

1 10 20  
At1g04550 . . . . . MRGVSELEVGKS . . . . . NLPAESE TEL  
At2g33310 . . . . . MITELEMGK . . . . . GSE TEL  
At1g04100 . . . . . MNGLQEVCSSSGVMIGLPAAEEDENAHHSSSEDSSCPDES SVSET LDDL  
At3g23030 . . . . . MAYEKVNELNK TEL  
At4g14560 . . . . . MEVTNGLNLD TEL  
At4g29080 . . . . . MSVSVAAEHDIYIGLSEFPTEATTMSDKTKTRDNNNGLNFK TEL  
At3g23050 . . . . . MIG.QLMNLK TEL  
At4g14550 . . . . . MNLKE TEL  
At1g04250 . . . . . MMGSVELNRE TEL  
At3g04730 . . . . . MINFEA TEL  
At2g22670 MSYR.LLSVDKDELVTSP . . . . . CLKERNYLGSLDCSSVDSSTIPN.VVG.KSNLNFKA TEL  
At5g65670 MSPPEELQSNVSVASSSPTSNCISRNTLGGLKEHNYLGLSDCSSVGSSTLSP.LAEDDKATISLKA TEL  
At1g80390 . . . . . MSPPEYVRVWPDSDGLGG TEL  
At1g52830 . . . . . MAKEG.LALEI TEL  
At3g15540 . . . . . MEKEG.LGLEI TEL  
At1g15580 . . . . . MANESNNLGL TEL  
At1g51950 . . . . . MEGYSRNGEISPKLL  
At2g46990 . . . . . MGRGRSSSSSSS IESS  
At3g62100 . . . . . MGRGRSSSSSSS IESS  
At1g15050 . . . . . MYCSDPPHPLHLVADK QQK  
At2g01200 . . . . . MKLTSR REV

30 40  
At1g04550 GLGLSLGG . . . . . GAWKE GRILTAKFPPS . . . . .  
At2g33310 GLGLSLGGGT . . . . . AAKIGKSGGGGAWGER GRLLTAKDFPS . . . . .  
At1g04100 ALGLSIGR . . . . . RKV RSSLSSSSSSLTRE . . . . .  
At3g23030 CLGLPGRTEKIKEEQ . . . . . EVSCVKSNNKRLFEE TR . . . . .  
At4g14560 RLGLPGAQE.EQQL . . . . . ELSCVRSNNKRKNND S . . . . .  
At4g29080 RLGLPGSESPERVD SRF . . . . . LALNKSSCPVSGAKRVFSDAINDSNKWWVFS P  
At3g23050 CLGLPGGA . . . . . EAVESPAKSAVGSKR GFSETVDLMLNLQ . . . . .  
At4g14550 CLGLPGGT . . . . . ETVESPAKSGVGNKR GFSETVDLKLNLQ . . . . .  
At1g04250 CLGLPGG . . . . . DTVAP.VTGNKRGFSETVDLKLNLNNEP  
At3g04730 RLGLPGGN . . . . . HGGEMAGK.NNGKRGFSETVDLKLNLNLS . . . . .  
At2g22670 RLGLPESQSPERETDFGLLSPRTPEKLLFPLLPSKDNGSATTGHKNVVS GNKR GFADTWDFSGVKGSV  
At5g65670 TLGLPGSQSPARDTELNLNLLSPA KLDEKPFLLPSKDE.ICSSSQKNNASGNKR GFSDTMDQFAEAKSSV  
At1g80390 TLALPGTP . . . . . TNASEGPKKFKGNKR RFLETVDLKLGL . . . . .  
At1g52830 RLGLPGDNY . . . . . SEISVCGSSK KKRVLSDM.MTSSAL  
At3g15540 RLGLPGRDV . . . . . AEK . . . . . MMKKRAFTEMNMTSSGS . . . . .  
At1g15580 RLGLPG . . . . . DIVVSGESI . . . . .  
At1g51950 DLMIPQERRNWFHDEK . . . . . NSVFKTEKKLELKLGPPEEDDDESMR . . . . .  
