

CORK1, a LRR-Malectin Receptor Kinase, is required for Celloligomer-induced Responses in *Arabidopsis thaliana*

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	10	20	30	40	50
<i>X.laevis</i>					
CORK1	-MLSIRTVLG	PLATILLTVL	GPFGAHGSGL	ADKVIWAVNA	GGESHVDVHG
AT1G56120	FNFFVNCGGR	DIRSS---SG	ALYEKDEGAL	GPATFFVSK-	TQRWAVSNVG
AT1G56130	YNFSINCCGP	EIRSV---SG	ALFEKEDADL	GPASFVUSA-	AKRWAASSVG
AT1G56140	SDFSINCCGP	EKRVS---TG	ALFEREDEF	GPASFFVSA-	GQRWAASSVG
AT1G07650	SDFSINCCGP	EIRSV---TE	AVFEREDEL	GPASFVUSA-	GQRWAASSVG
AT1G29720	YKLYINCCGG	EVKVDKEIT-	--YQADDEPK	G-ASMYVLGA	NKRWALSSTG
AT1G29730	RFLHINCCGE	EVSIRNSLKG	ITYQTDNSRQ	TNAASNQO--	FDYWGVSNTG
AT1G29740	RSLHINCCGP	DVTIENSRR	FLYEGDNYGL	TGSATNYY--	RKNWGVSNTG
AT1G29750	RSLHINCCGP	DVTIENSRR	FLYEGDNYGL	TGSATNYY--	GKNWGFSTG
AT1G53420	SCLHVNCCGS	DMYVKEKTK	ELYEGDGNVE	GGAAKYFLKP	DANWGFSTG
AT1G53430	NALHINCCGD	EMSIN---G	TIYESDKYDR	LESWYESR--	-NGWFSNNG
AT1G53440	SSLFINCCGS	RLKIG---K	DTYTDLLNSR	GQSTFSSVS-	-ERWGYSSSG
AT3G14840	SSLFINCCGN	RLKVD---K	DEYADDLNKR	GASTFSSVS-	-ERWGYSSSG
AT2G22610	YGLHINCCGN	EITSN---E	TKYDADTWD	PG-YYDSK--	-NGWVSSNTG
AT1G72250	TIMFINAGGD	DSKVL-----	-----	-----	DSELNISRDD
	PVISINCS	SI STDVT-----	-----	-----	VEDVTFLKDE

	60	70	80	90	100
<i>X.laevis</i>					
CORK1	IHYRKDPLEG	RVGRASDYGM	KLPILRSNPE	DQVLYQTEFY	NEDSFGMDIP
AT1G56120	LFTGSNSNQY	IALSATQ---	-----FANTS	DSELFQSARL	SASSLRYYGL
AT1G56130	NFAGSSNNIY	IATSLAQ---	-----FINTM	DSELFQSARL	SASSLRYYGL
AT1G56140	LFAGSSNNIY	IATSQSQ---	-----FVNTL	DSELFQSARL	SASSVRYYGL
AT1G07650	LFAGSSNNIY	ISTSQSQ---	-----FVNTL	DSELFQSARL	SASSLRYYGL
AT1G29720	NFMDNDDDAD	EYTVQNTS--	R-LSVNASSP	SFGLYRTARV	SPLSLTYYGI
AT1G29730	DFTDNDSHDH	EYYTSTN---	-----LTLSDG	YPDLYKTARR	SALSLVYYAF
AT1G29740	DFMDDAITED	TYTVSSE---	-----SAVSAK	YPDLYQNARR	SPLSLAYYAF
AT1G29750	DFMDDAITED	TYTVSSE---	-----SAVSAK	YPDLYQNARR	SPLSLAYYAF
AT1G53420	DFMDDNN---	---FQNTN---	F-TMFVPASN	QSDLYKSARI	APVSLTYFHA
AT1G53430	VFVDDKHVPE	RVTIESNS--	SELN-----V	DFGLYTCARI	SAISLTYYAL
AT1G53440	VWLKEDAGY	LATDRFN---	-----LINGS	TPEYYKTARL	SPQSLKYYGL
AT3G14840	AWLGNDGATY	LATDTFN---	-----LINGS	TPEYYKTARL	ASQSLKYYGL
AT2G22610	NFLDDDRNTN	GKSKWSNS--	SELKITNSSI	DFRLYTQARL	SAISLTYQAL
AT1G72250	YFEGGDVLR	EESIVEA---	-----GD	FPFIYQSARV	G--NFCYQLN
	FFSGGESI-T	TDAVVGN---	-----ED	EILLYQTARL	G--NFAMKFKQ

	110	120	130	140	150
<i>X.laevis</i>					
CORK1	IKEEGEYVIV	LKFAEYVFAQ	SQQ-----	-KVEDVRVNG	HTVVKDLDF
AT1G56120	GLENGGYSVT	VQFAEIQIQG	SNT--WKSIG	RRIFDIYVQG	KLVEKDFDMQ
AT1G56130	GLENGGYTGT	LQFAEVQIEG	SNS--WKGIG	RRRFNIYVQG	RLVEKDFDIR
AT1G56140	GLENGGYTGT	LQFAEIQILG	STSTTWKGLG	RRRFDIYVQG	RLVEKDFDVR
AT1G07650	GLENGGYTGT	LQFAEIQILG	STSTTWKGLG	RRRFDIYVQG	RLVEKDFDVR
AT1G29720	CLGNGNYTVN	LHFAEIIIFD	DNT--LYSLG	KRLFDIYVQD	QLVIKNFNIQ
AT1G29730	CLGNGNYTVN	LHFAEIQFSD	KEV--YSRLG	RRIFDVYVQG	KLFLRDFNIN
AT1G29740	CFENGSYNVK	LHFAEIQFSD	VEP--YTKLA	KRVFNIIYQG	KLIWEDFSIR
AT1G29750	CFENGSYNVK	LHFAEIQFSD	EEP--FSRLA	KRVFNIIYQG	KLIWEDFSIR
AT1G53420	CLGNGNYTVN	LHFAEIRFTN	DEN--YNRIG	RRIFDIYVQG	KLVAKDFNIM
AT1G53430	CLGNGNYTVN	LHFAEIMFNG	NNN--YQSLG	RRIFDIYVQG	KLEVKDFNIA
AT1G53440	CLRRGSYKQ	LHFAEIMFSN	DQT--FNSLG	RRIFDIYVQG	NLLERDFNIA
AT3G14840	CLRRGSYKQ	LHFAEIMFSN	DQT--YSSLG	RRIFDIYVQG	ILLERDFNIA
AT2G22610	CLGNGNYTVN	LHFAEIMFNE	KNM--YSNLG	RRYFDIYVQG	KREVKDFNIV
AT1G72250	NLLPGEYLLD	FHFAEIIINTN	GPK-----G	IRVENVYVQD	E-KATEFDIF
	SLDPGDIYFID	LHFAEIEFTK	GPP-----G	V-----	---ISGLDLF

	160	170	180	190	200
<i>X.laevis</i>					
CORK1	DRVGHSTAH	EIIPISIKKG	KLVSQGEVST	FTGKLSVEFV	KGYDNPVKVC
AT1G56120	KAANGSSIRV	IQRVYKANVS	ENYLEVHLFW	AGKGTCCIPA	QCTYGCPLVS
AT1G56130	RTAGGSSVRA	VQREYKTNVS	ENHLEVHLFW	AGKGTCCIP	QAYG-PLIA
AT1G56140	RTAGDSTVRA	VQREYKANVS	ENHLEVHLFW	AGKGTCCIP	QAYG-PLIS
AT1G07650	RTAGDSTVRA	VQREYKANVS	QNHLEIHLFW	AGKGTCCIP	QAYG-PLIS
AT1G29720	EAARGSGKPI	IKSFL-VNVT	DHTLKIGLRW	AGKGTGIP	RGVYG-PMIS
AT1G29730	KEANGNMKPV	IKVIN-ATVT	NHMLEIRLYW	AGKGTTLIPK	RGVYG-PLIS
AT1G29740	EEANGTHKEV	IREVN-TTVT	DNTLEIRLYW	AGKGTMIIPQ	RGVYG-SLIS
AT1G29750	EEANGTHKEV	IREVN-TTVT	DNTLEIRLYW	AGKGTMIIPK	RGVYG-SLIS
AT1G53420	DEAKGAQTP	IKPLT-AVVT	NHFLTIRLSW	AGKGTTRIPT	RGVYG-PIIS
AT1G53430	KEAKDVGNV	IKTFP-VEIK	DGKLEIRLYW	AGKGTTVIPK	RGVYG-PLIS
AT1G53440	ERAGGVGKPF	IRQIDGVQVN	GSTLEIHLQW	TGKGTNVIPT	RGVYG-PLIS
AT3G14840	ERAGGVGKPF	LRQVDEVQVN	GSTLEIHLQW	TGKGTNVIPT	RGVYG-PLIS
AT2G22610	DEAKGVGKAV	VKKFP-VMVT	NGKLEIRLQW	AGKGTQAIPT	RGVYG-PLIS
AT1G72250	SVVGANRPLL	LVDLR-----	-----VMV	MDDGLIRVRF	EGINGSPPVC
	SQVGANTPLV	IEDLR-----	-----MLV	GRGELSIRL	EGVTGAAILC

		210	220	230	240	250
						
<i>X.laevis</i>	ALFIMKGTAD	DVPMLQPHPG	LEKKEEEEEEE	EEEEGSTSKK	QINKNRVQSG	
CORK1	AI-----	-----	-----	-----	-----	
AT1G56120	AV-----	-----	-----	-----	-----	
AT1G56130	AV-----	-----	-----	-----	-----	
AT1G56140	AV-----	-----	-----	-----	-----	
AT1G07650	AI-----	-----	-----	-----	-----	
AT1G29720	AI-----	-----	-----	-----	-----	
AT1G29730	AV-----	-----	-----	-----	-----	
AT1G29740	AI-----	-----	-----	-----	-----	
AT1G29750	AI-----	-----	-----	-----	-----	
AT1G53420	AI-----	-----	-----	-----	-----	
AT1G53430	AI-----	-----	-----	-----	-----	
AT1G53440	AI-----	-----	-----	-----	-----	
AT3G14840	AV-----	-----	-----	-----	-----	
AT2G22610	GI-----	-----	-----	-----	-----	
AT1G72250	GI-----	-----	-----	-----	-----	

	260	270	280	
				
<i>X.laevis</i>	PRTPNPYASD	NSSLMFPILV	AFGVFIPTLF	CICRL
CORK1	-----	-----	-----	-----
AT1G56120	-----	-----	-----	-----
AT1G56130	-----	-----	-----	-----
AT1G56140	-----	-----	-----	-----
AT1G07650	-----	-----	-----	-----
AT1G29720	-----	-----	-----	-----
AT1G29730	-----	-----	-----	-----
AT1G29740	-----	-----	-----	-----
AT1G29750	-----	-----	-----	-----
AT1G53420	-----	-----	-----	-----
AT1G53430	-----	-----	-----	-----
AT1G53440	-----	-----	-----	-----
AT3G14840	-----	-----	-----	-----
AT2G22610	-----	-----	-----	-----
AT1G72250	-----	-----	-----	-----

Supplementary Figure S1. Alignment of malectin domains (MD) in *A. thaliana* and the malectin in *X. laevis*. Black shade indicates conserved amino acid residues over 90% threshold.

