

Supplemental Figure 1: Amino acid sequence alignment of RAP2.2 related ERF transcription factors.

#At1g53910_RAP2.12	-----	-----	---MCGGAI	SDFIP----	---PPR-SRR	VTSEFIWP--	---DLKKNLK	GSK---	KSSK
#At1g72360	-----	-----	.....V.	..Y.AP	-----EKIA.	SSGKSS.R--	-----	-----	-----
#At2g47520	-----	-----	.....W	-----	---SK	SE..PS---	-----	-----	-----
#At3g14230_RAP2.2	-----	-----	.....	.....	.....L.	..N.....	-----	-----	-----
#At3g16770_RAP2.3	-----	-----	.....	..YA.LV---	---TKAKG.K	L.A.EL.S--	-----	-----	-----
#CaPF1	-----	-----	.....	..LV---	---S.I...	L.A.LL.GNS	---S.KK.	NPGNYYSKPL	-----
#HvRAF	-----	-----	.....	..L.AQL..PS---	---AGR.SKQ--	AAAGGRA.PT	SS---KG-	VSKSRH..T	-----
#JERF3	-----	-----	.....	..S...Y.D---	---S.T...	L.A..L.GRF	---G.KQ.	NFNYYHNSKA.	-----
#Os01g21120	-----	-----	.....	..Y.Y.---	---AR..	LCAS---	-----	-----	-----
#Os02g54160_OSEREBP1	-----	-----	.....	..HHLKG---	---H.EG...	A.EGLL..E-	---KK.---	PRWGGGRRRH	-----
#Os03g08460_OSEBP89	-----	-----	.....	..L.A.T.---	---ARVPR.L	TAA.LLPVTP	TP---	PAER	-----
#Os03g08470	-----	-----	.....	..L.AE...APS-	RAAAATKR--	.ASHL..AG	SK---	NAAR	KSKSKRQQR
#Os03g08490	-----	-----	.....	..L.ANI..---	---ATPP..P	A.AAHV..GG	-----	-----	DGEKR
#Os03g08500	-----	-----	.....	..L.AEL..---	---SAPAA..	.AGHV..G-	-----	-----	DANKA
#Os03g22170	-----	-----	.....	..P..L.SSR---	---G.GGKRSL	SAADEL..PP	P-----	-----	-----
#Os05g29810	-----	-----	.....	..A..V.---	---AGA..	AAASD.SDN-	-----	-----	-----
#Os06g09390	-----	-----	.....	..L..L.---	-----	.AGDL.LE-	---KT..QQQ	QK.KNKGARR	-----
#Os07g42510	-----	-----	.....	..S.L.G.LHLP---	---VR.T	NAGDL.GDA	GKGRDGGDGL	KKRKGSSWDF	-----
#Os07g47790	-----	-----	.....	.....QREAH	RAATGSKRAL	CA..DF..SA	S-----	-----	-----
#Os09g11460_SUB1c	-----	-----	.....	..RR-----	---RVSS.PS	SS.SSSPARH	H-----	-----	KAR
#Os09g11480_SUB1b	-----	-----	.....	..L.PNDYG---	---DKPPPPP	SE.SEWDATT	K-----	-----	MK.