At2g46990 SKSNPPFG . . . . . ASSS.TRNLSTDLRLGLSFG . . . . .  
At3g62100 CKSNPPFG . . . . . VSSSNTRLSTDLRLGLSFG . . . . .  
At1g15050 DHKLLLS . . . . . WKKTMDSDPLGVFPNSP . . . . .  
At2g01200 SEFPFLN . . . . . SRAFTS.SLVSFLN . . . . .

50 60 70 80  
At1g04550 . . . . . VGSKRSAESSHQGASPPRSSQ VVGWPP IGLHR MNSLVNNQA  
At2g33310 . . . . . VGSKRAADSASHAGSSPPRSSQ VVGWPP IGSHR MNSLVNNQA  
At1g04100 . . . . . SGTKRADSSPAAASNATR.QVAVGWPP LRTYR INSLVN.QA  
At3g23030 . . . . . DEEES.TPPTKTO VVGWPP VRSRKN . . . . .  
At4g14560 . . . . . TEESA.PPPAKTO VVGWPP VRSRKN . . . . .  
At4g29080 GSTTATGDVGS GSPRTSVVKDGKSTTFKPAVPVKEKKSSATAPASKAQ VVGWPP IRSFRKNMSMASSQS  
At3g23050 . . . . . SNKEGSVDLKNVSAVPKEK.TTLKDPSK.PPAKAO VVGWPP VRSRKNMTOQKT  
At4g14550 . . . . . SNKQGHVDLN.TNGAPKEK.TFLKDPSK.PPAKAO VVGWPP VRSRKNVMAQKS  
At1g04250 . . . . . ANKEGSTTHDVTFDSKEKSACPKDPAK.PPAKAO VVGWPP VRSRKNVMVSCQK  
At3g04730 . . . . . STAMDSVSKVDLEN.MKEKVVK.PPAKAO VVGWPP VRSFRKNVMSGQKP  
At2g22670 RPPG . . . . . GINMMLSPKVKDVSKSIQEERSHAKGGLNNA PAAKAQ VVGWPP IRSFRKNMTASSTS  
At5g65670 YTEKN.WMPFEEAAATQSVTKKDV PQNIPKQSSSTNNSSSPPAAKAO VVGWPP VRSFRKNTLAT.TC  
At1g80390 . . . . . EAHENNYISSMVTNDQ LVGWPP VATAKTVRR . . . . .  
At1g52830 . . . . . DTE.NENSVVSSVEDES.LPVVKSQAVGWPP VCSYR RKNKNEEAS  
At3g15540 . . . . . NSDQCESGVVSSGGDAEKVNDSPA AKSQ VVGWPP VCSYR RKNKSCEAS  
At1g15580 . . . . . SGKRRASPEVEIDLKCE.PAKKSO VVGWPP VCSYR RKNKSLERTK  
At1g51950 . . . . . HMKKEPKDKSILSLAGKYFSPSSTKTTSHKRTAPGP VVGWPP VRSFRKNLASGSSS  
At2g46990 . . . . . TSSGTQYFNGGYGY SVAAPA VEDA EYVAAVEEEE  
At3g62100 . . . . . SSSG.QYNGGDNH EYDG.VGAEE EMMIMEEEE  
At1g15050 . . . . . KYHPYYSQTTEFGGVIDLGLS LRTIQHEIYHSSGQRYCSNE  
At2g01200 . . . . . PQLATFN.IYIITQ LKS.EDTGHQR LAQGYNNNE

90 100 110 120 130 140 150  
At1g04550 MKAARAE.EGDGEKVVKNDELKDVSMKVNPKVQGLG FVKNVMDGVGIG RKVDR AHSSYENLAQ  
At2g33310 TKSAREE.EEAG.KKKVKDDEPKDVTKKVNGKVQ.VG FVKNVMDGVVIG RKVDR LNAHSSYENLAQ  
