

At3g48670 1 MGSTVILSSDDESDISESEMDEYGDKMYLNLKGGKLVKRLSPQAFICPYCPNKKKTSFOYKDLLQHASG
At3g12550 1 MN--NKLSD-----FEKNLYKKLKSGLKLVKVSRYRTFLCPYCPDNKKKVGGLYVDILQHASG
At4g01780 1 MGGTRHCYG-----LGYEMFN-----FVWSSSVRFVWSSS----ETLTKIVIIITRSLCI
At1g15910 1 MSIS-DEEAE----ISESEIEDYSETPYRLLRDGT-YKVKVNGQLRCPFCAGKKKQDYKYKELYAHATG
At4g00380 1 MDIS-DEESE----ISESEIEEYSKTPYHLLRSETYYKVKVNGRLRCPFCVCGKKKQDYKYKELHAHATG
At1g13790 1 MYSRRELEDL-----EYRYSEMKGTRKVKI SE SLFRCPFCYIDRKRQYQFDDLLRHASG
At1g80790 1 MDNSSDEESE----ISESEIDVYKPYEKLMMNGD-YKVKVKDTFRCPFCAGKKKQHYKYKELLAHASG
At5g59390 1 -----
At4g01180 1 -----

At3g48670 71 VGNSNSDKR-----
At3g12550 55 VGNSQSKKR-----
At4g01780 46 LGKVHT-----
At1g15910 64 VSKGSATR-----
At4g00380 65 VSKGSATR-----
At1g13790 57 IGGSSRTKDGRDKARHLALERYMRKYLPRPRPRPSPSTSDVSSLPKEEFTGKWKSTLSTTEEGEFITEN
At1g80790 65 VAKGSASR-----
At5g59390 1 -----
At4g01180 1 -----

At3g48670 79 -----SAKEKASHLALVKYLQODLADSASEAEPSSKRQKN-----
At3g12550 63 -----SLTEKASHRALAKYLIKDLAHYATSTISKRLKARTS-----
At4g01780 51 -----LLTFKVLTFLLKIELQCVFSDCVYVAET-----
At1g15910 71 -----SALQKANHLALAMFLENELAGYAEVPRPPVPPQ-----
At4g00380 72 -----SALQKSNHLALAKFLENLLAGYAEPLPRPPVPPPL-----
At1g13790 127 SSSPHIVKAEPKFSVSGDSDGRSGEERLKFSDKPPDFFSNEDKSYPAKRPCLVSGAKEGDEPVQRIGLSHG
At1g80790 72 -----SAKOKANHFALAKYMENELAGDAD-VPRPQIPSSS-----
At5g59390 1 -----MEKNQKQEFLAETSEMKNTKNNDDCSVQ-----
At4g01180 1 -----MKKKQKQEFVAETSEMNN--NNNECSGQD-----

At3g48670 114 -----GNPIQDCDHDEKLVWPWKGI VVNIPTTKAODGRS-AGESGSKLRDEYILRGFNPTVRVRL
At3g12550 99 --FIPAETGDAPIIYDDAQFEKLVWPWKGLVNIPTTSTEDGRSCTGSGPKLKDLELIRRGFNPIRVRTV
At4g01780 79 -----GIVVNIPTTKAODGRP-AGESGSKLRDEYILRGLN-----
At1g15910 106 -----LDETEPNPHNVYVWPWVGIVVNP--LKEADDKELLDSAYWLQ---TLSKFKPEIVNAF
At4g00380 107 -----LDETEPNPHNVYVWPWVGIVVNP--LKETDDKELLDSVYWLQ---TLSKFKPEIVNAF
At1g13790 197 ASFAPTYPQKLVSLGAGNGDQMYVWPWKGLANMKRTFNEKTRKYAGESGSKIREDLTKKGFNPHKVPPL
At1g80790 106 -----TEQSQA VDDIYVWPWVGIVVNP--VRRTDNKNVLLDSAYWLK---KLARFNPLEVKTLL
At5g59390 29 -----QQRFVWPWVGIVVNIPT-TEVEPSGRRVCKSGSTLRDEFMKGFNPTRVQPI
At4g01180 27 -----QQKRYVWPWVGIVVNIPT-TEVEPSGRRVCKSGSTLRDEFMKGFNPTRVKPI