#Os09g26420	-----	-----	.....	.....G.	---S-AAA	AAAAAVAKK-	---QQGRRVT	ADVLWPGMLR	-----
#Os10g25170	MSQTQSNSNQ	THLPTPNPSR	ARA.....L	A.L..SPRS	GHTKKNKR..	ISDDEDFEAA	F-----	-----	-----
#SUB1a	-----	-----	.....EV.	PADM.---	---AAPFP.	HGDGET.VDR	K-----	-----	RRN
#At1g53910_RAP2.12	NRSNFFDFDA	EFEADFQGFK	DDSSIDCDDD	FD----VGD	VFADVPPFVF	TSTPKPAVSA	AA-----EG	SVFGKVTGL	-----
#At1g72360	SNGV.DCSIY	D.DGN.DELE	S.E-----	-----	-----	VF.S	THK	-----	HHH
#At2g47520	-----	-----	.....QLG	S-----	-----	VS.R	KKR	-----	KV
#At3g14230_RAP2.2	K..D...L.D	D.....	..AF..E..	-----D.	..VN.....	.A.T.VA..	FVSTGIYLV.	.AYA..TVES	-----
#At3g16770_RAP2.3	-----	EL...SAAD..W..Y	ST.---	-----	---KLH.T-	-----	NQV	NVK	-----
#CaPF1	..K.I.L.E	.....D.	..YA-----	---VD.....	-----	G.K	SVK	-----	SGDSS-
#HvRAF	PDADDDV.E	A..DFDDH.D	LRAE-----	-----	-----	EDGG	DDHVVFASKP	AFSPRAYDG	-----
#JERF3	HLR--SEVVD	D.....D.	EL.-----E	D-----	..QV....A.	SASKHSTG.K	SLK-----	-----	TVDSK
#Os01g21120	-----	D.WP.ADDSD	PHT-----	-----	-----	-----	-----	-----	P
#Os02g54160_OSEREBP1	FGGFVEED.E	D.....EE.E	V..GSDSLEL	G---EEDD.	DVVEI...---	---AAF	KR---ALSRD	NLSTITTA.F	-----
#Os03g08460_OSEBP89	RTTRKRKS.V	D...E.EL.E	..DDD.EFEL	S-----	DGDES LAVSC	V.S.---	KS	K.VPSFSFSS	D.SSSSRPR
#Os03g08470	SPADVD..E	A..QFDDSD	F.DA-----	-----	-----	EEDD	EGHFVFAKSS	R.VAG-HDG	-----
#Os03g08490	RKVGGGG.D	D...A.ER.G	RE-----	-----	-----	DSEM	EEEEVEVVV	G---A.AVR	-----
#Os03g08500	KKKGAR--AD	D...A.RD.D	N..D-----	-----	-----	DEEM	MVEEAE.E	A.TSEH.PFVFR	-----
#Os03g22170	-----	QH	ASDDPAEQAA	A.EE-----	-----	EQEQ	Q-----	-----	-----
#Os05g29810	-----	---VLSAAG	AGDE-----	-----	-----	-----	-----	-----	-----
#Os06g09390	LP-LRQEED	D.....EE.E	V..GEWEVES	-----	DADEA...---	---LA.	PRS--GFAK.	GLKNTT.A.A	-----
#Os07g42510	DVDCDD.D	D.....EE.E	..YGD.D.VG	.G-----	-----	DDQES	DMN-----	GL.LAGFS	-----
#Os07g47790	-----	QE	AAD...DHLT	APCT-----	-----	FTPD	Q-----	-----	-----
#Os09g11460_SUB1c	RSRRKLV.A	E.DW..A.RE.L	SRDD.D...D	-----	GHHV.VAPLI	R.SN.CVHGH	EVVASTVGG.	ASG.RRRADD	-----
#Os09g11480_SUB1b	KKRKGGG.D	DW..A.RE.I	AGD.VD.D...	-----	GVSMFP-----	..G	.GTMETT---	-----	EV
#Os09g26420	KG-KAAAE	E.....RE.E	RGMD.EAEG	GGEEEEEDD.	DVVV.V.PPA	AARFVVRAA.	K.A--PPTAD	GMLTT.LVQH	-----
#Os10g25170	-----	E...D.GDDSD	S..ES-----	-----	-----	EEVD	EYDVVVDDDD	ED.VV.LPP	-----
#SUB1a	KKRKRGA.E	W..A..E.M	AADD.DGG-	-----	GLVLSKSLV	LRS.GENDAG	RGAAATMSMP	LDPVTEAEF	-----
#At1g53910_RAP2.12	DGDAEKSANR	KRK--NQYRG	IRQRPWKWA	AEIRDREGA	RIWLGTFKTA	EEAARAYDAA	ARRIRGSKAK	VNFPEE-NMK	-----