At1g04100 KSLATEGGLSSGIQKETT KSVVVAAKND DACFIKSSRTS.MLVKVTMDGVVIG RKVDR NALDSYALEK  
At3g23030 . . . . . NNS . . . . . NVS YVKNVMDGAPYL RKKID LKTYKN YPBLK  
At4g14560 . . . . . NNNK . . . . . NVS YVKNVMDGAPYL RKKID LKMYKN YPBLK  
At4g29080 QKPGNNSETE . . . . . EAEAKSGPEQPCL YVKNVMDGAPYL RKKID LKTYKS YBLDSS  
At3g23050 SSGAEEASSEK . . . . . AGNF.GGGAAGA . . . . . GLVKNVMDGAPYL RKKID LKMYKS YQDLS  
At4g14550 GE.AEEAMSS . . . . . GGGTV . . . . . AFVKNVMDGAPYL RKKID LKMYTS YKDLSD  
At1g04250 SS . . . . . GGPEAA . . . . . AFVKNVMDGAPYL RKKID LKMYKS YDELSN  
At3g04730 TTGDATEGNDK . . . . . TS GS . . . . . SGATSSASACATVA YVKNVMDGAPYL RKKID LKLYKT YQDLSN  
At2g22670 KNTDEVD . . . . . GKPLG . . . . . VLVKNVMDGAPYL RKKID LRTYTS YQDLS  
At5g65670 KNSDEVD . . . . . GRPGSG . . . . . ALFVKNVMDGAPYL RKKID LRSYTN YBLDSS  
At1g80390 . . . . . K YVKNVALDGAAYLRKVD LGMYDC YGGLFT  
At1g52830 K . . . . . AIG YVKNVMDGAPYL RKKID LGSSNS YINLVT  
At3g15540 TT . . . . . KVGLG YVKNVMDGAPYL RKKID LGSSQGYDDBLAF  
At1g15580 S . . . . . SYVKNVSDGA AFL RKKID LEMYKY QDLS  
At1g51950 KLGNDSTTSNG . . . . . VTLKNQKCDAAAKTTEPKRQGGM FVKNVMDGAPYL RKKID LSAHNS YELSF  
At2g46990 ENECNSVT . . . . . SF YVKNVMDGAPYL RKKID LSLNNG YRDLHR  
At3g62100 QNECNSVG . . . . . SF YVKNVMDGAPYL RKKID LSLNNG YRDLHR  
At1g15050 G.YRRKWG . . . . . YVKNVMDGAPYL RKKID LSLNNG YRDLHR  
At2g01200 GESRGKYA . . . . . YVKNVMDGAPYL RKKID LSLNNG YRDLHR

	160	170	180	190	200	210					
At1g04550	TLEEMF	FGMT.GTT..C.REKVKPLR.....LLDGSSEDF	VLT	YED	KEGDWMLV	GDVP	W	RM	FINS	SV	KRLR
At2g33310	TLEDMF	FRTNPSTVGLT.SQFTKPLR.....LLDGSSEDF	VLT	YED	KEGDWMLV	GDVP	W	RM	FINS	SV	KRLR
At1g04100	TLDLMF	FQIPSPVTRSN.TQGYKTIKETCTSKLLDGSSEY	II	TY	ODKGDWMLV	GDVP	W	QM	FLGS	V	TRLR
At3g23030	ALENMF	FK.VMIGEY.....CEREGYK.....GSGF	V	Y	EDKGDWMLV	GDVP	W	MF	SS	CK	RRLR
At4g14560	ALENMF	FK.FTVGEY.....SEREGYK.....GSGF	V	Y	EDKGDWMLV	GDVP	W	MF	SS	CK	RRLR
At4g29080	ALEKMF	SCFTIGQFGSH.GGCGRDGLNESRLTDLLRGSEY	V	Y	EDKDSWMLV	GDVP	W	EM	FICS	CK	KLR