	10	20	30	40	50
					
<i>X.laevis</i>	---MLSIRT	VLGPIATILL	TVLGPFGAHG	SGLADKVIWA	
CORK1	VNAGGESHV				
AT1G29750					
AT1G53430					
AT1G56120					
AT1G07650					
AT1G29720					
AT1G56140					
AT1G56130					
AT1G53440					
AT1G29740					
AT3G14840					
AT1G53420					
AT2G22610					
AT1G29730					
AT1G72250					
AT1G51860	LDCGLVPKET	-TYTEKSTNI	TYKSDVDYID	SGLVGKINDA	YKTQF---Q
AT3G46240	IDCGTSLPGV	D-----NNNL	KWVGDDQDFIT	SG-DSATISS	TTVEK-----
AT2G23200	VNCGSDSNVF	YGGQTFVGDT	NSSTNSVSFT	NKGTEVINDQ	SSVAP-----
AT2G14440	LYCGLPSNES	-PYIEPLTNL	TYISDVNFVR	GGKTGNIKNN	SDIDF---TS
AT1G30570	VDCGS-NATT	EV-DGRTWVG	DLSPNKSVTL	QGFDAITAST	-----SKGSS
AT3G05990	IDCGAS-SSS	V-----IDGR	QWQPDFTFVS	SG-TPKNVSD	QVLDE-----
AT3G46420	VDCGLSPNEV	SPYIEPFTGL	QFTTDSNFIE	TGKLGRIQAS	LEPKY-----R
AT1G25570	IDCGSP-TS	-----TDVFN	RWLPDQFYSG	GSTAVVSEPL	RFHLI-----
AT3G46370					
AT3G46270	IDCGTTGSYV	D-----SNNV	TWVGDKGFVT	TG-ESINIT-	DVTTK-----
AT4G39110	IDCGSKSSSK	TP-DGRVFKS	DQET--IQYI	EAKEDIQVSA	---PPSDKVA
AT1G07560	LDCGLQADES	-PYTEPLTKL	TFTSDADFIK	SGKSGKIQNV	PGMEY---I-
AT1G51820	VDCGLSLES	-PYDAPQTGL	TYTSDADLVA	SGKTGRIAKE	FEPLV----D
AT1G24485	IDCGSSSHI	D-----ADNR	TWVGDTDFVA	TGLTSKFVPF	SKFPA-----
AT5G39030	INCG-ETDVP	FDNHGRTWTQ	EEK---NILP	KNSDN-ASFS	SVVSYKEESG
AT3G46290	INCGS-PTNG	TL-MGRIFLS	DKLS--SKLL	T---SSKEIL	---ASVGGN
AT5G61350	IDCGSSDETK	LS-DGRNFKS	DQGS--VAFL	QTDEDIKTSV	DSIPITDSNA
AT1G51805	VDCGLLPRDS	-PYNALGTGL	VYTSDVGLVS	SGKTGKIAKE	FEENN-----S
AT5G59660	LDCGLPANEL	SPYEESTFTGL	RFSSDEKFIR	SGKNGRIREN	-PQG---YA
AT5G39000	FNCG-DTSNN	VDVSGRNWTA	ENQ---KILS	SNLVN-ASFT	AQASYQE-SG
AT3G04690	LDCGLVPEI	ADQDKKKWEP	DTK---FLK	T--GN--SIH	ATATYQDPSL
AT1G51790	IDCGLQPENS	-SYTETSTDI	KYVSDSSYTD	TGTSYFVAPE	NRQN---MK
AT5G28680	LSCG-ASEPA	VDQDKKKWEP	DTK---FLK	T--PN--TVH	APATYQDPSL
AT2G19190	IDCGI-PDDS	-SYNDETTGI	KYVSDSAFVD	SGTTKRIAAQ	FQSSG---FD
AT2G04300	LDCGLSPNEP	-PYVDAATDL	TYTTDNDFVQ	SGKTGTIDKE	LESTY---N
AT5G59680	LDCGLPANEL	SPYTEPRTGL	QFSSDAAFIQ	SGKIGRIQAN	-LEAD---FL
AT2G19210	IDCGI-PEDS	-SYNDETTDI	KYVSDAAFVE	SGTIHSDPE	FQTSS---LE
AT1G51890	LDCGLVPEI	-TYVEKSTNI	TYRSDATYID	SGVPGKINEV	YRTQF---Q
AT1G51880	LDCGLVPKNA	-TYTEKTTNI	TYKSDANYID	SGLVGRISAE	YKAQL---Q
AT5G59616					
AT2G28970	LDCGFPIEES	-PYSDPSTGL	TFTSDSTFIQ	TGESGRVDKE	-LNKI---FR
AT5G54380	ISCGS-SQNI	TF-QNRI FVP	DSLH--SSLV	LKIGNSSVAT	----STTSNN
AT5G48740	LSCGSSSYTA	-----AYNI	SWVSDNDYIE	TGNTTTVTYA	EGNST-----
AT2G28960	LDCGLPVNES	-PYTDPRTGL	TFSSDADFIL	SGLRGEAGDD	NT-----YIY
AT3G21340	LDCGLSPNEP	-PYNDPSTGL	TYSTDGDFVQ	SGKTGRIQKA	FESIF---S
AT3G46280	IDCGSTGSYV	D-----SNNV	TWVGDKGFVT	NG-EPMKIP-	DVVKK-----
AT3G46260	IDCGTTGSYV	D-----SNNV	TWVGDKGFVT	TG-ESINIT-	DVVKK-----
AT1G05700	IDCGI-PSGS	-SYKDDTTGI	NYVSDSSFVE	TGVSKSIPFT	AQ-----
AT3G46400	LDCGLSPNEQ	SPYVELETGL	QFLSDSSFIQ	SGKIGRIDAS	LESKY---P
AT5G38990	INCG-DTSNN	MDYSGRNWTT	ENP---KFMS	SNAVDDASFT	SSASYQE-SG
AT1G51800	LDCG-SPRET	-SFREKTTNI	TYISDANFIN	TGVGGSIKQG	YRTQF---Q
AT5G24010	INSGSNTNTS	FF-TTRSFLS	DSSEPGSSFL	STDRSISISD	-----TNPSP
AT2G28990	LDCGLPSDES	-PYDDSFNGL	TFTSDSTFIQ	TGKIDSVDKD	-LNIN---LS
AT4G20450	LDCGMPRNES	-SYTDESTGL	NFSSDADFIS	SGKSGTIKTE	DSDSGV-KYI
AT1G49100	LDCGLLPDGS	-PYTNPSTGL	TFTSDSSFIE	SGKNGRVSKD	SERNF-----E
AT4G29450	IDCGI-PPYD	-TPEDTMTNI	NYVSDAEFIT	TGVNFKVSEE	YGYPKNPVLL
AT1G51840	VDCGLSPPEP	-PYNAPQTGL	TYTSDTGLIN	TGKTGRIAKD	FEFFV---D
AT5G59670	LDCGLPANEL	SPYTETQTGL	LFSSDATFIQ	SGKTGRVQAN	-QESK---FL
AT1G51850	VDCGLAPRES	-PYNEAKTGL	TYTSDDGLVN	VGKPGRIAKE	FEPLA---D
AT5G59700	INCGS-STNV	TV-TSRVFIS	DNLA--SNFL	T---SPNEIL	---AASNRN
AT2G19230	IDCGI-PEDS	-SYIDEKTDI	KYISDAAFVE	SGTIHSDSK	FQKKN---LE
AT1G51870	LDCGLVPKET	-TYVETSTNI	TYKSDANYTD	SGLVGKINDA	HKTIV---Q
AT3G46330	LDCGLPLNEP	-PYIESETGI	QFSSDENFIQ	SGKTGRIPKN	-LESE---NL
AT2G29000	LDCGLPAKES	-PYTESTTSL	VFTSDANFIS	SGISTKLPKH	DD-----Y
AT3G46350	LDCGLAPTEP	SPYTEPVTTL	QYSSDSNFIE	SGKLGRIDTS	LQTFE---L
AT2G37050	LDCG-----GA	EPFTD-ELGL	KWSPDNHLIY	-GETANISSV	NETRT-----
AT1G07550	LDCGLASNES	-PYNEANSNL	TYISDADFIE	GGKTGNVQKD	LIMKL---R-
AT1G51810	LDCGLSIQGS	-PYKESSTGL	TYTSDGDFVQ	SGKIGKITKE	LESLY---K
AT4G29990	IDCGI-PDDS	-SYTDEKTNM	KYVSDLGFEV	SGTSHSIVSD	LQTTS---LE
AT5G59650	LDCGLPMTEP	SSYTESVTGL	RFSSDAEFIE	TGESGKIQAS	-MEND---YL
AT1G28340	ISCGARKNVR	----TPPTYA	LWFKDIAYTG	GVFANATTPT	-YITP-----

AT3G51550	LNCGGGASNL	TDTDNRIWIS	DVKS--KFLS	SSSED--SKT	SPALTQD-PS
AT2G21480	IDCGSKSSTK	TP-EGRVFKS	DSET--VQYI	EAKDDIQVSA	---PPSDKLP
AT5G16900	LDCGLPSNEP	-PYIEPVTGL	VFSSDADHIP	SGISGRIQKN	-LEAV---HI
AT1G67720	IDCG----CS	SNYTDPRTGL	GWVSDSEIIK	QGKPVTLANT	NWNSM-----
AT3G19230	LNCGSS-SST	N-----LNEI	EYTPDEGFIS	VG-NTTTIKQ	KDLVP-----
AT1G51830	-----	-----	-----	-----	-----
AT5G39020	FNCG-DTSNN	VDNSGRNWTV	ESR---QILS	SNLVN-ASFT	SEASYQK-AG
AT4G00300	VNCGSDVDST	VD-NRR-FVG	DASSSNVQFF	SSEGSIALKG	-----ENLPQ
AT4G29180	IDCGS-PPNI	-NYVDTDTGI	SYTWDAPFIN	AGVNLNVSEE	YGYPKNPVLP
AT1G51910	LDCGLIPKDT	-TYTEQITNI	TYISDADYID	SGLTERISDS	YKSQI-----Q
AT3G46340	LDCGLPPNEV	SPYIEPFTGL	RFSSDSSFIQ	SGKIGKVDKS	FEATT-----L
AT2G14510	LDCGLPSKES	--YIEPSSNL	TFISDVNFIR	GGKTGNIQNN	SRTNF---IF

	60	70	80	90	100
					
<i>X.laavis</i>	VHGIHYRKDP	-----	----LEGRVG	RASDYGMKLP	ILRSNPE--
CORK1	D	-----	-----	-----	-----
AT1G29750	-----	-----	-----	-----	-----
AT1G53430	-----	-----	-----	-----	-----
AT1G56120	-----	-----	-----	-----	-----
AT1G07650	-----	-----	-----	-----	-----
AT1G29720	-----	-----	-----	-----	-----
AT1G56140	-----	-----	-----	-----	-----
AT1G56130	-----	-----	-----	-----	-----
AT1G53440	-----	-----	-----	-----	-----
AT1G29740	-----	-----	-----	-----	-----
AT3G14840	-----	-----	-----	-----	-----
AT1G53420	-----	-----	-----	-----	-----
AT2G22610	-----	-----	-----	-----	-----
AT1G29730	-----	-----	-----	-----	-----
AT1G72250	-----	-----	-----	-----	-----
AT1G51860	QQVWAVRSFP	----VGQR-	NCYNVNLT--	ANNKYLRGT	FVYGNVD-GL
AT3G46240	-SLTTLRYFP	----TGDS-	NCYSNIPVT-	KGGKVLVTRM	FYYGNVDGKS
AT2G23200	EIYRTVRIFR	-----	HPSSYKFKLD	SLGLHFVRLH	FSVVFSTRADL
AT2G14440	RPYKVLRYFP	----EGIR-	NCYSLSVK--	QGTKYLIRTL	FFYGNVD-GL
AT1G30570	VYAEIYKTAR	-----VFD	AVLNITFEGI	TQGNFYFVRLH	FSPFAIEN-H
AT3G05990	-ILFTVRSFP	LSLDGTHHK-	FCYV-MSVS-	RGWKYMIRTT	YYYGGVNGKG
AT3G46420	KSQTTLRYFP	----DGIR-	NCYNLTVT--	QGTNYLIRAR	AIYGNVD-GL
AT1G25570	-AEKTIRYFP	----LSFGKK	NCY-VVPL--	PPGRYYLRTF	TVYDNYD-GK
AT3G46370	-----	----MR-	NCYNLSVH--	KETKYLRVT	SNYGNVD-GR
AT3G46270	-PINTLRYFP	----TGQT-	NCYTNI PVT-	KGRKTLVTRK	YYENYDDKF
AT4G39110	S--PIYLTA	-----IFR	EEATYKFHLT	RPGWVHVRH	FLAFPNDK-F
AT1G07560	KPYTVLRYFP	----DGVR-	NCYTLIVI--	QGTNYLIVAM	FTYGNVD-NL
AT1G51820	KPTLTLRYFP	----EGVR-	NCYNLNVLT--	SDTNYLIKAT	FVYGNVD-GL
AT1G24485	-ELTTLRYFP	----TGET-	NCYTNI PVE-	KGGKVLVTR	FLYGDYDEES
AT5G39030	IPQVPYMTAR	-----IFR	SDFTYSFPVS	PG-WKFLRLY	FYPTSYKSGF
AT3G46290	SGSDIYHTAR	-----VFT	EVSSYKFSVT	R-GRHWVRLY	FNPFDYQN-F
AT5G61350	STLPLYLTAR	-----IFA	GKSTYSFYIS	RPGRHWIRLH	FYPLNHPL-Y
AT1G51805	TPNLTLRYFP	----DGAR-	NCYNLNVS--	RDTNYMIKAT	FVYGNVD-GH
AT5G59660	KP-----	-----	-----	-----	FVYGNVD-GF
AT5G39000	VSQIPYMTAR	-----IFR	SEFTYSFPVT	PG-SNFLRLY	FYPTRYGSQF
AT3G04690	LSTVPYMTAR	-----IFT	APATYEIPIK	GDKRHLLRLY	FYPSTYTG-L
AT1G51790	QSMWSVRSFP	----EGIR-	NCYTIAVN--	SSTKYLIRAD	FMYGNVD-SR
AT5G28680	LSTVPYMTSR	-----IFT	APATYEIPVK	GDKRHMLRLH	FYPSTYTG-L
AT2G19190	RHLLNVRSFP	----QSKR-	SCYDVPTPRG	KGFKYLIRTR	FMYGNVD-DL
AT2G04300	KPILQLRYFP	----EGVR-	NCYTLNVT--	LGTNYLIRAS	FVYGNVD-GL
AT5G59680	KPSTTMRYFP	----DGKR-	NCYNLNVE--	KGRNHLIRAR	FVYGNVD-GR
AT2G19210	KQFQNVRSFP	----EGNR-	NCYDVKPPQG	KGFKYLIRTR	FMYGNVD-NL
AT1G51890	QQIWALRSFP	----EGQR-	NCYNFSLT--	AKRKYLRGT	FIYGNVD-GL
AT1G51880	QQTWTVRSFP	----EGER-	NCYNFNLT--	AKSRYLIRAT	FTYGNVD-GL
AT5G59616	-----	-----	-----	-----	-----
AT2G28970	KPYLTLRYFP	----EGKR-	NCS-----	-----	-----
AT5G54380	STNSIYQTAR	-----VFS	SLASYRFKIT	SLGRHWIRLH	FSPINNST-W
AT5G48740	-SSVPIRLFP	----DPQGR	QCYKLPVR-K	DLSSVLIRAT	FVYRNYD-SQ
AT2G28960	RQYKDLRYFP	----DGIR-	NCYNLKVE--	QGINYLIRAG	FGYGNVD-GL
AT3G21340	KPSLKLRYFP	----DGFR-	NCYTLNVT--	QDTNYLIKAV	FVYGNVD-GL
AT3G46280	-PINTLRYFP	----TGQT-	NCYTNI PVT-	KGQKTLVTRK	FYYENYDAKF
AT3G46260	-PINTLRYFP	----TGQT-	NCYTNI PAT-	KGRITLVRTK	FYYKNYDENY
AT1G05700	RQIQNLRSFP	----EGSR-	NCYTLIPIQG	KGKKYLIRAS	FMYGNVD-GE
AT3G46400	RSQTTLRYFP	----DGIR-	NCYNVNVY--	KGTNYLIRAT	INYGNVD-GL
AT5G38990	IPQVPYLKAR	-----IFR	YDFTYSFPVS	PG-WKFLRLY	FYPTRYGSDF
AT1G51800	QQTWNLSFP	----QGIR-	NCYTLNLT--	IGDEYLIRAN	FLHGGYD-DK
AT5G24010	DSPVLYNTAR	-----VFP	VGGSYKFQVT	TKGTHFIRLH	FAPFKASR-F
AT2G28990	KPYLTLRYFP	----EGKR-	NCYSLDVK--	RGTTYLIVVS	FVYGNVD-GL
AT4G20450	KPYQLRYFP	----EGAR-	NCYNLTVM--	QGTNYLIRAV	FVYGNVD-LK
AT1G49100	KAFVTLRYFP	----DGER-	NCYNLNVLT--	QGTNYLIRAA	FLYGNVD-GL
AT4G29450	STLAEVRAF	----QGNR-	NCYTLKLSQG	KDHLYLIRAS	FMYGNVD-GK
AT1G51840	KPALTMRYFP	----DGIR-	NCYNLNVLT--	RDTNYLIKAT	FVYGNVD-GL
AT5G59670	KPYRTLRYFP	----EGVR-	NCYNLSVF--	KERKYLIAAS	FLYGNVD-GH