#At1g72360	S.S.S-DGKK	QS--SR.K.	..R...R.	.....IK.V	.V.....N.	.....LE	.K...A..	L..N.---	-----
#At2g47520	SVSE.RDGG	E...L.L.	.....SK.V	.V.....L.	.....V.	.....IK.	.R...L.	L..N.---	-----
#At3g14230_RAP2.2	AEQ...SK.	.....	.....K.S	.E...D.	.....D.	.....T.	.....K.P	SS-----	-----
#At3g16770_RAP2.3	EQAT.PGKR	.....V...	..K.....	..K.V	.V.....N.	..M..V.	KQ...D.	L..DL--H	-----
#CaPF1	-C.T...SK.	.....	.....K.I	.V.....NS.	.....VE	.....K.	.....DG--S	-----	-----
#HvRAF	GRA.HAASRK	..T--GHLH.	.....HK.T	.V.....D.	DD.....V.	..L...V.	.....D	-----	-----
#JERF3	..A.A.D..SK.	.....	.....K.V	.V.....N.	.....K.	..IE	.....K.	.....D	---A
#Os01g21120	APEKPPR.K	E.....	.....VK.V	.V.....YP.	..A.....R.	.....A.	.....	NDFGAA	-----
#Os02g54160_OSEREBP1	..P.A...K.	.....F.	.....K.V	.V.....NS.	.....RE	.....K.	.....	-----	-----
#Os03g08460_OSEBP89	RVA.AAAGR.	.ASKKSK..	V.R..S.RF.	.....KK.R	.V.....YGS.	..M...RE	.....KG.R	L..RDGDS	-----
#Os03g08470	RAA.RAASKK	..G--RHF.	.....HK.T	.V.....N.P	.....VE	.....L.	.....	-----	-----
#Os03g08490	RRR.TPA.G	R.ARPSK.W.	V.R.....	..V.V	.V.....A.	.A.H...DL	.AT..L.	SSSS-S	-----
#Os03g08500	AKK.AAA.SS	R.RKPA.	V.R.....	..VK.I	.V.....TN.	.A.L..D.	.A..DR.	L..SATTDP	-----
#Os03g22170	-PA.RRQRR	E.R--TL...	..R.....	..AK.	.V.....A.	.A...R.	.....T.	-----	-----
#Os05g29810	SFA.A.APAP	G...TA...	..R...R.	.....K.	.V.....YA.	.....V.	.D..A..	L...---	-----
#Os06g09390	..P.AR..K.	.....F.	.....K.V	.V.....NSP	.....E	.....K.	.....	DG	-----
#Os07g42510	TKLGLGGS.	---TR...	.....K.V	.V.....G.	..M...VE	.....K.	.....	DAAAAA	-----
#Os07g47790	-AAE.PTKK.	E...TL...	..R.....	..AK.	.V.....A.	.A...R.	.....	-----	-----
#Os09g11460_SUB1c	.DGERRRR.	RRRRSYP...	.....R.	..S...VK.I	.V.....D.	.G...DE	V...Y.GN.	T..P---S	-----
#Os09g11480_SUB1b	AVVERPRRR.	RVRRSYP...	V.....R.	..S...VK.	.V.....D.	.A...E	.....H.H.	R.T..PDEPR	-----
#Os09g26420	..PTAR..KH	.....	.....SK.V	.V.....YN.	.....E	.....K.	.....	D	-----
#Os10g25170	PPPPPPVIPH	E.HGARRF.	V.K.....	..VR.V	.V.....P.	..S...L.A.	.....P.	-----	SA
#SUB1a	AVAEKPRRR.	-PRRSYE.H.	.....R.S	.....VK.V	.L.....D.	V...L...E	.....H.W.	R.T..PADLSS	-----
#At1g53910_RAP2.12	ANSQKR-SVK	AN-LQKPVAK	PN----PN	PSPALVQNSN	ISFEN---M	CFMEEKHQVS	NNNNNQFGMT	N-----SVD	-----
#At1g72360	--.SGKRKA.	.K-TVQQ.EE	NH-----EAD	LDV.V.SSAP	S.SCLDFLWE	ENNPDTLLID	TQWLEDII.G	D-----	-----
#At2g47520	-----	---TQ.EE	-----EAD	-----TKP	GG-----	-NQNELISE	-----	-----	-----
#At3g14230_RAP2.2	VV...P.A.	T.N...S...	..KSVTLVQ.	THLSQ.YC.	N..D.SFGD.	S...P.MY	---L.L.	-----	F.