At3g48670 174 WN-YLGHSGTAIVEFNKDWNLHNGLLFDKAYTVDGHGKKDWLKKDGPKLG-LYGWLARADDYNGNNIIG
At3g12550 168 WD-RFGHSGTGIVEFNRDWNLQDALVFKKAYEGDGHGKKDWLWCG-ATDSS-LYAWLANADDYRANILG
At4g01780 113 -----NGLLFDKAYRVDGHGKKDWMKKDGPKLG-LYGWLAGADDYVNDVGRG
At1g15910 161 WV-EQDSIVGVIKFNQDWSGFAGATELEKEFEFETQSSKKEWTERS GDSSESKAYGWCARADDFESQGPITG
At4g00380 162 WV-EQDSIVGVIKFNDSWGSFAAATELEKEFEFETQSSKKEWTERS GDSSESKAYGWCARADDFESQGPITG
At1g13790 267 WNGRLGFTGF AIVDFGKEWEGFRNATMFDKHFVVSQCGRDHDLTRDPGD-KLYGWVAKQDDYYSRTAIG
At1g80790 161 WL-DQESVAVIPIQFNQDWSGFKSVTELEKEYEIRCGGRKDWIDKRGDWRSKAYGWCARADDYNSQGSIA
At5g59390 81 WD-FKGHSGFALVEFAKDFEGFESAMNFFERSFNLDHRHGKRDWEKGHRLRDNKLYGWVAREDDYVNRSDTVG
At4g01180 79 WN-TKGHTGFALVEFAKDFKGFESAMQFEKSFDDLDRHGKRDWKKGHLRDRDKLYGWVAREDDYVNRSDTVG

At3g48670 242 ENLRKKTGDLKTI AELTEEEARKQELLVQNLRQLVEEKKKDMKEIEELCSVKSEELNQLMEEKKKNQKHY
At3g12550 235 ENLRKMGDLKSIYRFAEEARKDQKLLQRLNFMVENKQYRLKLLQIKYSQDSVKKLYETEKEKILRAYS
At4g01780 160 E-----ESAK-----
At1g15910 230 EYLSKEGQLRTVSDISQKNVQDRNTVLEELSDMIAMTNE DLNKVQYSYNR TAMS LQRVLDEKKNLHQAF A
At4g00380 231 EYLSKEGQLRTVSDILQNNVQDRNTLLDVLNMIAMTNE DLNKVQYSYNR TAMS LQRVLDEKKNLHQAF A
At1g13790 336 DHLRKGQDLKSVSGKEAEDQRKTF TLVSNLENTLVTKSDNLQOMESIYKQTSVLEKRMKEKDEMINTHN
At1g80790 230 EYLSKVKLRSFSDITKEEIQNKSI VVDDLANKIAMTNE DLNKVQYSYNR TAMS LQRVLDEKKNLHQAF A
At5g59390 150 KNVKKRDLKSI SQIVEEDERKMVHLVENMSQTIEKKKQSKQLEQKVDETSRFLFESLELHNVLLNKNIYQ
At4g01180 148 KNVKKRDLKSI SQIVEEDQRKLYHLFENMCQTIEKNKQRKQLEQKVDETSRFLFESLELHNVLLNKNIYQ