AT1G51850	KPTLTLLRYFP	-----EGVR-	NCYNLNVT--	SDTNYLIKAT	FVYGNYS-DL
AT5G59700	SNSDIYQTAR	-----IFT	GISKYRFSVA	R-GRHWIRLH	FNPFQYQN-F
AT2G19230	KQFQKVRSP	-----EGKK-	NCYDVQPPQG	KGFYKYLIRTR	FMYGNYS-DL
AT1G51870	QPLWALRSFP	-----EGER-	NCYNFNLT--	VNSTYLIRGT	FLYGNYS-DL
AT3G46330	KQYATLLRYFP	-----DGIR-	NCYDLRVE--	EGRNYLIRAT	FFYGNFD-DL
AT2G29000	KPYNFLRYFP	-----DGTR-	HCYDLSVK--	QGTNYLIRAS	FVYGNYS-DL
AT3G46350	KQQTTLRYFP	-----DGIR-	NCYNLTVK--	QGTNYLIRAR	FTYGNYS-DL
AT2G37050	-QYTTLRHFP	-----ADSRK	YCYTLNVT--	SRNRYLIRAT	FLYGNFDNSN
AT1G07550	KPYTVLRYFP	-----DGIR-	NCYSLNVK--	QDTNYLIRVM	FRYGNYS-DL
AT1G51810	KPERTLLRYFP	-----DGVR-	NCFSLNVT--	RGTKYLIRKPT	FLYGNYS-DL
AT4G29990	RQFQNVRSFP	-----EGKR-	NCYDIRPQQG	KGFYKYLIRTR	FMYGNYS-DL
AT5G59650	KPYTRLRYFP	-----EERR-	NCYSLSVK--	KNRKYLIRAR	FIYGNYS-DL
AT1G28340	-PLKTLRYFP	-----ISEGPN	NCYNIVRV--	PKGHYSVRIF	FGLVDQP-SF
AT3G51550	VPEVPYMTAR	-----VFR	SPFTYTFPVA	SG-RKFVRLY	FYPNSYDG-L
AT2G21480	S--PIYLTAK	-----IFR	EEAIYKFHLT	RPGWHWVRLH	FFAFPNDK-F
AT5G16900	KPYLFLRYFP	-----DGLR-	NCYTLDVL--	QNRRYMIKAV	FVYGNYS-DL
AT1G67720	-QYRRRRDFP	-----TDNKK	YCYRLSTK--	ERRRYIVRTT	FLYGGLG-SE
AT3G19230	-ILSTLLRYFP	---DKSSRK-	HCYN-FPVA-	KTSKYLIRTT	YYYGNFDGKN
AT1G51830					
AT5G39020	VSRIPYMKAR	-----IFR	SEFTYSFPVT	PG-SIFLRLY	FYPTQYKSGF
AT4G00300	NVPQIYRTAR	-----IFA	QQAKYKFNVN	EKGTHMVRHL	FNRLYSSR-I
AT4G29180	FPLADVRSP	-----QGNR-	NCYTLPSPDG	KGNLYLIRAS	FMYGNYS-DL
AT1G51910	QQTWTLRSFP	-----EGQR-	NCYNFNLK--	ANLKYLIRGT	FVYGNYS-DL
AT3G46340	KSMTLLRYFP	-----DGKR-	NCYNLIVK--	QGKTYMIRAT	ALYGNYS-DL
AT2G14510	KPKFVLRYP	-----DGIR-	NCYSLSVK--	QGTKYLIRTL	FYGNYS-DL

	110	120	130	140	150
					
<i>X.laevis</i>	QVLYQTERYN	EDSFGYDIPI	K-----	-----	-----EEGE
CORK1	-----	-----	-----	-----	-----FN
AT1G29750	-----	-----	-----	-----	-----SC
AT1G53430	-----	-----	-----	-----	-----SS
AT1G56120	-----	-----	-----	-----	-----YN
AT1G07650	-----	-----	-----	-----	-----YK
AT1G29720	-----	-----	-----	-----	-----RF
AT1G56140	-----	-----	-----	-----	-----SD
AT1G56130	-----	-----	-----	-----	-----SD
AT1G53440	-----	-----	-----	-----	-----SS
AT1G29740	-----	-----	-----	-----	-----RS
AT3G14840	-----	-----	-----	-----	-----YG
AT1G53420	-----	-----	-----	-----	-----NA
AT2G22610	-----	-----	-----	-----	-----
AT1G29730	-----	-----	-----	-----	-----RS
AT1G72250	-----	-----	-----	-----	-----
AT1G51860	NQFPSFDLHI	GNPKWSSVKI	LGVNT-----	-----	-----SMHEII
AT3G46240	STP-SFSVVF	EGKHRGTLIS	S--SAFE-----	-----	-----YLLELI
AT2G23200	LTARFTVSAT	SGSNHHLKSF	SPQNLTN---	-----	-----TPRVEEFL
AT2G14440	NTSPRFDLFL	GNPIWTSVDV	QKVDG-----	-----	-----GDGVIEEII
AT1G30570	NVNESSFSVF	ADGLRLMLDI	NIAGEIAHKN	LILESTGHNA	TASSLVKEFL
AT3G05990	TPPPVFDQIV	DGTLWGI VNT	T---ADYAD---	-----	-----GLASYEGV
AT3G46420	NIYPKFDLYI	GNPFWVTIDL	GKYVNG-----	-----	-----TWEEII
AT1G25570	SHSPSFDVSV	EGTLVFSWRS	PWPESLLRDG	-----	-----SYSDLF
AT3G46370	NEPPRFDLYL	GNPFWVTIDL	GKHVNGD---	-----	-----TWKEII
AT3G46270	SPP-SFDIVY	DGKHRSVDI	T-ESLLDDE---	-----	-----DTFYFSEVI
AT4G39110	DLQATFVSVL	TERYVLLHNF	KISNNNDS-	-----	-----QAAVQKEYL
AT1G07560	NTHPKFDLYL	GNPWTTVDL	QRN-----	-----	-----VNGTRAEEII
AT1G51820	NVGNPNFNL	GNLWTTVSS	ND-----	-----	-----TIEEII
AT1G24485	TYP-TFDVYV	DGKHRYSVVT	T-----TF-	-----	-----ETVTESEAI
AT5G39030	DAVNSFVSVT	VNDFTLLQNF	SADLTVKASI	PE-----	SKSLIKEF-I
AT3G46290	KMGSAKFAVS	SQSHVLLSDF	TVTSS-----	-----	-----KVVKEYS
AT5G61350	NLTNSVFSVT	TDTTVLLHDF	SAG---DT-	-----	SSIVFKEYL
AT1G51805	KDEPNFDLYL	GNLWATVSR	SE-----	-----	-----TVEEII
AT5G59660	DLKPKFDLYL	GNLWATVDL	QTE-----	-----	-----VNDWGNMTA
AT5G39000	NAVKSFFSVK	VNGFTLLNMF	SADLTVKASK	PQ-----	TEFIIKEF-I
AT3G04690	NISNSYFTVE	ANDVTLLSNF	SAAITCQALT	-----	QAYLVKEYSL
AT1G51790	NEIPGFDLHL	GNPKWDTVEL	VSPLQ-----	-----	-----TVSKEII
AT5G28680	NIILDSYFSA	ANDLTLLSNF	SAAITCQALT	-----	QAYLVREYSL
AT2G19190	GRVPEFDLYL	GVNFWDVSVK	DDATT-----	-----	-----ILNKEII
AT2G04300	NKELEFDLYL	GNLWANVNT	AVYLMNG---	-----	-----VTTEEII
AT5G59680	DTGPKFDLYL	GNPWATIDL	AKQ-----	-----	-----VNGTRPEIM
AT2G19210	GKAPDFDLYL	GNPWDSVTI	DNATT-----	-----	-----IVTKEII
AT1G51890	NQLPSFDLYI	GNPKWTSVSI	PGVRNG-----	-----	-----SVSEMI
AT1G51880	RQVPKFDIHI	GPSKWTSVKL	DGVGNG-----	-----	-----AVLEMI
AT5G59616	-----	-----	-----	-----	-----
AT2G28970	-----	-----	-----	-----	-----
AT5G54380	NLTASITVTV	TEDFVLLNMF	SFNNFN-----	-----	-----GSYIFKEYT
AT5G48740	NSPPAFHVS	GRITSTVDL	RTNDP-----	-----	-----WIEELV
AT2G28960	NVYPKFDLHV	GNPMWIAVDL	EFG-----	-----	-----KDREII
AT3G21340	NNPPSFDLYL	GNLWVTVDL	NGRTNG-----	-----	-----TIQEII

AT3G46280	SPP-SFDVIY	DGKHRDSIVI	T-ESLLNDE-	-----	-ETFFYFSEVI
AT3G46260	SPP-SFDVVY	DGKHRNSIAM	TVDSLFSDE-	-----	-ETFFHYSEVI
AT1G05700	NGSPFEDLFL	GGNIWDTVLL	SNGSS-----	-----	---IVSKEVV
AT3G46400	NISPRFDLYI	GPWFVWTTIDL	EKHVGGD---	-----	---TWEEII
AT5G38990	DAVKSFFSVN	VNRFTLLHNF	S----VKASI	PE-----	SSSLIKEF-I
AT1G51800	-PSTQFELYL	GNLWSTVTT	TNETEA----	-----	----SIFEMI
AT5G24010	NLRSAKFRVL	INGFSVINSF	STSS-----	-----	---VVVKEFI
AT2G28990	NRDPNFDIHL	GNPKWKRIDL	DGE-----	-----	-KEGTREEII
AT4G20450	-QRPKFDLYL	GPWFVWTTINL	QDPSGGFYR	IWL-----	-QDGTVEEVI
AT1G49100	NTVPNFDFLI	GNPKVTTVNF	NATGGG----	-----	----VFVEII
AT4G29450	KALPEFDLYV	NVNFVSTVKF	KNASD-----	-----	---QVTKEIL
AT1G51840	NVDPNFDLYL	GNLWTTVSS	ND-----	-----	----TTEEII
AT5G59670	NIAPVFDLYL	GNLWAKIDL	QD-----	-----	-VNGTGEEIL
AT1G51850	NVGNPFDFLYF	GNLWTTV--	-----	-----	-----
AT5G59700	QMVSAKFSVS	SETHVLLSDF	TVSS-----	-----	---RVMKEYS
AT2G19230	GKAPDFDLYL	GVNLWDSVTL	ENSTT-----	-----	---IVTKEII
AT1G51870	NQSPSFDLHI	GASKWTSVNI	VGVTDT----	-----	----VMPEII
AT3G46330	NVSPEFDMHI	GNPKWTTIDL	QIV-----	-----	-PDGTVKEII
AT2G29000	NIMPRFDLYI	GNLWAVVSE	LD----LYS-	-----	----PEEII
AT3G46350	NMSPTFDLYL	GNLWKRIDM	TKLQNKVS--	-----	----TLEEIT
AT2G37050	NVYPKFDISL	GATHWATIVI	SETYI-----	-----	---IETAELV
AT1G07550	NNSPRFDLYL	GNLWTTIDM	GKS-----	-----	-GDGVLEEII
AT1G51810	NVIPDFDLYI	GNPMWITVNT	DN-----	-----	---TIKEIL
AT4G29990	SKTPEFDLYI	GANLWESVVL	INETA-----	-----	---IMTKEII
AT5G59650	NSNPFIELHL	GNLWATIDL	QKF-----	-----	-VNGTMEEIL
AT1G28340	DKEPLFDISI	EGTQISSLKS	GWSS--QDDQ	-----	----VFAEAL
AT3G51550	NATNSLFVS	FGPYTLLKNF	SASQTAEALT	-----	YAFIIKEF-V
AT2G21480	DLQQATFSVL	TEKYVLLHNF	KLSNDNNSD-	-----	-QATVQKEYL
AT5G16900	NDYPSFDLYL	GNPKWVRVDL	EGK-----	-----	-VNGSVVEII
AT1G67720	EAYPKFQLYL	DATKWATVTI	QEVSR-----	-----	---VYVEELI
AT3G19230	NPP-VFDQII	GGTKWSVNT	S---EDYAK-	-----	-GQSSYYEII
AT1G51830	-----	-----	-----	-----	-----
AT5G39020	DAVNSFFSVK	VNGFTLLRNF	NADSTVQASI	PL-----	SNSLIKEF-I
AT4G00300	DLNDALFHYT	VNGHVVLRF	SGDSSS--D-	-----	-FESRVREFL
AT4G29180	NALPEFDLYV	NVNFVTSVKL	RNASE-----	-----	---NVIKEIL
AT1G51910	NQMPKFDLHI	GNPKWTSVIL	EGVANA----	-----	----TIFEII
AT3G46340	NISPKFDLYI	GANFWTTTLD	GEYLSG----	-----	----VVEEVN
AT2G14510	NTSPRFDFL	GNLWTSVDV	LIADV-----	-----	-GDGVVEEIV