#At3g16770_RAP2.3	HPPPNYTPP	PS-SPRSTDQ	P-----A	KKVCV.SQ.E	SELSQP----	S.PV.C-----	-----	I.FG	-----
#CaPF1	PA.AS.RA.	P..P.EALRE	EI---LNTVQ	NTTYIN.LD	GGSDS---F	G.F...PAAK	QYGYENVSP.	AGDMGLG.IS	-----
#HvRAF	---AA.TGAR	PRRASRR.T	QKQCPPART	AYS.TAAARA	QPEQDAMVK	PELM.FFN.D	AIVHLTTAVA	ALPPVTA.-T	-----
#JERF3	PAPAS.HT.	V..P..VLPE	ES---LYSLQ	SDS.IMNSVE	DDHYDS---F	G.F...PTMK	QYGYENGSSA	SADTGF.G.FV	-----
#Os01g21120	PAPAAAAKA	VRVAVPTP.V	LP--PPKMEA	V.EGAGAC.S	DE-----	-----	-----	-----	VKE
#Os02g54160_OSEREBP1	---APTTAQ.	RRAGSTTAKA	..KSSVEQK.T	VK..FNN-LA	NANAFVYPSA	N.TSN.PF.Q	PD.MPFVPM	.S-----A	-----
#Os03g08460_OSEBP89	PRRSNDRECV	TID.NL.A.A	VSGDDDDAMA	VD.DADAGS	AGRAAYADQ	EALSAAKCKI	KQCPRDEQ.A	SA-----	-----
#Os03g08470	---ATPAAR	PRRGNTRATA	VP--PPA---	-T.PAAAPP	RGLKREFSP	ETALPFPTT	AVLDLTTAA	PPPAMMSTSS	-----
#Os03g08490	TAATP.PRKC	RPTTATATP-	---KATTP	NVVVV.NLVD	KEA.VSESSG	ASSSALPDF.	WQMSASSDD	DAAAQQALL.	-----
#Os03g08500	TRKR.G.ATAA	.APAV.ATPV	I.LVEEEDEE	EVA.AMASIK	YEP.TSESS-	-ESNALPDF.	WQMSASSDEF	AVAAAA.L.L	-----
#Os03g22170	-----	.EDNAPA.A	.PPYHLA..	---AAYGDA.S	T.YLYPMAMT	PAAAGLREQQ	LMITTTAVEYS	VNDVAVVASV	-----
#Os05g29810	-----	PTIGAAAAAPP	P---KKRR	KAA.AANHHH	HHHQEESGSS	SSASSLPTPT	P-----	-----	-----
#Os06g09390	---APVA.QR	SHAEPSMMN	.AFSIEEK.A	VMS.GNKTMY	NTNAYAYPAV	EYTLQEPF.Q	IQ.VSFPVPM	-----	-----
#Os07g42510	PKRPR.S.A	HSPQ.QKARS	SSSSPASLNA	SDAVSKS.N	RVSSAGSST	ATAAAIADD	GVKLELLSE	DP-----	-----
#Os07g47790	-----	..ED---	P-----	---DDFAA	DGSHGGGAAI	PCR-----	-----	EFM	DYDAVMAG--
#Os09g11460_SUB1c	PPPPPEQPAAP	-----VA	AERSPSTTTT	TT.---	-----SAED	SG---DSRIL	IECCSDDL.D	S-----	-----

```

#Os09g11480_SUB1b PAPSQAPFCF LLDDDDDGVA RGNSSPSSSA .DSTSACT-- ----TSSTVA SGERGDELIL LECCSDDV.D S-----
#Os09g26420 ---EPAVAQ. LSLK.NAAKQ EK----LA.P LKTCGDDAFF QLNSSDNDLF AMLAKVPAK AEPVDLMPPV KP-----L
#Os10g25170 PPSAAARR KRRAHAATR SPSSPATSE VTA.SASA.S DVPAPAFASF VGEPPHGGAK SMPTTSHTSQ PAPPATVASE
#SUB1a PPPPQPLCF LLNDNG-LIT IGEAPTDDAA STS----- ----TSTTEA SG--DARIQ LECCSDDV.D S-----

#At1g53910_RAP2.12 AG-CNGYQYF -----S SDQGSNSFDC SEFGWSDQAP ITPDISSAVI NNNNS--ALF
#At1g72360 ----- ANKKHEPN.S E.ANNV.ASL LSEELLAFEN QTEYFSQMP.
