g22860 SDPYSVGGVLEDISDITLVAITTKNG--SHCLDITL-----KSKEDPEWLVIQREKE--
At4g36190 QDPWRHAS-KOTSSPDLP SYIMTCHNCGHSGDLRGCPQS-----AMV--
At4g36195 QDPWRHAS-KOTSSPELP SYIVTCHNCGHSGDLRGCPQSPMVIGGDSKNCSSPD AVNKVRQHI--
At2g18080 EDPWRHAS-KONSTHEPSYIIKCRNCGHSGDIRGCPQSPMVIEGKSN-----
Os10g36760 QDPWRHAS-KOKSSKELPSY LIECSNCGHSGDLSGCPQAPSHIEGDSNCS SFEAVNKVRKQI--
Os10g36780 QDPWRHAS-KOKSSKYMPSYIIKCRNCGHGTDLRGCPQLPFRIEGDSPNCSSPA AVSTVRKQI--

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