	160	170	180	190	200
					
<i>X.laevis</i>	YVLVLKFAEV	YFAQ---SQ	QKVFDVRVNG	HTVVKD----	-----
CORK1	FFVNCGGRI	RSS-----S	GALYEKDEGA	LGPATFFVSK	-----
AT1G29750	LHVNCGGSDM	YVKEK---KT	KELYEGDGNV	EGGAAKYFLK	P-----
AT1G53430	LFINCGGSRL	KIG-----	KDITYDDLNS	RQSTFSSVS	-----
AT1G56120	FSINCGGPEI	RSV-----S	GALFEKEDAD	LGPASFVUSA	-----
AT1G07650	LYINCGGGEV	KVDKE---IT	---YQADDEP	KG-ASMYVLG	A-----
AT1G29720	LHINCGGEEV	SIRNS---LG	KITYQTDNSR	QTNAASNQQ-	-----
AT1G56140	FSINCGGPEI	RSV-----T	EAVFEREDD	LGPASFVUSA	-----
AT1G56130	FSINCGGPEK	RSV-----T	GALFEREDD	FGPASFFVSA	-----
AT1G53440	LFINCGGNRL	KVD-----	KDEYADDLNK	RGASTFSSVS	-----
AT1G29740	LHINCGGPDV	TIENS---RG	RFLYEGDNYG	LTGSATNYY-	-----
AT3G14840	LHINCGGNEI	TSN-----	ETKYDADTWD	TPG-YYDSK-	-----
AT1G53420	LHINCGGDEM	SIN-----	GTIYESDKYD	RLESWYESR-	-----
AT2G22610	-----TI	MFIN---AGG	DDSKVLDSEL	NISRDD----	---YFEG--
AT1G29730	LHINCGGPDV	TIENS---RG	RFLYEGDNYG	LTGSATNYY-	-----
AT1G72250	-----PV	ISIN---SGS	ISTDVTVEDV	TFLKDE----	---FFSG--
AT1G51860	HVVPQDSLEV	CLVK---TGP	TTPFISSLEV	RPLNNE----	---SYLTQS
AT3G46240	FSPAGGETSV	CFVR--TSSS	SNPFVSSIEV	VDLDDGMY--	---AELGPG
AT2G23200	LMNLSLEFEI	RFVP--DHS	SLALINAIEV	FSAPDD----	---LEIPSA
AT2G14440	HVTRCNILDI	CLVK---TGT	TTPMISAIEL	RPLRYD----	---TYTART
AT1G30570	LPTGPGKLV	SFIPE--KGS	-FGFVNAIEI	VSVDDKLFKE	S---VTKVGS
AT3G05990	FLAQGKSISV	CVASNSYTTS	-DPFISALEI	VRLDGTLYNS	---TDFTTV
AT3G46420	YIPKSNMLDV	CLVK---TGP	STPLISSLV	RPLANA----	---TYITQS
AT1G25570	AFIGDGELDL	CFYS---IAT	DPPIVGSLEV	LQVDPS----	---SYDA-D
AT3G46370	HIPKSNSLDV	CLIK---TGT	TPPIISTLEL	RSLPKY----	---SYNAIS
AT3G46270	FAPASENISV	CLLR--TSPS	DNPFISSIEV	YSFDDGMY--	---KDLGPE
AT4G39110	VNMTDAQFAL	RFRPM--KSS	-AAFINAIEV	VSAPDELISD	S---GTALFPV
AT1G07560	HIPRSTSLQI	CLVK---TGT	TPPLISALEL	RPLRNN----	---TYIPQS
AT1G51820	LVTRSNLSQV	CLVK---TGI	SIPFINMLEL	RPMKKN----	---MYVTQS
AT1G24485	FIPENGNISV	CFFR--TLSS	KTPFVSTIEV	RRLDDSMY--	---TDLGPK
AT5G39030	VPVY-LTLNL	TFRPS---NN	SLAFVNGIEI	VSMPDRFYSK	GGFDDLTINV
AT3G46290	LNVTNDLVL	TFTPS--SGS	-FAFVNAIEV	ISIPDTLITG	S---PRFVGNP
AT5G61350	I-YAAEKL	SLYFKPH--KGS	-TAFINAVEI	VSPDELVPD	S---ASSVPQA
AT1G51805	HVTKSDSLQV	CLAK---TGD	FIPFINILEL	RPLKKN----	---VYVTES
AT5G59660	NIGFG-----	-----	-----	-IMGNG----	---SYITKS
AT5G39000	IPVY-QTLNL	TFTPS---LD	SLAFVNGIEI	VSIPNRFYSK	GGFDDVITNV
AT3G04690	APTDKDVLSI	KFTPSDKYRD	AFAFINGIEV	IQMPFLFDTA	---ALVGFT
AT1G51790	YYVLTDTIQV	CLVN---TGN	GTPFISVLEL	RQLPNS----	---SYAAQS

AT5G28680	APSEKDVLSI	IFTPSDKHPK	AFAFINGIEV	IPPELFDTA	----SLVGFS
AT2G19190	TIPLLDNVQV	CVVD---KNA	GTPFLSVLEI	RLLLNT----	----TYETPY
AT2G04300	HSTKSKVLQV	CLIK---TGE	SIPINLSLEL	RPLIND----	----TYNTQS
AT5G59680	HIPTSNKLQV	CLVK---TGE	TTPLISVLEV	RPMGSG----	----TYLTKS
AT2G19210	HTLRSDHVVH	CLVD---KNR	GTPFLSALEI	RLKLSN----	----TYETPY
AT1G51890	HVLRQDHLQI	CLVK---TGE	TFPFISSELE	RPLNNN----	----TYVTKS
AT1G51880	HVLTQDRLQI	CLVK---TGK	GIPFISSELE	RPLNNN----	----TYLTQS
AT5G59616	-----	-----	-----	-----	-----
AT2G28970	-----	-----	-----	--LRN-----	-----
AT5G54380	VNVTSEFLTL	SFIPS--NNS	-VVFVNAIEV	VSVPDNLIPD	Q--ALALNPS
AT5G48740	WPVNNDSELLL	CLLAVK--GR	GIPVISSLEV	RPLPLG----	----SYKYSL
AT2G28960	YMTTSNLLQI	CLVK---TGS	TIPMISTLEL	RPLRND----	----SYLTQF
AT3G21340	HKTISKSLQV	CLVK---TGT	SSPMINTLEL	RPLKNN----	----TYNTQS
AT3G46280	YVPENKNISV	CLLR--TSPS	DNPFISSIEV	YSLDTGMY--	----DDLGNP
AT3G46260	FAPANENISV	CLVR--TSPS	DNPFISSIEV	YRFDAAGMY--	----DDLGPE
AT1G05700	YLSQSENIFV	CLGN---KKG	GTPFISTLEL	RFLGNDNT--	----TYDSPN
AT3G46400	HIPKSNSLDV	CLIK---TGT	STPIISVLEL	RSLPNN----	----TYITES
AT5G38990	VPVN-QTLDL	TFTPS---PN	SLAFVNGIEI	ISMDFRYSK	GGFDDVVRNV
AT1G51800	HILTDDRQI	CLVK---TGN	ATPFISALEL	RKLMTN----	----TYLTRQ
AT5G24010	LKDDDPVLEI	SFLPF--KAS	GFGFVNAIEV	FSAPKDYIMD	Q--GTKLVIP
AT2G28990	HKARSNSLDI	CLVK---TGE	TLPIISAIEI	RPLRNN----	----TYVTQS
AT4G20450	HMPKSNNLDI	CLVK---TGT	TFPFISSELE	RPLRDD----	----TYTTTT
AT1G49100	HMSRSTPLDI	CLVK---TGT	TPMISTLEL	RPLRSD----	----TYISAI
AT4G29450	SFAESDTIYV	CLVN---KKG	GTPFISGLEL	RPVNSS----	----IYGTEF
AT1G51840	HVTKFNSLQI	CLVK---TGI	SIPFINVLEL	RPLKKN----	----VYATQS
AT5G59670	HIPTSNLQI	CLVQ---TGE	TPPLISSELE	RPMRTG----	----SYTTVS
AT1G51850	-----	CLIK---TGI	SIPFINVLEL	RPMKKN----	----MYVTQG
AT5G59700	LNVATDHLEL	TFTPS--GDS	-FAFLNAIEV	VSVPDTLFSG	D--PSFAGSP
AT2G19230	YTLRSDKVHV	CLVD---KER	GTPFLSVLEL	RLKLSN----	----IYETAS
AT1G51870	HVLTQKRLQV	CLVK---TGK	TFPFISSELE	RPLINN----	----IYIAES
AT3G46330	HIPRSNSLQI	CLVK---TGA	TIPMISALEL	RPLAND----	----TYIAKS
AT2G29000	HMTKSTSLQI	CLVK---TGP	TFPFISTLEL	RPLRND----	----NYITQS
AT3G46350	YIPLSNSLDV	CLVK---TNT	TIPFISALEL	RPLPSN----	----SYITTA
AT2G37050	FLASSPTVS	CLSN---ATT	GQPFISTLEL	RQLSGS-M--	----YGSMLS
AT1G07550	HITRSNLDI	CLVK---TGT	STPMISSIEL	RPLLYD----	----TYIAQT
AT1G51810	HVSKSNTLQV	CLVK---TGT	SIPYINTLEL	RPLADD----	----IYTNES
AT4G29990	YTPPSDHIHV	CLVD---KNR	GTPFLSVLEI	RFLKND----	----TYDTPY
AT5G59650	HTPTSNSLNV	CLVK---TGT	TPPLISALEL	RPLGNN----	----SYLT-D
AT1G28340	IFLLGGTATI	CFHS---TGH	GDPAILSIEI	LQVDDK----	----AYSFGE
AT3G51550	VNVEGGTLNM	TFTPESAPSN	AYAFVNGIEV	TSMPDMYSST	---DGTILTMV
AT2G21480	LNMTDAQFAL	RFKPM--KGS	-AAFINGIEL	VSAPDELISD	A--GTSLEFPV
AT5G16900	HIPSSNSLQI	CLVK---TGN	SLPFISALEL	RLLRND----	----TYVVQD
AT1G67720	VBRATSSYVDV	CVCC---AIT	GSPFMSTLEL	RPLNLS-M--	----YATDYE
AT3G19230	VGVPGNRLSV	CLAKNAHTLS	SSPFISSELDV	QSLEDTMYNS	----TDLGSY
AT1G51830	-----	-----	-----	-----	-----
AT5G39020	IPVH-QTLNL	TFTPS---KN	LLAFVNGIEI	VSMPDRFYSK	GGFDNVLRNV
AT4G00300	IWVDVGEVVI	RFVPS--KDS	NFAFVNAIEV	ISAPKDLIGD	V--ATS-VSH
AT4G29180	SFAESDTIYV	CLVN---KKG	GTPFISALEL	RPMNSS----	----IYGTEF
AT1G51910	HVLTQDRLQV	CLVK---TGQ	TFPFISSELE	RPLNND----	----TYVTQG
AT3G46340	YIPRSNSLDV	CLVK---TDT	STPFLSLEL	RPLDND----	----SYLTGS
AT2G14510	HVTRSNIIDI	CLVK---TGT	STPMISALEL	RPLRYD----	----TYTART