At3g48670 312 RELNATQERTMSHIQKIVDDHEKLRKLESERKKLEIKCNELAKREVHNGTFRMKLSEDLQNASKNSSL
At3g12550 305 EDLTGROOKSTDHFNRI FADHEKQKQVLESQIKLELEIKKLELAKREABNETORKIVAKELEQNAAINSIV
At4g01780 164 --LNATQERTMRHIQKIVDDHERLTKLLESEKKLEIKGNELAKPQVHNGTFRMKLSEDLQ-----
At1g15910 300 DETKKMQQMSLRHIQKILYDKEKLSNELDRKMRDLESRAKQLEKHEALTELDKQKLEDEDKRSKSDAMNKSL
At4g00380 301 EETKKMQQMSLRHIQRILYDKEKLRNLEDRKMRDLESRAKQLEKHEALTELDKQKLEDEDKRSKSDAMNKSL
At1g13790 406 EKMSIQQTARDYLASIEEBHEKASQHLAQKREYEDRENYLQKCOAKNKTEFRKLDQKHKLNLMATQEQ
At1g80790 300 QETKKMQELSRKINRI FREQERLTNELEAKMNNLKIWSKQLDKQKQALTELDKQKLEDEDKRSKSDAMNKSL
At5g59390 220 EGFQKMQMKMEELYQOVLDCHEKSLAELPAKREKLEDERARLIEQRAIINEEEMKSRLEEREMNQKAMCEQ
At4g01180 215 EEIQKMEKNMQEFYQOVLGGHEKSFALPAKREKLEDERARLIEQRAIKNEEEMKSRLEEREMIQKAMCEQ

At3g48670 382 ELAAMEQKKADEVKLAEDQRROKEELHEKILRLERQDQKQAIELVEQLKQOLNVMKHMMA--SDGDA
At3g12550 375 QLSALEQKTKREKAQR---LAVDHKEKLEKRIIAALERQLDQKQELVEVQLKQOLNVMKHMMA--LDSGS
At4g01780 224 -----ROKEELHEKILRLERQIDQVQAIELVEVQLKQOLNVMKHMMA--SDGDA
At1g15910 370 QLASREQKKADEVLRLVVEEHQROKEDALNKILLLLEKQLDTKQTLMEIQELKQKLVQMKHLG--DDDE
At4g00380 371 QLASREQKKADEVLRLVVEEHQROKEDALNKILLLLEKQLDTKQTLMEIQELKQKLVQMKHLG--DDDE
At1g13790 476 NKADEMMRLAEQQQ-----REKDELRKQVRELEKIDAEQALELEIERMRGDLQVMGHMQEGEGEDS
At1g80790 370 QLASLEQKKTDDRVLRLVDEHKKRKEETLNKILQLEKBLDSKQKLVQMKHLG--DDDE
At5g59390 290 NEANEEMKLAEKHQ--SSSLKBEKLEKRIEMEMAKLNETQELELEIEKLGKTTNVMKHMVGS DG-DK
At4g01180 285 NEANEEMKLAEKHQ-----KBEKLEKRIEMEMAKLNETQELELEIEKLGKTTNVMKHMVGS DG-DK

At3g48670 450 EVVKEVDIIFKDLGKBEAQLADLDKFNQTLILRERTNDELQBAHKELVNIMK--EWN---TNIQVGRMG
At3g12550 440 EIVNKVETFLRDLSETEGDLAHLNQFNQDLVQERKSNDELQBARRALISNLR--DMG---LHIGVGRMG
At4g01780 271 QVVKEVDIIFKDLVKEAELADLNKFNQTLILRERTNDELQBAHKELVN-----CMG
At1g15910 438 AVQKMKEMNDELDDKKAELGLESMNSVLMTKERQSNDEIQAAKRLIAGLT--GLLGAETDIGVGRMG
At4g00380 439 AVQTKMKEMNDELDDKKAELGLESMNSVLMTKERQSNDEIQAAKRLIAGLT--GLLGAESDIGVGRMG
At1g13790 539 KIKEMLEKTEELKBEEDWEYQESLYQLVVKHGYTNDLQDARKALIRSMR---ELTTRAYIGVGRMG
At1g80790 437 GIKKMKMKMKEELEKCELEQDLEDTNSALMVKERKSNDEIIVARKFLITELR--ELVSDRNIIRVGRMG
At5g59390 357 DIVEKLAKTQIQDQET---ALHEKMMTLARKERATNDEYQDVLKEMIQVWNANEELMKQEKIRVGRMG
At4g01180 347 DIVEKLAKTQIELDARET---ALHEKMMTLARKERATNDEYQDARKEMIKVWKANEELMKQEKIRVGRMG