#At2g47520 ----- --NQVES-- LSE.LMALED YMRFY-QIPV
#At3g14230_RAP2.2 ..GN..... ..HG.K.E..MLV ..E--.S.
#At3g16770_RAP2.3 -----GDE.QN LSY.FEPDYD LKQQ...LES -----FL
#CaPF1 PSTGTTNV.. -----E...T...D...GEP.C.R.E...VLS EVLECNQTQS
#HvRAF FADTMPRVDE -----DSSVGS GG--AMLGFA DEL.FDP.MM FQLP--CSD MYESAD.IFA GDAVIDP..S
#JERF3 PSAGG-DI.. -----N ..V....E..D...GEP.CS.R.E...VLS AAIECNE.Q.
#Os01g21120 LSEELLAYEN -----YMSF LGIP-YMEGG AAS-----AAGAE
#Os02g54160_OSEREBP1 .PIEDPIIN----- ..G...D...END-T.K...T.IAP IS-TIAEVDE
#Os03g08460_OSEBP89 -----TPELME EDASS.RNMV PLSMALQLQY AAMIAECDRE
#Os03g08470 FTDSVATSES GGSPAKKARS DDVDSSEGSV GGSSTLGLFT DELEFDP.ML FQLP--YSD GYES.D.LFA AG---D.NS
#Os03g08490 .AG-GAKKRP -----R.EPHVT..DDEVLPASF DSDNNTA.AG LPLDDFF..
#Os03g08500 SDDDLAKKRP -----RTEPE.T TDS----- GSG.DTD.-- --LFDAL..
#Os03g22170 YFQPPP----- --PAVA.Y.S--AVG GGAVVVPVSA VAP---AMTY
#Os05g29810 -----PAAE.HQLR-----E CMSGLEAFLG -----E
#Os06g09390 -----AIEDTFVNL ..G...D.SQEND-I.K...T.MLA P--TMTGVDD
#Os07g42510 -----PPMAA.AAAA.L.AFE LNDLDG.RCK D.AFDHQIHK
#Os07g47790 FPHQP----- --YVVA.DGVP--AV. --AEEAPT.A VVH--HH.P
#Os09g11460_SUB1c -----LLAA.FDMTG----- --DMRF WS-----