	210	220	230	240	250
					
<i>X.laevis</i>	-----	-----	-----	--LDIFDRV	HST-----
CORK1	-----	-----	-----	-----TQR	AVSNVGL--F
AT1G29750	-----	-----	-----	-----DAN	GFSSTGD--F
AT1G53430	-----	-----	-----	-----ER	GYSSSGV--W
AT1G56120	-----	-----	-----	-----AKR	AASSVGN--F
AT1G07650	-----	-----	-----	-----NKR	ALSSTGN--F
AT1G29720	-----	-----	-----	-----FDY	GVSNTGD--F
AT1G56140	-----	-----	-----	-----GQR	AASSVGL--F
AT1G56130	-----	-----	-----	-----GQR	AASSVGL--F
AT1G53440	-----	-----	-----	-----ER	GYSSSGA--W
AT1G29740	-----	-----	-----	-----GKN	GFSNTGD--F
AT3G14840	-----	-----	-----	-----NG	VSSNTGN--F
AT1G53420	-----	-----	-----	-----NG	FNNNVGV--F
AT2G22610	-----	-----	-----	-----	-----
AT1G29730	-----	-----	-----	-----RKN	GYSTNTGD--F
AT1G72250	-----	-----	-----	-----	-----
AT1G51860	GS---LMLFA	RVYFPSSSSS	FIR-----	YDEDIHDRV	NSF-----
AT3G46240	E-----	-----	-----	-----GRF	LP-----
AT2G23200	SD---KNLH	TIYRLNVGGE	KITP-----	-DNDDLGR	LPDDDDFLYR
AT2G14440	GS---LKKIL	HFYF-TNSGK	EVR-----	YPEDVYDRV	IPH-----
AT1G30570	E---VELGLG	GRGIETMYRL	NVGGPKLGPS	KDL-KLYRT	ETDLSYM--V
AT3G05990	GM-----SIV	ARHAFGYSGP	IIR-----	FPDDQFDRF	EPYS-----
AT3G46420	GW---LKTIV	RVYL-SDSND	VIR-----	YPDDVYDR	GSY-----
AT1G25570	GTGQNVLLVN	YGRSLCGSDQ	WGPFFT--NH	TDNFG--RS	QSDDEFRS--
AT3G46370	GS---LKSTL	RAFL-SESTE	VIR-----	YPNDFYDR	VPH-----

AT3G46270	EG-----LIL	YQRITYGAKK	LIS-----	YPLDPFGRW	SPSA-----
AT4G39110	I---GFSGLS	DYAYQSVYRV	NVGGPLIMPQ	ND--TLGRTW	IPDKEFL--K
AT1G07560	GS---LKTFL	RVHL-TDSKE	TVR-----	YPEDVHDRLW	SPF-----
AT1G51820	GS---LKLYF	RGYI-SNSST	RIR-----	FPDDVYDRKW	YP-----
AT1G24485	EG-----FIL	QRIAYGAQE	LVR-----	FPYDPYDRIW	MP-----
AT5G39030	GSLLDFEIDN	STASETVHRL	NVGGHVMDEV	NDSG-MFRRW	LSDDYEF--L
AT3G46290	A---QFPDMS	MQGLETIHRV	NMGGPLVASN	ND--TLTRTW	VPDSEFL--L
AT5G61350	P---DFKGLS	SFSLEILHRI	NIGGDLISPK	ID--PLSRTW	LSDKPYN--T
AT1G51805	GS---LKLFL	RKYF-SDSGQ	TIR-----	YPDDIYDRVW	HA-----
AT5G59660	GS---LNLFL	RTYL-SKSGS	DLR-----	YMKDVYDRTW	VSYG-----
AT5G39000	GSSVDFHIEN	STAFETVYRL	NVGG--KTV	GDSC-MFRRW	VSDDEII--L
AT3G04690	DQTMDAKTAN	---LQSMFRL	NVGGQDIPGS	QDSGGLTRTW	YNDAPYI--F
AT1G51790	E---SLQLFQ	RLDFGSTTNL	TVR-----	YPNDVFDRIW	FPA-----
AT5G28680	DQTSDTKTAN	---LQTMFRL	NVGGQDIPGS	QDSGGLTRTW	YNDAPYI--F
AT2G19190	D---ALTLRL	RLDYSKTGKL	PSR-----	YKDDIYDRIW	TPR-----
AT2G04300	GS---LKLYF	RNYF-STSR	IIR-----	YPNDVNDRH	YP-----
AT5G59680	GS---LKLYY	REYF-SKSDS	SLR-----	YPDDIYDRQW	TSF-----
AT2G19210	D---SLILFK	RWDLGGLGAL	PVR-----	YKDDVFDRIW	IP-----
AT1G51890	GS---LIVVA	RLYF-SPTPP	FLR-----	YDEDVHDRIW	IPF-----
AT1G51880	GS---LIGFA	RVFF-SATPT	FIR-----	YDEDIHDRVW	VRQ-----
AT5G59616	-----	-----	-----	-----	-----
AT2G28970	-----SF	RVHC-STSDS	EIR-----	YDDDSYDRVW	YPF-----
AT5G54380	T---PFSGLS	LLAFETVYRL	NMGGPLLTQ	ND--TLGRQW	DNDAYEL--H
AT5G48740	EGSPDIILRR	SYRINSGYTN	GTIR-----	YPSDPFDRIW	DPDQ-----
AT2G28960	GP---LDLIY	RRAY-SSNST	GFIR-----	YPDDIFDRKW	DR-----
AT3G21340	GS---LKLYF	RYF-SGSGQ	NIR-----	YPDDVNDRKW	YP-----
AT3G46280	EG-----LIL	HDRIAYGAKE	LIS-----	YPLDPYGRVW	LALG-----
AT3G46260	EG-----FIL	YKRDAYGATK	LIS-----	YPLDPYGRW	SPKG-----
AT1G05700	G---ALFFSR	RWDLRSLMGS	PVR-----	YDDDVYDRIW	IP-----
AT3G46400	GS---LKSIL	RSYL-SVSTK	VIR-----	YPDDFYDRKW	VPY-----
AT5G38990	GRVDVFEIDN	STAFETVYRV	NVGGKVVGDV	GDSC-MFRRW	LSDEGFL--L
AT1G51800	AT1G51800	AT1G51800	AT1G51800	AT1G51800	AT1G51800
AT5G24010	NSAQIFSNLS	SQVLETVHRI	NVGGSKLTPF	ND--TLWRTW	VVDDNYL--L
AT2G28990	GS---LMMSF	RVYL-SNSDA	SIR-----	YADDVHDRIW	SPF-----
AT4G20450	GS---LKLIS	RWYF-RKPFP	TLESII--R-	HPDDVHDRLW	DVY-----
AT1G49100	GSS---LLLYF	RGYL-NDSGV	VLR-----	YPDDVNDRRW	FP-----
AT4G29450	GRNVSLVLYR	RWDIGYLNQ-	TGR-----	YQDDRFDRIW	SPY-----
AT1G51840	GS---LKLYF	RMVY-SNSSR	RIR-----	-----	-----
AT5G59670	GS---LKYTR	RLYF-KKSGS	RLR-----	YSKDVYDRSW	FPR-----
AT1G51850	ES---LNYLF	RVYI-SNSST	RIR-----	FPDDVYDRKW	YP-----
AT5G59700	G---KFQGLS	WQALETVYRV	NMGGPRVTPS	ND--TLSRIW	EPDSEFL--V
AT2G19230	D---SLMLYR	RWDLGATGDL	PAR-----	YKDDIFDRFW	MP-----
AT1G51870	GS---MVLQN	RVYFSDSTS	IVR-----	YDEDIHDRVW	NPV-----
AT3G46330	GS---LKYYF	RMYL-SNATV	LLR-----	YPKDVYDRSW	VPY-----
AT2G29000	GS---LKLMLQ	RMCM-TETVS	TLR-----	YPDDVYDRIW	YT-----
AT3G46350	GS---LRTFV	RFCF-SNSVE	DIR-----	FPMDVHDMW	ESY-----
AT2G37050	EDRFYLSVAA	RINFGAEESEA	SVR-----	YPDDPYDRIW	ESDLQKKPNY
AT1G07550	GS---LRNYN	RFYF-TDSNN	YIR-----	YPQDVHDRIW	VPL-----
AT1G51810	GS---LNYLF	RVYY-SNLKG	YIE-----	YPDDVHDRIW	KQ-----
AT4G29990	E---ALMLGR	RWDFGTATNL	QIR-----	YKDDFYDRIW	MP-----
AT5G59650	GS---LNLFV	RIYL-NKTDG	FLR-----	YPDDIYDRW	HNY-----
AT1G28340	GWGQGVILRT	ATRLTCGTGK	SRFDED--YR	GDHWGGDRFW	NRMRSFG--
AT3G51550	GSSGSVTIDN	STALENVYRL	NVGGNDISPS	ADTG-LYRSW	YDDQPYI--F
AT2G21480	N---GFSGLS	DYAYQSVYRV	NVGGPLITPQ	ND--TLGRTW	TPDKEYL--K
AT5G16900	VS---LKHFL	RRYY-RQSDR	LIR-----	YPDDVYDRVW	SPF-----
AT1G67720	EDNFFLKVAA	RVNFGAPNMD	ALR-----	YPDDPYDRIW	ESDINKRPNY
AT3G19230	KL---SLI	ARNSFSGDGE	IIS-----	YPDDKYNRLW	QPFs-----
AT1G51830	-----	-FFI-NDC--	-VR-----	FPDDVYDRKW	YP-----
AT5G39020	SSDVDFQIDN	STAFESVHRL	NVGGQIVNEV	DDSG-MFRRW	LSDD-----S
AT4G00300	DGTEKFNGLA	KQAMEVVYRV	NVGGRKVTPF	ND--TLWRTW	VTDEGFL--K
AT4G29180	GRNVSLVLYQ	RWDTGYLNG-	TGR-----	YQKDTYDRIW	SPY-----
AT1G51910	GS---LMSFA	RIYF-PKTAY	FLR-----	YSDDLVDRIW	VPF-----
AT3G46340	GS---LKTFR	RYYL-SNSES	VIA-----	YPEDVKDRIW	EPT-----
AT2G14510	GS---LKSMA	HFYF-TNSDE	AIR-----	YPEDVYDRVW	MPY-----

	260	270	280	290	300
					
X.laevis	---AHDEIIP	ISIKKGKLSV	QGEVSTFTGK	LSVEFVKGY	DN-----
CORK1	TGSNS--NQY	IALSATQ---	-FANTSDSE-	LFQSARL---	-----SAS
AT1G29750	MDDNN-----	-FQNTRF-TM	FVPASNQSD-	LYKSARI---	-----APV
AT1G53430	LGKED--AGY	LATDRFN---	-LINGSTPE-	YYKTARL---	-----SPQ
AT1G56120	AGSSN--NIY	IATSLAQ---	-FINTMDSE-	LFQSARL---	-----SAS
AT1G07650	MDNDDDADEY	TVQNTSR-LS	VNASSPSFG-	LYRTARV---	-----SPL
AT1G29720	TDDNSDHDEY	YTSTNL----	-TLSGDYPD-	LYKTARR---	-----SAL
AT1G56140	AGSSN--NIY	ISTSQSQ---	-FVNTLDSE-	LFQSARL---	-----SAS
AT1G56130	AGSSN--NIY	IATSQSQ---	-FVNTLDSE-	LFQSARL---	-----SAS
AT1G53440	LGNDG--ATY	LATDTFN---	-LINESTPE-	YYKTARL---	-----ASQ
AT1G29740	MDDAITEDTY	TVSSES----	-AVSAKYPD-	LYQNARR---	-----SPL
AT3G14840	LDDDRTNNGK	SKWSNSSELK	ITNSSIDFR-	LYTQARL---	-----SAI

