

0N13 MALSKRMLFIFQAMVLCFSLSQGNQ--FSLRNL-----TLQKASSP-----AMRHETYDIYVGGGTAG
0s02g0678300 MAFLVATT--LFLFG---QLLLCF50Q---VRGVNYT-----FVREAVEAP-----VMAYDYIILGGGTAG
0s03g0118700 MAPGHRGVSYPVVLVLLVATVLSLCLSLTASPEAQKYNFR-----FARHADAP-----LVSYNYIYVGGGTAG
0s04g0573100 MASDMOTRALIILAATSFMALACVQA---AGDESYT-----FMKDAVQSP-----QVSYDYIYVGGGTAG
0s06g0656000 MAAPITRLHLALLLVAPTLAAQPRGFVVAPPAYAR-----YVVDAAETA-----AEAYDYIYVGGGTAG
0s08g0401500 MGLINRGVF--FKLAFCLFRSSQGRNH---FTTLDLP-----PLLKASSFS-----RIQHEAYDYIYVGGGTAG
0s10g0524500 MAALGRASSAP--VLAAMAVLLSLCLAALESE-EQEQENLR-----FVHAQDAP-----LVSYNYIYVGGGTAG
HTH MALKLFLFALLCLPTSLSTASKGKKEKSKFNPRYT-----FIDKASTFSSSSSSFSNSQDQSSYDYIYVGGGTAG
AT1G12570 MDRFWSMRLFVALSLFLHSPICSSKAP---NYS-----FMRDATGSP-----TTSYDYIYVGGGTAG
AT1G14185 MSHFVFLIISMLINQSQAMPYMTDPKEVS-----GKSFYDIYVGGGTAG
AT1G14190 MPMYTTDAKEVS-----GKSFYDIYVGGGTAG
AT1G73050 MTKRIDSLLYTLVLLGVVHRSNARPRVNRPPGFMV-----FISNATDFA-----SEYDYIYVGGGTAG
AT1G356060 MNHFIRFFQFIIIVAVFIFHDSYCSDEAG---NYS-----FMKDATLAP-----KLSHFYDIYVGGGTAG
AT5G51930 MTIISCIITHIFRNILFALLIFGYSYCKDKGTLLSYKYNLIIYISIFFFLVKLETTFMKDATLAP-----KIASFDYIYVGGGTAG
AT5G51950 MGLQLLWFRKIFITTYFHASCPDKAG---YYS-----FMKDATLAP-----MFAFDYIYVGGGTAG

0N13 CPLAATLSLK--YKVLLEGGSPYGNRNYSYMFHIGLSNMAP---DSASQAFISTDGVINARARLVGGGTINAGFYSRASSNFIQEVG-----
0s02g0678300 CPLAATLSER--YRVLLEGGSPYDARVNLMAHFDVADLADTSG---ASPAQRFVSEDGVINARARLVGGGTINAGFYSTRAGPYVRALG-----
0s03g0118700 CPLAATLSER--SRVLLLEGGSPYGNRNYSSEYHFADALADTSP---RSPAQRFVSEDGVINARARLVGGGTINAGFYSTRASSGYVRAAG-----
0s04g0573100 CPLAATLSQR--FRVLLLEGGSPYDIDERIGNMTRFADTLSDTSP---SSPAQRFVSEDGVINARARLVGGGTINAGFYSTRASDEYVRGLG-----
0s06g0656000 CPLAATLAGPGGRVLLVERGGAPAEFPPLATAGFVRTLAMADPAPESDAPQTFASEDGVINARARLVGGGTINAGFYSTRADPWFRSAGEEAMN-----
0s08g0401500 CPLAATLSQK--YKVLLEGGSPYGNRNISLHNFHICLADDSPT---NSPQGFISTDGVINARARLVGGGTINAGFYSTRADPFSVQDAG-----
0s10g0524500 CPLAATLSER--SRVLLLEGGSPYAN--MSSEHFDALADTSP---ASPAQRFVSEDGVINARARLVGGGTINAGFYSTRASNEVYRASG-----
HTH CPLAATLSQN--FVSVLLEGGSPYNTANVNSFLRNHIFGLADISA---SSASQAFVSTDGVINARARLVGGGTINAGFYSTRADAAFYVRKAG-----
AT1G12570 CPLAATLSQK--ASVLLLEGGSPYNNPNIITRSLAFAALSDLSE---SSPQRFVSEDGVINARARLVGGGTINAGFYSTRAGTKYVRNMG-----
AT1G14185 CSLAATLSEK--YSVLLEGGSPFDPLVEEKYFYGYSLINTDEY---SSVAQSFVSDGVINARARLVGGGTINAGFYSTRASDFVKKAG-----
AT1G14190 CSLAATLSEK--YSVLLEGGSPFDPLVEEKYFYGYSLINTDEY---SSVAQSFVSDGVINARARLVGGGTINAGFYSTRASDFVKKAG-----
AT1G73050 CPLAATLSQS--FRVLLLEGGSPYNRNPMWHDGFLTLTDVN---NFDSPAQFISEEGVGNARARLVGGGTINAGFYSTRADQFFENSG---LV-----
AT1G356060 CALAATLSQN--ATVLLLEGGSPYDPAATDIGNFANTLLNITP---NSWSQLFISEDGVINARARLVGGGTINAGFYSTRADQFFENSG---LV-----
AT5G51930 CALAATLSQN--ASVLLLEGGSPYENPATDIGNFANTLLNITP---NSWSQLFISEDGVINARARLVGGGTINAGFYSTRADQFFENSG---LV-----
AT5G51950 CALAATLSQN--ASVLLLEGGSPYDPAATDIGNFANTLLNITP---NSWSQLFISEDGVINARARLVGGGTINAGFYSTRADQFFENSG---LV-----