At3g48670 515 ELVTKPFVDMQOKYCCQ--DVEDRAVEVLQLEWHYLDSDWHPFKRVKLENDREV-----E
At3g12550 505 ELDTKPFMKAMRIKYCQE--DLEDWAVEVIQLWEYKDPDWHPPFKRIKLETAETIV-----E
At4g01780 324 ELVVRKPFVDMQOKYCCQE--DVEDRAVEVLQLEWHYINDPDWHPFKRVKLENDREV-----E
At1g15910 506 ELDEKPFVLDVCKLRYSAN--EAAVEAATLCSTWQENLNKPSWQPFK--HEGTGDGAE-----E
At4g00380 507 ELDEKPFVLDVCKLRYSAN--EARVEAATLCSTWKENLNKPSWQPFK--REGTGDGAE-----E
At1g13790 606 ALDETPFKKVAKEKYP--AVEADKAEELCSLWEHLGDSAWHPIKVVVEKDGIAK-----E
At1g80790 505 ELEEKPFMTACRQRCTVEE-EAQVQYAMLCSKWQEKVKDSAWQPFK--HVTGDRKK-----E
At5g59390 424 QLNPAFPFLPVMKHKVQTSKAENKAMKLCVWEANIQDVQWTFPRVDES DGTPK-----R
At4g01180 414 ELNPAFPFLPVMNKH-----KAMMLCSVWAAEIQDVQWTFPRVDES DGTPKQKLHISQHSKCEMQR

At3g48670 571 VDDRDEKLELRLKADLGDGPYNAVTKALEINEYNPSGRYITTELWNFKADKATLEEGVTCLLDQWEKA
At3g12550 561 VIDEDEKLRITLKNELGDDAYQAVANALEINEYNPSGRYISSELWNFRERDRKATLEEGVNSLLEQWNQA
At4g01780 380 VDDRDEKLELRLKADLGDGPYNAVTKALEINEYNPSGRYITTELWNFKEDKATLEEGVTCLLDQWEKA
At1g15910 560 VDEDEDEQLKKLREWGKEVHNAVKTALVEMNEYNASGRYITTELWNFKEGRATLKEVITFISTDIKIL
At4g00380 561 VDEDEDEQLKKLREWGKEVHNAVKAALVEMNEYNASGRYPTSELWNFKEGRATLKEVITFISTDIKIL
At1g13790 660 ELNEDEKLELRLKELGEEVYAAVTQALKERNEYNSGRYIVPELWNFKQNRKASIKREGVVYLVNSWKQK
At1g80790 560 VDEDEDEIKKLRREWGKEVKNVKTALBELNEENPSGRYSVPELWNFKQGRKATLKEVIDYITQVVKTL
At5g59390 480 VDEDEKLRITLKNQYGEVYNEVVRTKLELEENASGSYVILELWNYEENRKATIBBATDVMLKIRSKL
At4g01180 475 VDEDEKLRMLKNQYGEVYSEVVRTKLEMEENASGSYETELWNYEENRKATIBBATDVMLKIRSKL

At3g48670 641 KRKRGMMA-----
At3g12550 631 KHLKS-----
At4g01780 450 KRKRGMMA-----
At1g15910 630 KRKRRT-----
At4g00380 631 KRKRRT-----
At1g13790 730 KPKPKRR-----
At1g80790 630 KRRRA-----
At5g59390 550 AAMKNKRKRLEV
At4g01180 545 AAMKNKRKRPP--