AT1G53420	VDDKHVPERV	TIESNSSELN	V---VDFG-	LYTQARI---	-----SAI
AT2G22610	-----GDV	LRTEESIVEA	GDFP-----	F IYQSARVGN-	-----
AT1G29730	MDDAITEDTY	TVSSES----	-AVSAKYPD-	LYQNARR---	-----SPL
AT1G72250	-----GES	I-TTDAVVG	EDEI-----	L LYQTARLGN-	-----
AT1G51860	---TDDETVW	ISTDLPIDTS	-NS-YDMPQS	VMKTAAPVKN	AS-----
AT3G46240	--SEINILVT	GIQSTAVSID	TSGASNKPPE	SVLRNSWTG-	--E-----
AT2G23200	KDSARNINST	QTPNYVGGLS	SATDSTAPDF	VYKTAKAMNR	SSNE-QVGML
AT2G14440	---SQPEWTQ	INTTRNVSGF	SD-GYNPPQD	VIKTASIPTN	VS-----
AT1G30570	IENAGVEVKN	S-SNITYALA	DDS-PVAPLL	VYETARMMSN	TEV--LEKRF
AT3G05990	----LNSTVP	----NNRKLE	VSGFWNLPPS	RIFNTDLRAT	QVQ-----
AT3G46420	---FEPEWKK	ISTTLGVN-S	SSG-FLPPLK	ALMTAASPAN	AS-----
AT1G25570	-EDSRSVARS	LSTLEKIKGV	DQAPNYFPMK	LYQTAVTVSG	GG-----
AT3G46370	---FETEWKQ	ISTNLKVN-S	SNG-YLLPQD	VLMTAAIPVN	TS-----
AT3G46270	---SGDNTALT	DLSTAPSID	ITGASNKPPE	IVMSKALSG-	--D-----
AT4G39110	DENLAKDVKT	TPSAIKYPP-	EVTPLIAPQT	VYATAVEMAN	SLT--IDPNF
AT1G07560	---FMPEWRL	LRTSLTVNTS	DDNGYDIPED	VVVTAATPAN	VS-----
AT1G51820	-LFD-DSWTQ	VTTNLKVNTS	IT--YELPQS	VMAKAATPIK	AN-----
AT1G24485	---ASVFAS	HLTSSATSID	TTGADNRPE	IILRTSWSQ-	--K-----
AT5G39030	IG--GVSPYM	P-DVNISYTE	KTPAYVAPAY	VYSTCRMGMN	AQDTYLNLF
AT3G46290	EKN-LAKSMS	KFTVNFVPG	YATEDSAPRT	VYGSCTEMNS	ADN--PNSIF
AT5G61350	FPEGSRNVT	DPSTITYPDG	GATALIAPNP	VYATAEEMAD	AQT--SQPNF
AT1G51805	---SFLENNWAQ	VSTTLGVNVT	DN--YDLSQD	VMATGATPLN	DS-----
AT5G59660	-ASFRTGWTQ	IYTALEVNNS	NN--YAPPKD	ALRNAATPTN	AS-----
AT5G39000	SESSGISPIV	P-DIKINYTE	KTPSYVAPDD	VYATSRMGMN	ADHPEQNLNF
AT3G04690	SAGLGVTLLQ	SNNFRINY-Q	NMPVSIAPAD	IYKTARSQGP	N--GDINLKS
AT1G51790	---TPNGTKPL	SDPSTSLTSN	STGNFRLPQV	VMRTGIVPDN	PR-----
AT5G28680	SAGLGVTLLQ	SNNFRIDY-Q	KMPVSTAPAD	VYKTARSQGP	N--GDINMKS
AT2G19190	---IVSSEYKI	LNTSLTVQDF	LNNGYQPAST	VMSTAETARN	ES-----
AT2G04300	---FFDEDWTE	LTTNLNVNNS	NG--YDPPKF	VMASASTPIS	KN-----
AT5G59680	---FDT-EWTQ	INTTSDVGNS	ND--YKPPKV	ALTTAAIPTN	AS-----
AT2G19210	---LRFPKYTI	FNASLTIDSN	NNEGFQPARF	VMNTATSPED	LS-----
AT1G51890	---LDNKNL	LSTELSVDT	-NF-YNVPQT	VAKTAAVPLN	AT-----
AT1G51880	---FGNGLKS	ISTDLLVDTS	-NP-YDVPQA	VAKTACVPSN	AS-----
AT5G59616	-----	-----	-----	-----	-----
AT2G28970	---FSSSFYS	ITTSNLINNS	DT--FEIPKA	ALKSAATPKN	AS-----
AT5G54380	VNSSVLVTA	NPSIIKYS-	SVTQETAPNM	VYATADTMGD	ANV--ASPSF
AT5G48740	---SYSPFHASW	SFNGLTKLNS	FNITENPPAS	VLKTARILAR	KE-----
AT2G28960	---YNEFTD	VNTTLNVN-S	SSP-FQVPEA	VSRMGITPEN	AS-----
AT3G21340	---FFDAKEWTE	LTTNLINNS	NG--YAPPEV	VMASASTPIS	TF-----
AT3G46280	--SQD-STLT	DLTTSAPSID	ITGASNKPPE	IVMSKALSG-	--V-----
AT3G46260	--SQDYPGLI	DLTTSAPSID	ITGALNKPPE	IVMTKAMSG-	--D-----
AT1G05700	---RNFGYCRE	INTSLPVT-	DNNSYSLSSL	VMSTAMTPIN	TT-----
AT3G46400	---FESEWRQ	ISTILKVNT	ING-FLAPQE	VLMTAAVPSN	AS-----
AT5G38990	GINSGAIPNI	T-GVKINYTD	KTPAYVAPED	VYTTCRLMGN	KDSPELNLF
AT1G51800	---NFGNWSQ	ISTNQSVNIN	-ND-YQPPEI	AMVTASVPTD	PD-----
AT5G24010	LR-AAARRAW	TTHSPNYQNG	GATREIAPDN	VYMTAQEMDR	DNQE-LQARF
AT2G28990	---NGSSHTH	ITTDLNINNS	NA--YEIPKN	IILQTAIPRN	AS-----
AT4G20450	--HADEEWD	INTTTPVNTT	VNA-FDLPQA	IISKASIPQV	AS-----
AT1G49100	-FSY-KEWKI	VTTTLNVNTS	NG--FDLPQG	AMASAATRVN	DN-----
AT4G29450	---SSNI SWNS	IITSGYIDVF	QNG-YCPPDE	VIKTAAPEN	VD-----
AT1G51840	-----	-----	-----	-----	-----
AT5G59670	---FMD-EWTQ	ISTALGVINT	NI--YQPPED	ALKNAATPTD	AS-----
AT1G51850	---YFD-NSWTQ	VTTTLDVNTS	LT--YELPQS	VMAKAATPIK	AN-----
AT5G59700	EKN-LVKSVS	KIASVDYVPG	FATEETAPRT	VYGTCTEMNS	ADN--PSSNF
AT2G19230	---LMFPNPLI	LNTSLMIDPT	SSNGFLPPSV	VMSTAVAPMN	SSI-----
AT1G51870	---SDDSSSS	ISTDLQVQTN	-NL-YDVPQF	VMKTAAPKD	AS-----
AT3G46330	---IQPEWNQ	ISTTSNVSNK	NH--YDPPQV	ALKMAATPTN	LD-----
AT2G29000	---DGIYETKA	VKTALSVN-S	TNP-FELPQV	IIRSAATPVN	SS-----
AT3G46350	---FDDDWTD	ISTSLTVN-T	SDS-FRLPQA	ALITAATPAK	DG-----
AT2G37050	LVDVAAGTVR	VSTTLPIESR	VDD--RPPQK	VMQTAVVGTN	GS-----
AT1G07550	---ILPEWTH	INTSHHVIDS	ID-GYDPPQD	VLRTGAMPAN	AS-----
AT1G51810	---ILPYQDWQI	LTTNLQINVS	ND--YDLPQR	VMKTAVTPIK	AST-----
AT4G29990	---YKSPYQKT	LNTSLTIDET	NHNGFRPASI	VMRSAIAPGN	ES-----
AT5G59650	---FMVDDWTQ	IFTTLEVNTD	NN--YEPPKK	ALAAAATPSN	AS-----
AT1G28340	---KSADSP	RSTEETIKKA	SVSPNFYPEG	LYQSALVSTD	DQ-----
AT3G51550	GAGLGIPETA	DPNMTIKYPT	GTPTYVAPVD	VYSTARSMGP	T--AQINLNY
AT2G21480	DENLAKDVKT	NPTAI IYPP-	GVTPLIAPQT	VYATGAEMAD	SQT--IDPNF
AT5G16900	---FLPEWTQ	ITTSLDVNNS	NN--YEPPKA	ALTAATPGD	NG-----
AT1G67720	LVGVA PGTR	INTSKTINTL	TRE--YPPMK	VMQTAVVGTQ	GL-----
AT3G19230	---DQKHLTVT	----SRSRIN	PSNFWNIPPA	EAFVEGTAS	KGK-----
AT1G51830	-IFQ-NSWTQ	VTTNLNVNIS	TI--YELPQS	VMSTAATPLN	AN-----
AT5G39020	FGNSGSI VNV	P-GVKINYTE	KTPAYVAPYD	VYATSRMGMN	S----SNLMF
AT4G00300	TGDSSEKSY	FTGRIKYRRG	GASREVGPDN	VYNTARVGKR	SN----GLV
AT4G29180	---SP-VSWNT	TMTGYIDIF	QSG-YRPPDE	VIKTAASPKS	DD-----
AT1G51910	---SQNETVS	LSTNLPVDT	SNS-YNVPQN	VANSIIPAE	AT-----
AT3G46340	---FDSEWKQ	IWTTLKPN-N	SNG-YLVPKN	VLMTAATPAN	DS-----
AT2G14510	---SQPEWTQ	INTTRNVSGF	SD-GYNPPQG	VIQTASIPTN	GS-----