0N13 WDEDLVNEFPWVEDKIVQWPKIAPWQALRDGLLQAGVSPFNQYTYHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
0s02g0678300 WDPKEVVSAYQWEDVFAQPELGPWQALRRGLLEIGVDPNGFYTHDILGTVKVGISFDAQRRHTAADLRYSRPQDIDVFRAGVYVRS----
0s03g0118700 WDPRLVNASYRWVERLFRPDPWRQCALREGLLQAGVTPDNGYTLHVQGTGIGGTFIDRAGRHTAADLRRARHPRRLTVFLRAT-----
0s04g0573100 WDLAATTAAYRWEDVFAQPELGPWQALRRGLLEAGIAPQNGFTDHLGTVKVGISFDAEGRHTAADLRYSRPQDIDVFRAGVYVRS----
0s06g0656000 WDKMLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
0s08g0401500 WDAELVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
0s10g0524500 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
HTH WDKMLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT1G73050 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT1G356060 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT5G51930 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT5G51950 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT1G12570 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT1G14185 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----
AT1G14190 WDLVNSYWEVERLAFQPVVRQNAQVRAAGLEAVNTPMNGFTMDHVSSTKVGKTFDFTYRHTAADLAAAGDPNNRLVLLHASVNRIVFNS----

0N13 ---QRQLKPRATGVQFDENGELHQAFVLSNCD---SEIIVSAGAIQSPQLLLSGIGPKNDLRSHKIP--VVLHNKYGVGMADPNNSYMFIFPTKSP-P
0s02g0678300 ---RKGTPKPARVGLYHDARGGSHMAYLNHGAR---NEIILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
0s03g0118700 ---GTATPVYGVVFTPDAGVRHMYLHGGAK---SEVIVTATGLGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
0s04g0573100 ---RAGRPRVAHGVVHDSGQMRHALNNGRG---NEIILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
0s06g0656000 ARRGRSPQPAVAASGVYVQDRLLQHQHALLRPPGGE---VILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
0s08g0401500 ---EQEHRKPTIGVEFKDENGQQAHLFTRNRD---SEIIVSAGAIQSPQLLLSGIGPKNDLRSHKIP--VVLHNKYGVGMADPNNSYMFIFPTKSP-P
0s10g0524500 ---QDGVPPYVAVGVVSDPLGQVHVRYLDRDGDK---NEVIVSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
HTH ---SG---TRPRVTGIFKDEKGNQHQALLSNRKG---SEVIVSAGAIQSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT1G73050 IGSN-----VSAIGVYVQDRLLQHQHALLRPPGGE---VILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT1G356060 ---K---GRPKAYGVIFLDANGVYKAEATQDSTVSEVILSAGAIQSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT5G51930 ---K---GRPKAYGVIFLDANGVYKAEATQDSTVSEVILSAGAIQSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT5G51950 ---K---GRPKAYGVIFLDANGVYKAEATQDSTVSEVILSAGAIQSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT1G12570 ---R---GTTKPIANGVYVDRRTGQAHRYLKEGAL---SEIILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT1G14185 ---R---GTTKPIANGVYVDRRTGQAHRYLKEGAL---SEIILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V
AT1G14190 ---R---GTTKPIANGVYVDRRTGQAHRYLKEGAL---SEIILSAGALGSPQLLMLSGVGPADHLEEFGIS--LVLDHPVGGQVSDNPNMAYIYVPSPP-V