At3g23050	ALAKMF	SSFTMGNYG...AQGMIDFMNESKLMNLLNSSEY	V	Y	EDKGDWMLV	GDVP	W	EM	FV	ES	CKRRLR
At4g14550	ALAKMF	SSFTMGSYG...AQGMIDFMNESKVMDDLNSSEY	V	Y	EDKGDWMLV	GDVP	W	EM	FV	ES	CKRRLR
At1g04250	ALSNMF	SSFTMGKHGG...EFGMIDFMNERKLMDLVNSWDY	V	Y	EDKGDWMLV	GDVP	W	EM	FV	DT	CKRRLR
At3g04730	ALSKMF	SSFTIGNYG...PQGMKDFMNESKLIDLLNGSDY	V	Y	EDKGDWMLV	GDVP	W	EM	FV	DS	CKRIR
At2g22670	ALEKMF	SCFTIGQCGLH.GAQGRERMSEIKLKDLLHGSEF	V	Y	EDKGDWMLV	GDVP	W	IF	TE	TC	QKLR
At5g65670	ALEKMF	TFFTLGQCGSN.GAAGKDMLESETKLDLLNGKDY	V	Y	EDKGDWMLV	GDVP	W	EM	FIDV	CK	KLK
At1g80390	ALENMF	Q.....GIITICRVTELEKGEF	V	Y	EDKGDWMLV	GDVP	W	EM	FV	ES	CKRMR
At1g52830	VLENLF	GCLGIGVA.....KEGKCEY	II	Y	EDKDRDMLV	GDVP	W	QM	F	ES	CKRRLR
At3g15540	ALDKLF	GFRGIGVAL.....KGDNCEY	V	Y	EDKGDWMLV	GDVP	W	EM	FV	ES	CKRRLR
At1g15580	ALQILF	GCY.INFD.....DTLKESEC	V	Y	EDKGDWMLV	GDVP	W	EM	FV	ES	CKRRLR
At1g51950	TVDKLF	FRGLLAQRDFP.SSIEDEKPI TG...LLDGNCEY	TL	Y	EDNEGDWMLV	GDVP	W	EM	FV	SS	VKRLR
At2g46990	TLDPMF	NASILWAAE.....EDMCNEKSH	V	Y	ADKEGDWMLV	GDVP	W	EM	FV	ST	VRLK
At3g62100	TLDPMF	NASILWAAE.....EDMCSEKSH	V	Y	ADKEGDWMLV	GDVP	W	EM	FV	SS	VRLK
At1g15050	QLEDMF	G.....MQSVSGLRFLQMESEF	CL	Y	REDEGLWRNA	GDVP	W	NE	FI	ES	VERLR
At2g01200	QLNMF	GKPCSDPQASSYKYVSEGMQTVSGLRFLQTESEF	SL	Y	REDEGLWRNA	GDVP	W	NS	YI	FI	QKLS

	220	230
At1g04550	IMGT	TSEASGLAPRRQEQKDRQRNNPV
At2g33310	VMKT	TSEANGLAARNQEPNERQRKQPV
At1g04100	IMKT	SIGAGVGK.....
At3g23030	IMK	GSDAPALDSSL.....
At4g14560	IMK	GSEAP...TAL.....
At4g29080	IMK	SSEAIIGLAPRVMEKCRSRN...
At3g23050	IMK	GSEAVGLAPRAMEKYC.KNRS..
At4g14550	IMK	GSEAIIGLAPRAMEKF..KNRS..
At1g04250	LMK	GSDAIIGLAPRAMEKC..KSRA..
At3g04730	IMK	GSEAIIGLAPRALEKC..KNRS..
At2g22670	IMK	GSDS IGLAPGAVEKSKNKERV..
At5g65670	IMK	GCDAIIGLAAAPRAMEKSKMRA..
At1g80390	LMK	TGDAIGL.....
At1g52830	IVK	RSDATGFGLQOD.....
At3g15540	IMK	RSDATGFGLQPRGVDE.....
At1g15580	IMK	RSCNRG.....
At1g51950	VIK	TSEISSALTYGNGKQEKMR..
At2g46990	ISR	ANYHY.....
At3g62100	ISR	A.YHY.....
At1g15050	ITR	RNDAVLPE.....
At2g01200	ILS	.....