	310	320	330	340	350
<i>X.laevis</i>	PKVCALFIMK	GTADDVPMLO	PHPGLEKKEE	EE-----	-----
CORK1	SLRYYGGLGLE	--NGGYSVTV	QFAEIIQIQGS	NT---WKSILG	RRIEDIYVQG
AT1G29750	SLTYFHACLE	--NGNYTINL	DEAEIRFTND	EN---YNRLG	RRIEDIYIQE
AT1G53430	SLKYYGLCLR	--RGSYKLQL	HFAEIMFSND	QT---FNSILG	RRIEDIYVQG
AT1G56120	SLRYYGGLGLE	--NGGYTVTL	QFAEVQIEGS	NS---WKGIG	RRIEDIYVQG
AT1G07650	SLTYYGICLG	--NGNYTVNL	HFAEIIIFTDD	NT---LYSLG	KRIEDIYVQD
AT1G29720	SLVYAFCLC	--NGNYNVKL	HFAEIIQFSDK	EV---YSRLG	RRIEDVYVQG
AT1G56140	SLRYYGGLGLE	--NGGYTVTL	QFAEIIQILGS	TSNT-WRGLG	RRIEDIYVQG
AT1G56130	SVRYYGGLGLE	--NGGYTVTL	QFAEIIQILGS	TSTT-WKGLG	RRIEDIYVQG
AT1G53440	SLKYYGLCMR	--RGSYKVQL	YFAEIMFSND	QT---YSSLG	RRIEDIYVQG
AT1G29740	SLAYFAICFE	--NGSYNVKL	HFAEIIQFSDE	EP---FSRLA	KRVENIYVQG
AT3G14840	SLTYQALCLG	--KGNVTYNL	HFAEIMFNEK	NM---YSNLG	RRIEDIYVQG
AT1G53420	SLTYYALCLC	--NGNYNVNL	HFAEIMFNGN	NN---YQSLG	RRIEDIYIQR
AT2G22610	---FCYQLNN	LLPGEYLIDF	HFAEIIINTNG	PK-----	GIRVENIYVQ
AT1G29730	SLAYYAFCFE	--NGSYNVKL	HFAEIIQFSDV	EP---YTKLA	KRVENIYIQQ
AT1G72250	---FAYKQFS	LDPGDYFIDL	HFAEIEFTKG	PP-----	G V-----
AT1G51860	EPWLLWWTLD	ENTAQSYVYM	HFAEVQNLT	NE-----	TREFNITYNG
AT3G46240	GLSLVDPTLP	SAGVPVYLAM	YFSEP---LE	SS-----	LRSFNIFVGG
AT2G23200	MNVTWSFKVK	-SNHRHFIRI	HFSIDILSNLS	NS-----	DSDFYLFVNG
AT2G14440	EPLTFTWMS	SSDETYAYL	YFAEIIQQLA	NE-----	TRQFKILVN-
AT1G30570	NIS-WKFEVD	-PNFDYLVRL	HFCCELLV--	-----DKQN	QRIFRIYINN
AT3G05990	PLEFTWPPMP	LKMATYYIAL	YFAHSDSDSMG	DG-----	SRVEDVSVNG
AT3G46420	APLAIPGVL	FPSDKLYLFL	HFAEIIQVLKA	NE-----	TREFEIFWNK
AT1G25570	-S-LVYELE	DAKLDYLLWF	HFAEIDSTVK	KA-----	GQRVEDLVVN-
AT3G46370	ARLSFTELE	FPHDELYLYF	HFAEIVQLQA	NQ-----	SRESILWNG
AT3G46270	GLIISDLPL	STATLVYLAL	YFSEPQSLGR	TQ-----	KRSFNVFLDD
AT4G39110	NVS-WNFPSN	-PSFNYLIRL	HFCDIVS---	-----KSLN	DLYFNVIYNG
AT1G07560	SPLTISWNLE	TPDDLVIYAL	HFAEIIQSLRE	ND-----	TREFNISAGQ
AT1G51820	DTLNITWTV	PPTTQFYYSV	HFAEIIQALRA	NE-----	TREFNVTLNG
AT1G24485	DMAFYDIKLP	FSGVTFFYIV	YFSEPLSLGS	DQ-----	KRSFNVYED
AT5G39030	NLT-WLFTVD	-AGFSYLVRL	HFAEIKY---	-----LNKAN	QRVESIFLGN
AT3G46290	NVT-WFEDVD	-PGFQYFRF	HFCDIVS---	-----LSLN	QLYFNLYVDS
AT5G61350	NLS-WRMSVD	-FGHDYFIRL	HFCDIVS---	-----KSLN	DLIFNVFINK
AT1G51805	ETLNITWNVE	PPTTKVYSYM	HFAELETLRA	ND-----	TREFNVMNLG
AT5G59660	APLTIEWPSG	SPS-----	-----QEVPG	TN-----	ITTF-----
AT5G39000	NLT-WLFTVD	-AGFSYLVRL	HFCETLSE--	-----VNKEG	QRVESIFIEN
AT3G04690	NLT-WMFQID	-KNFTYILRL	HFCFQ----	-----LSKIN	QKVENIYINN
AT1G51790	GFVDFGWIPD	DSLEFFFYL	YFTELQPPNS	GT-----	VE TREFVILN-
AT5G28680	NLT-WMFQVD	-TNFTYIMRL	HFCFQ----	-----LAKIN	QKVENIFINN
AT2G19190	LYLTLSFRFP	DPNAKFYVYM	HFAEIEVLKS	-----NQ	TREFSIWLNE
AT2G04300	APFNFTWSLI	PSTAKFYSYM	HFAEIIQTLQA	NE-----	TREFDMMNLG
AT5G59680	APLTNEWSV	NPDEQYYVYA	HFAEIIQELQA	NE-----	TREFNMLNLG
AT2G19210	QDIIFSWEPK	DPTWKYFVYM	HFAEIVVELPS	-----NE	TREFKVLLNE
AT1G51890	QPLKINWLD	DITSQSYIYM	HFAEIIENLEA	NE-----	TREFNITYNG
AT1G51880	QPLIFDWTLD	NITSQSYVYM	HFAEIIQTLKD	ND-----	IREFNITYNG
AT5G59616	-----MEWSS	NVNNQYYLYG	HFAEIIQELQT	ND-----	TREFNMFWNR
AT2G28970	APLIITWKPR	PSNAEVYFYL	HFAEIIQTLAA	NE-----	TREFDIVFKG
AT5G54380	NVT-WVLPVD	-PDFRYFVRV	HFCDIVS---	-----QALN	TLVFNLYVND
AT5G48740	-SLSYTLSLH	TPG-DYYIIL	YFAGILSLSP	-----	--SFSVTIND
AT2G28960	LPLRFYVSLD	DDSDKVNRYF	HFAEIIQALRG	NE-----	TREFDIELEE
AT3G21340	GTWNFSWLLP	SSTTQFYVYM	HFAEIIQTLRS	LD-----	TREFKVTLNG
AT3G46280	GLVLSDQTL	LTGVPVYLVL	YFSEPQSLGR	TQ-----	RRSFNVFLDN
AT3G46260	GFIMSGNLPL	STLLPVYLAL	YFSEPQSLGR	TQ-----	KRSFTVFLDG
AT1G05700	RPTMTLENS	DPNVRFYVYM	HFAEVEDLSL	KP-----	NQ TREFDISIN-
AT3G46400	VPLSFTKDL	FPKDKLYFYF	HFAEIIQPLQA	NQ-----	SRESILWNG
AT5G38990	NLT-WLFEVD	-AGFAYIVRL	HFCETQPE--	-----VNKTG	DRVESIFFGY
AT1G51800	AAMNISLVGV	ERTVQFYVFM	HFAEIIQELKS	ND-----	TREFNIMYNN
AT5G24010	NIS-WGFQVD	EKRVLHLVRL	HFCDIVS---	-----SSLN	QLYFNVFINE
AT2G28990	APLIITWDPL	PINADEVLYM	HFAEIIQTLQA	NE-----	TRQEDVILRG
AT4G20450	DTWSTTWSIQ	NPDDDVHVYL	HFAEIIQALKP	SD-----	TREFSILWNG
AT1G49100	GTWEFPWSLE	DSTTRFHIYL	HFAELQTLIA	NE-----	TREFNVLNLG
AT4G29450	DPLELFWTSD	DPNVRFYAYL	YFAELETLEK	-----NE	TRKIKILWN-
AT1G51840	-----	-----	-----	-----	-----
AT5G59670	APLTFKWNSE	KLDVQYYFYA	HYAEIIQDLQA	ND-----	TREFNILLNG
AT1G51850	DTLNITWTV	PPTTKFYSYM	HFAELQTLRA	ND-----	AREFNVTMNG
AT5G59700	NVT-WDFDVD	-PGFQYFLRF	HFCDIVS---	-----KALN	QLYFNLYVDS
AT2G19230	EQIMVYWEPR	DPNWKFYIYI	HFAEVEKLPS	-----NE	TREFSVFLNK
AT1G51870	APWSLVWITD	NTTALSIVYM	HFAEIIQDLKA	ND-----	LREFDITYNG
AT3G46330	AALTMVWRL	NPDDQIYLYM	HFAEIIQVLKA	ND-----	TREFDIILNG
AT2G29000	EPITVEYGGY	SSGDQVYLYL	HFAEIIQTLKA	SD-----	NREFDIVWAN
AT3G46350	PSYIGITFT	SSEERFFIYL	HFAEIVQALRA	NE-----	TREFNISING
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AT1G51810	TTMEFPWNLE	PPTSQFYLYL	HFAELQSLQA	NE-----	TREFNVLNLG
AT4G29990	NPLKFNWAPD	DPRSKFYIYM	HFAEIVRELQR	-----NE	TREFDIYIN-
AT5G59650	APLTISWPPD	NPGDQYYLYS	HFAEIIQDLQT	ND-----	TREFDILWDG
AT1G28340	-PDLTYSLDV	EPNRNYSVWL	HFAEIDNTIT	AE-----	G KRVEDVING
AT3G51550	NLT-WIFSID	-SGFTYLVRL	HFAEIVSSN--	-----ITKIN	QRVETIYLLN

AT2G21480	NVT-WNFPNS	-PSFHYFIRL	HFCDIIS----	-----KSLN	DLFENVYING
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AT1G67720	--ISYRLNLE	DFPANARAYA	YFAEIEELGA	NE-----	TRKFKLVQPY
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AT2G14510	EPLTFTWNLE	SSDDETYAYL	FFAEIQQLKV	NE-----	TREFKILAN-

	360	370	380	390	400
					
<i>X.laevis</i>	-----	---EEEEEG	STSKKQINKN	RVQS---GPR	TPNPYASDNS
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AT3G14840	KREVKDFN--	-IVDEAKGVG	KAVVKKFP-V	MVTN---GKL	EIRLQWAGKG
AT1G53420	KLEVKDFN--	-IAKEAKDVG	NVVIKTFP-V	EIKD---GKL	EIRLYWAGRG
AT2G22610	DE-----	---KATEFDI	FSVVGANRPL	LLVD-LRVMV	MDDGLIRVRF
AT1G29730	KLIWEDFS--	-IREEANGTH	KEVIREVN-T	TVTD---NTL	EIRLYWAGKG
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AT2G23200	YWR-----	---VDVKPSE	QPRLASPFFK	DVVN---VS	DGSGLLNISI
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AT1G25570	DN-----	---NVSRVDV	FHEVGG-FAA	YSLN-YTVKN	LSSTIVTVKL
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AT1G24485	K-----	---QVGSDL	IVPPFGAVTQ	ASLR---DV	VKTELAYLTF
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AT2G04300	N-----	---LALERY	RPKTFATGTI	YFIK--PQIC	EGGQ-CIEL
AT5G59680	K-----	---LFFGPV	VPPKLAISTI	LSVS--PNTC	EGGE-CNLQL
AT2G19210	KE-----	---IN-MSSF	SPRYLYTDTL	FVQN-----P	VSGPKLEFRL
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AT3G46330 ET----- INTRGV TPKYLEIMTW LTTN--PRQC NGGI-CRMQL
AT2G29000 N----- IKKLAY KPKVSQIDTL LNTS--PNKC -DNTFCKAFL
AT3G46350 E----- SVADLY RPVYL---VI YSPR--RKLS SKG-----L
AT2G37050 QP----- EYSKSVV NIKENTQRPY RYAPGYPMI TLPFVLNFRF
AT1G07550 -----KVHFDPF RPTRFEAQVM FNNV--PLTC EGGF-CRLQL
AT1G51810 N----- VTFKSY SPKFLEMQTV YSTA--PKQC DGGK-CLLQL
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410 420
...|...|...|...
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CORK1 TCCIPAQGTY GPLVSAI---
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AT2G28970 VRT PNS--TL PPLINALEAY TI-
AT5G54380 S--QADI--T NATMNGLEVL KI-
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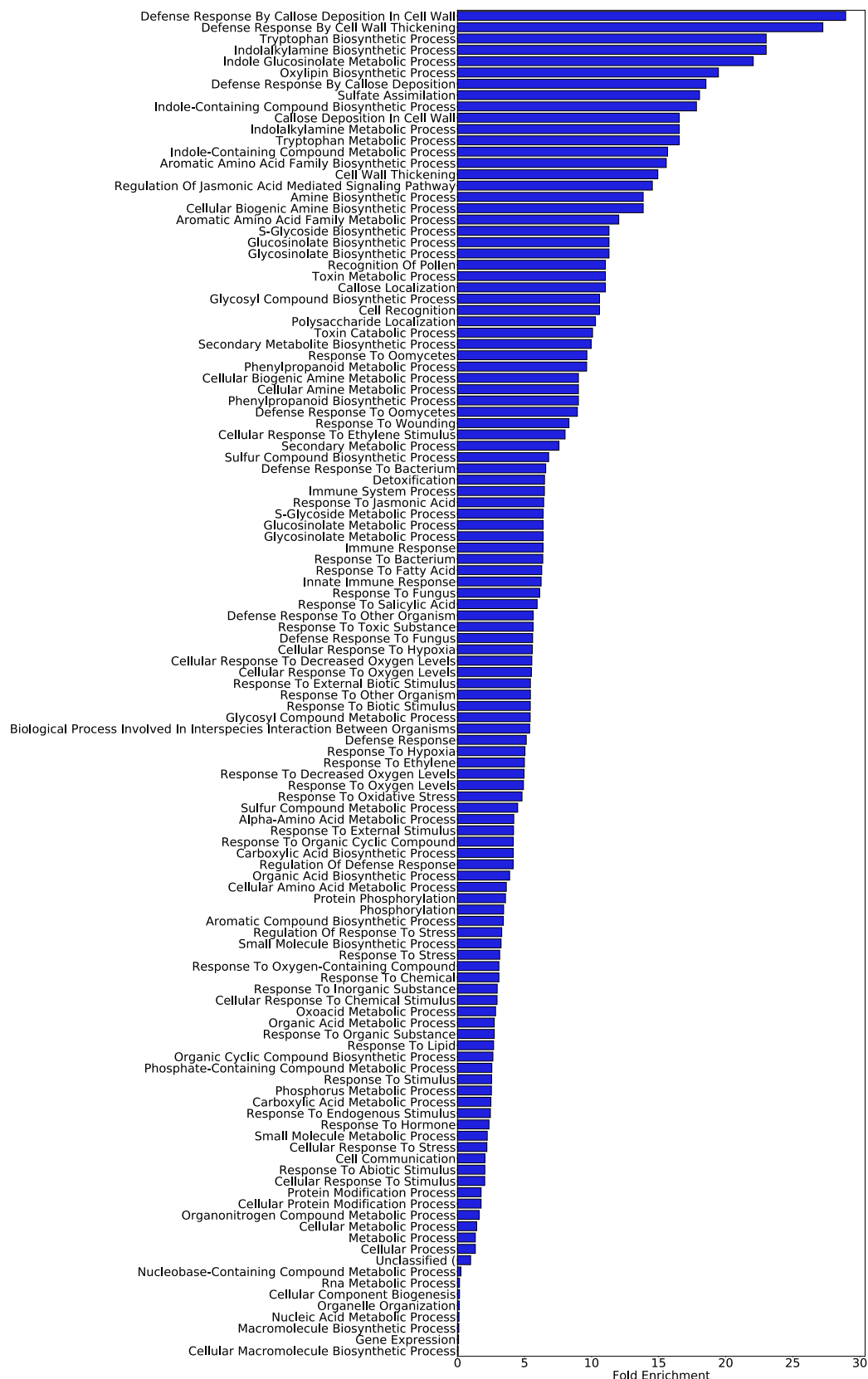
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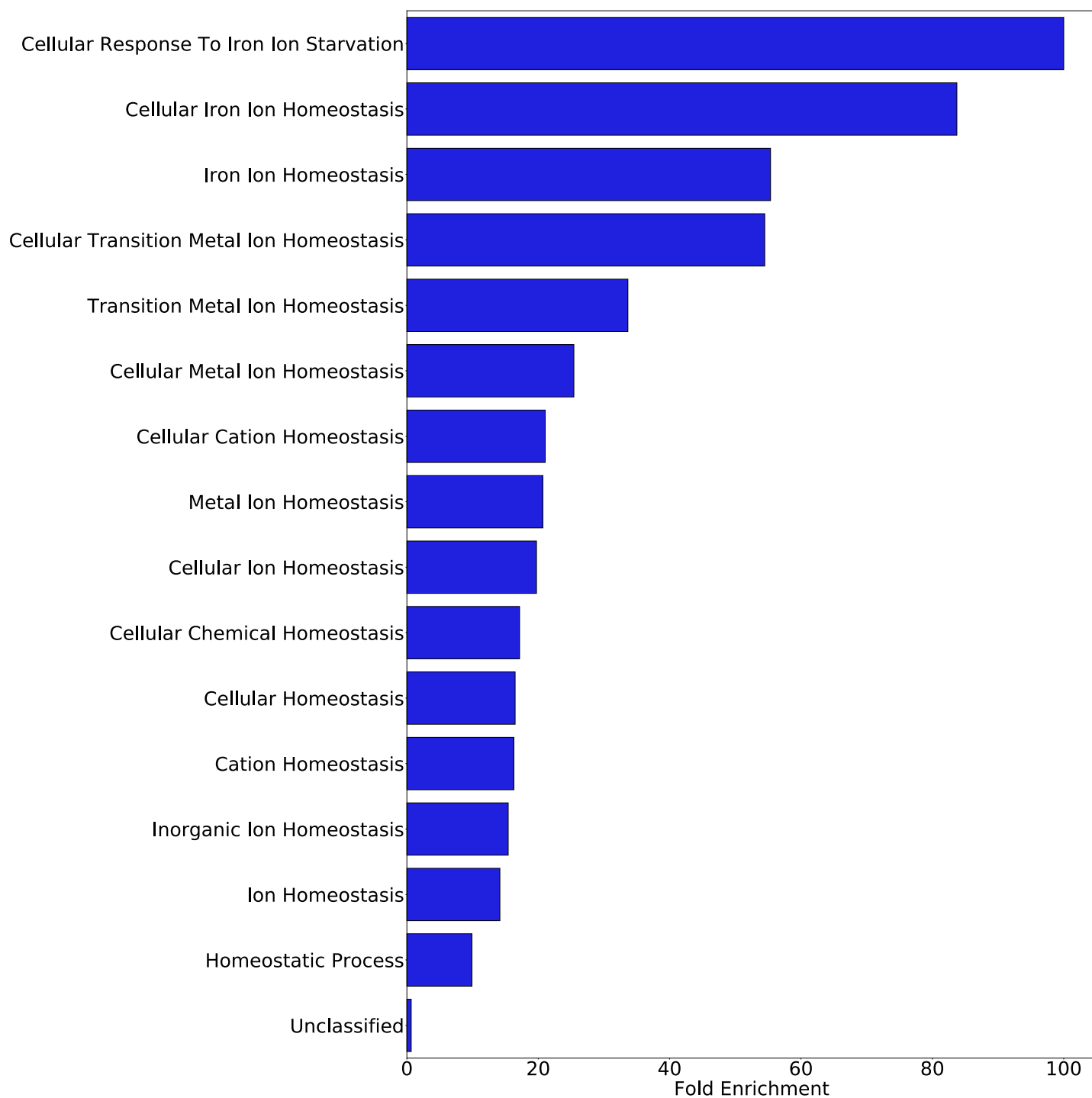
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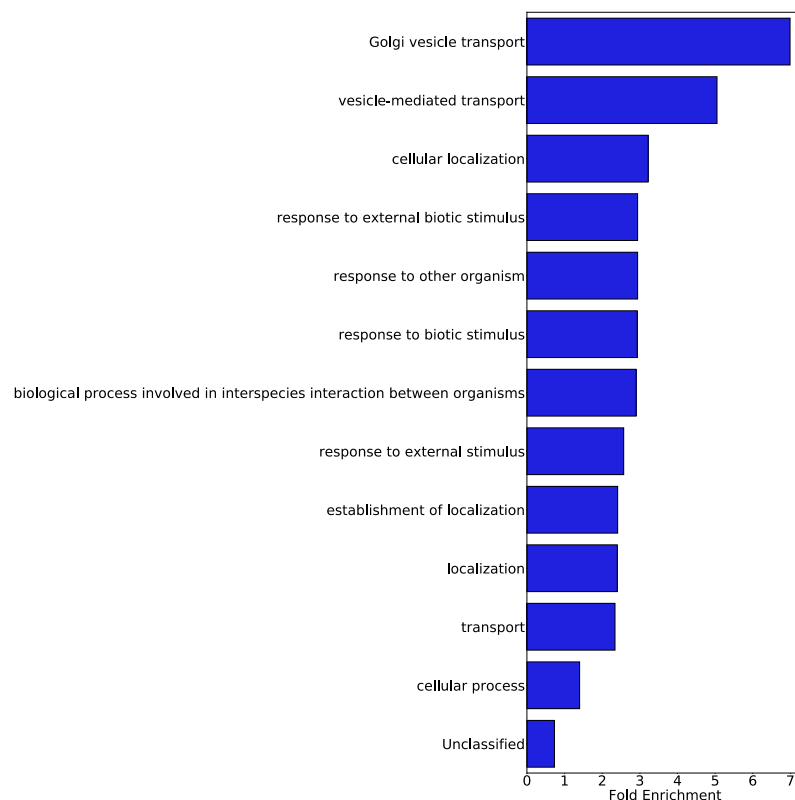
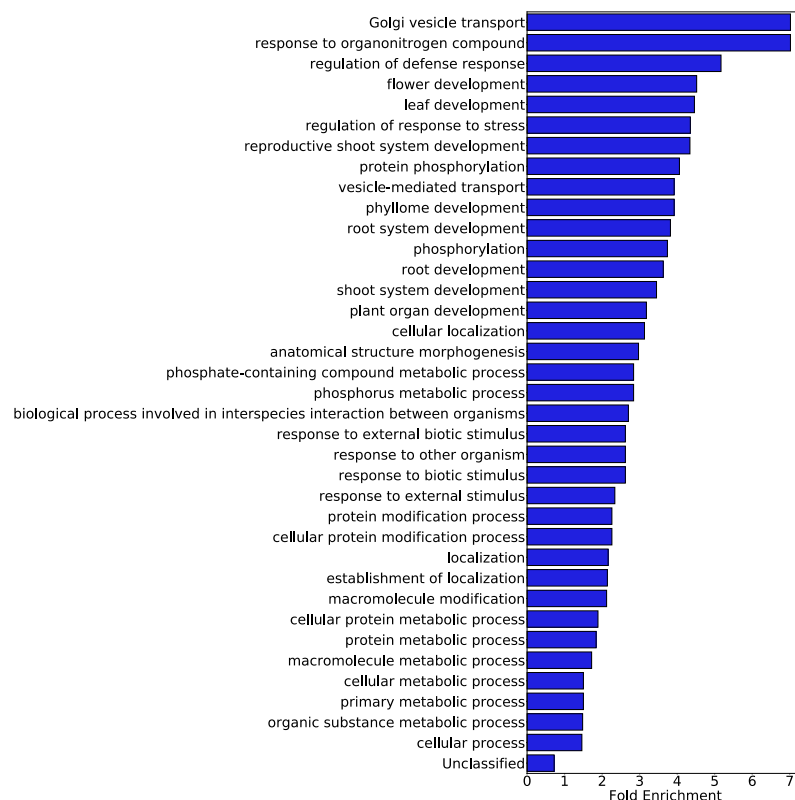
Supplementary Figure S2. Alignment of malectin domains (MD) and malectin-like domains (MLD) in *A. thaliana*, and the malectin in *X. laevis*. Black shade indicates conserved amino acid residues over 90% threshold.