0N13 RQSLIETVITEAG---VFIEASSGFGQSPESIHCHHIMSAEIQLST-----IPPKERSLEKQKYANTKLNLPKEIFHGGLILEKIDPLSTGHL
0s02g0678300 ELSLQVQVITRF---SYIEGASGSDNRSRTSGAAAQ--VRSFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
0s03g0118700 ELSLQVQVITRF---SYIEGASGSDNRSRTSGAAAQ--VRSFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
0s04g0573100 EVSLQVQVITEG---SYIEGASGANVRRSFGSGDRPHRNFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
0s06g0656000 DHSLLQVQVITRF---SYIEGASGANVRRSFGSGDRPHRNFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
0s08g0401500 KQSLQVQVITRF---AFIEASSGFGQSPESIHCHHIMSAEIQLST-----IPPKERSLEKQKYANTKLNLPKEIFHGGLILEKIDPLSTGHL
0s10g0524500 ELSLQVQVITRF---SYIEGASGSDNRSRTSGAAAQ--VRSFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
HTH EQSLQVQVITEG---TYEAAGGENFGGGGSSGSSSTRDYAMFS-----PRATLLESNMTKLSSAQPPQGGLEKLVGPQSTGRL
AT1G73050 ENSLQVQVITEG---AFLEAASN-----VIFPASPLHSVFIAPASPLVYVPTIMEKILGPSVIGLL
AT1G356060 EVSLQVQVITRF---SYIEGASGSDNRSRTSGAAAQ--VRSFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
AT5G51930 ELSLQVQVITEG---SYIEGASGSDNRSRTSGAAAQ--VRSFQMFSPQTQGLATVPKQRTPEALARAEEAMVQVPAALRGGGLEKLVGPQSTGRL
AT5G51950 EVSLQVQVITEG---TYEAAGGENFGGGGSSGSSSTRDYAMFS-----PRATLLESNMTKLSSAQPPQGGLEKLVGPQSTGRL
AT1G12570 EVSLQVQVITEG---TYEAAGGENFGGGGSSGSSSTRDYAMFS-----PRATLLESNMTKLSSAQPPQGGLEKLVGPQSTGRL
AT1G14185 TVDPPQVAITEG---KFLLQSLVPTNITTTTRTASIAKIAFPPKSKGRLEP-----KFILLESLVPTDITTTTASIAKIAFPPKSKGRLEP
AT1G14190 TLEPPQVAIAIEG-----KFILLESLVPTDITTTTASIAKIAFPPKSKGRLEP-----KFILLESLVPTDITTTTASIAKIAFPPKSKGRLEP

0N13 ALIDTDVKKNPVAVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
0s02g0678300 ALRNLDPDNPVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
0s03g0118700 ALRSADPDNPVAVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
0s04g0573100 ELRNRNPDDNPVAVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
0s06g0656000 WLTSNPLESPSVRFNLSRREDLARCVTGMRRVAKVLESTMDVFRSAMG-----SLSDSRRREFRIVGAALPVDNRDNTDGLDQCFQVATVLIWY
0s08g0401500 VLVDTDINSNPVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
0s10g0524500 ELRNTDPRANPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
HTH SLVNTVNDNPVAVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT1G73050 RLASTDVRINPVRNRYFSDPQLERCVNGTRKIGELRSRAMQDF-----MIREWFNRRFRVAGPLVDQ--SNDLVWADCFRTVSTIWIWY
AT1G356060 ELRNTDPRANPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT5G51930 KLRLNTPRDNPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT5G51950 ELRNTDPRANPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT1G12570 ELRNTDPRANPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT1G14185 KLNTNTPRDNPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY
AT1G14190 KLNTNTPRDNPSVTFNYFSPHQDLTRCVYGIKIERLKTNRSELSANTDG--HSMERVLNNSVQANVN--LIPKHTNDESL---EQFCRDVTWIIWY

0N13 HGGCHVGVVDDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s02g0678300 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s03g0118700 HGGCHVGVVDDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s04g0573100 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s06g0656000 HGGCHVGVVDDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s08g0401500 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
0s10g0524500 HGGCHVGVVDDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
HTH HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
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AT1G12570 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
AT1G14185 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV
AT1G14190 HGGCQVGRVVDQHRVLLGVSQVRRVDSGTFRSPTGNPQATVMMVMGRYGVWILRGLRGAAGV