Supplementary Figure S3. Biological functions enriched from up-regulated genes by 10 μ M CT compared to water control in root tissue of *cork1-2* segregated wild-type from the cross to aequorin wild-type.



Supplementary Figure S4. Biological functions enriched from down-regulated genes by 10 μ M CT compared to water control in root tissue of *cork1-2* segregated wild-type from the cross to aequorin wild-type.



Supplementary Figure S5. Biological functions enriched from phosphoproteomic analysis between 10 μ M CT compared to water control in root tissue of *cork1-2* segregated wild-type from the cross to aequorin wild-type. Top: 5 minutes after treatment; Bottom: 15 minutes after treatment.

Supplementary Table S1. Primers used in this study (5'→3').

Primers for genotyping:		
cork1-1 LP		TCTATTTAACCCGGTTCCACC
cork1-1 RP		GAATCGACAAAAGAGCAGTCG
cork1-2 LP		CTGCTGTATTCTGCTCAAGG
cork1-2 RP		TGATATAGTGGCAATCTCCGC
LB_SALK		GACCGCTTGCTGCAACTCTCTCAGG
Primers for gene expression analysis by quantitative PCR (qPCR):		
RPS (AT1G34030)	RPS-qF	GTCTCCAATGCCCTTGACAT
	RPS-qR	TCTTTCCTCTGCGACCAGTT
PER4 (AT1G14540)	PER4-qF	ATGTGAAGGTTGGTCAAGAG
	PER4-qR	ATGTGTGAGCTCCTGAGAGAG
MYB51 (AT1G18570)	MYB51-qF	CTACAAGTGTTTCCGTTGACTCTGAA
	MYB51-qR	ACGAAATTATCGCAGTACATTAGAGGA
CORK1 (AT1G56145)	CORK1-qF	ACCAGAGTACGTGATGCTTG
	CORK1-qR	TCCATGCCCATTTCGAGAAG
CCOAOMT (AT1G67980)	CCOAOMT-qF	TGGTGAACGACAAATGTGAGTTTG
	CCOAOMT-qR	ACAAAACCAAAACCACAAGGTGTTG
WRKY40 (AT1G80840)	WRKY40-qF	AGCCCTCCCAAGAAACGCAAATC
	WRKY40-qR	GCTTGGAGCACAAAGCACATTTGAAG
PR-1-Like (AT2G19990)	AT2G19990-qF	ACGATTATGATAGTAACACGTGTG
	AT2G19990-qR	AGGATCATAGCTACAAATCACC
PEN2 (AT2G44490)	PEN2-qF	AAGCCATCCATGAAGATGGAG
	PEN2-qR	ACCATATCCACTGTTCCACTC
CYP71B15/PAD3 (AT3G26830)	PAD3-qF	ACGAGCATCTTAAGCCTGGA
	PAD3-qR	TCGGTCATTCCCCATAGTGT
TSA1 (AT3G54640)	TSA1-qF	TCAGTCGCTCTTGAAGGATATC
	TSA1-qR	TCCAGCTATCTGTTTCACATGC
PMR4 (AT4G03550)	PMR4-qF	CTGGAATGCTGTTGTCTCTGTTG
	PMR4-qR	TCGCCTTTTGATTTCTTCCAGT
WRKY30 (AT5G24110)	WRKY30-qF	CGGAGCCAAATTTCCAAGAGG
	WRKY30-qR	GACGGAGAGTTTGATGCTGAG
FLS2 (AT5G46330)	FLS2-qF	CGCAGAACAATCTCTCGGGT
	FLS2-qR	CGTCATGTTCCCGAAGCTCT
CYP81F2 (AT5G57220)	CYP81F2-qF	GTGAAAGCACTAGGCGAAGC
	CYP81F2-qR	ATCCGTTCCAGCTAGCATCA
Primers for plasmid construction:		
35S::CORK1 in pB7FWG2.0	CORK1-caccF	CACCATGCTGAGATTAATTCTCTCCTTG
	CORK1-R	TCATCAATGTCGTCGTCCATGTTCTTC
	CORK1-NoSTOP	ATGTCGTCGTCCATGTTCTTC
35S::ARF1 in pB7FWG2.0	ARF1-caccF	CACCATGGCAGCTTCCAATCATTCATC
	ARF1-R	TCATCATCTTGATCCCGCCATAGATG
CORK1 ^{KD}	BamHI-KD-F	AAAAAAGGATCCAGGAAAAGAAAAGGGCGGCT
	EcoRI-KD-R	AAAAAAGAATTCTCATCAATGTCGTCGTCCATGTTCTTCAAC
Primers for site-directed mutagenesis:		
G748E-F		TTGTATGAATGCTGCATTGAGG
G748E-R		TGCAGCATTCATACAATTTTACAAGG
F520A-F		TGTAACGGTTCAGGCGGCTGAGATACAAATAC
F520A-R		GTATTTGTATCTCAGCCGCCTGAACCGTTACA
F539A-F		CTTGGAAGGCGAATTGCGGACATATATGTCCAG
F539A-R		CTGGACATATATGTCCGCAATTCGCCTTCCAAG

Supplementary Table S2. UniProt accession number of amino acid sequences used in the multiple alignment for the *Arabidopsis* MD/MLD domains.

F4HSE1	Q9ASQ6	F4I336	F4I337	Q9FXF2	C0LGG7	F4HRH4	C0LGG9	F4I3K0
C0LGH2	C0LGH3	F4I3K4	F4IBQ9	F4IJK6	C0LGN2	C0LGD6	C0LGD8	C0LGD9
F4I9A5	F4ICJ5	F4HWL3	Q9SA72	F4I065	F4IB60	Q9C8I6	F4IB63	Q9FZB8
C0LGG3	Q9FZB6	F4IB68	F4IB69	C0LGG4	F4IB71	Q9FZB1	C0LGG6	F4IB76
C0LGI2	Q9SI06	Q9ZQQ7	Q9ZQR3	O64483	O65924	O64556	Q9SJT0	O22187
C0LGL4	O81067	O81069	F4IJP7	F4IPZ3	O80623	Q9SR05	Q9SFG3	F4JB46
Q9LIG2	F4J800	F4J801	Q67ZF1	Q8GYH9	Q9LX66	C0LGP2	Q9SNA3	F4J810
Q9SNA0	F4J927	Q9SN97	Q9SCZ4	Q0WQL0	C0LGQ7	F4JMW3	Q9M0D8	Q9SZV2
Q9T020	C0LGT5	Q9FLW0	Q3E8W4	Q9FID9	Q9FID8	Q9FID6	Q9FID5	C0LGV0
Q9LK35	F4KJ89	C0LGW2	F4KJ91	Q9FN94	Q9FN93	Q9FN92	Q9FLJ8	Q6INX3