#Os09g11480_SUB1b -----LLAG.FDVSS----- --ESRS ILGMVN-----
#Os09g26420 .STETFEMNM -----L..TS...GS.D...E.D-T.L...YT.VFV P.AAMPAYGE
#Os10g25170 NVDDPEVDFP -----YDVH GGLASYFAGG AYESLE.LFA HGGD-SA.VD
#SUB1a -----LLAG YDVASG.DIW TWTSGA.STS V.QEIKTPSI

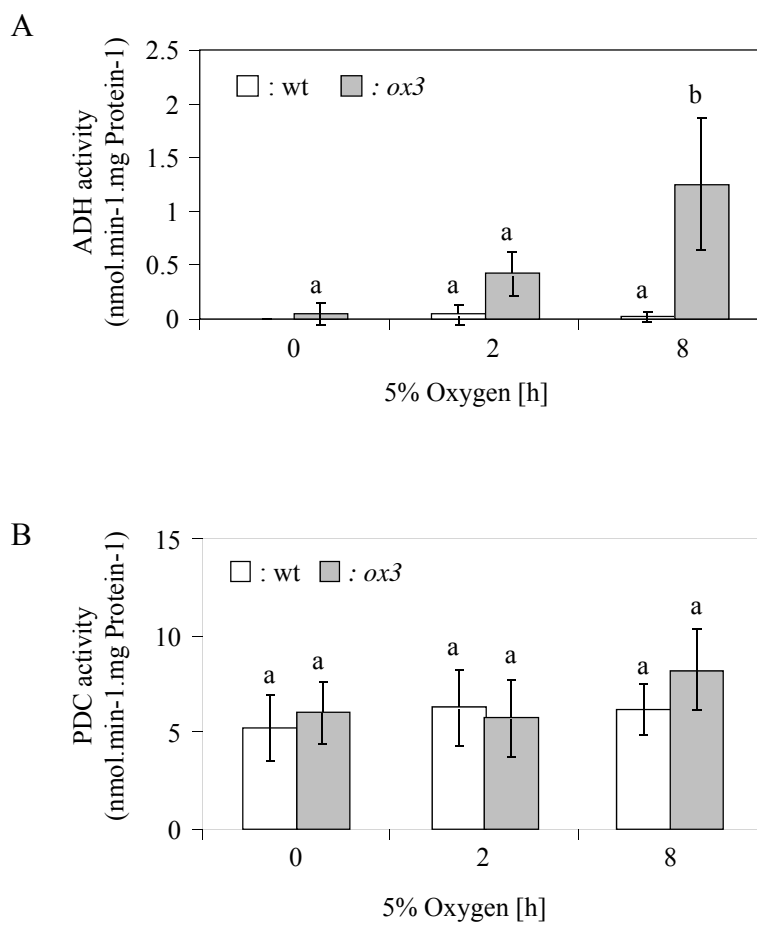
#At1g53910_RAP2.12 FEE-ANPAKK LK-----SMDFE TPNYNTWEWA SLD----- --FLN EDAVTTQDNG ANPMDLWSID
#At1g72360 T.GNCDSSSTS .SS-----LF.GG NDMGLWS--
#At2g47520 ADD--QS.TD IGN-----LWSYQ DSN-----
#At3g14230_RAP2.2 V.-T.A... .PNS-----DE.D.LM AYLD.AL..T P.EVE-----AM.G.A..GAVTQEE E..VE...L.
#At3g16770_RAP2.3 ELD-G.T.EQ PSQ-----LDES.V SEVDM----- --WML D.VIASYE-----
#CaPF1 D.D.-R.E... .S-----C.NASL PDDED.VHTL .EELSAFESQ MKFLQIPY.E GNWDASV.AF V.TGAIQDGG
#HvRAF VDSGMDA-VS .WS-----FDE.P MDSAIF-----
#JERF3 V.D..SQ... .S-----CTNNPV ADDG----- --PRYV GT-----
#Os01g21120 EAAA--PAG .WT-----FE.Y.L.L.SLAL-----
#Os02g54160_OSEREBP1 SAFIKS-STN PM-----V PP--VMENSA VDLPLD.PYM RFL----- --D.G.GDSI.SL L.LDGSQDVV
#Os03g08460_OSEBP89 M..I.AVERD .ERRRRQVFE RRGHLVRQAS LLLD-----
#Os03g08470 ANTDM.AGVN .WS-----FD..P IDGALF-----
#Os03g08490 GDQFGDLNGG AFASL-----MDGLF AAG-----E ANVAGESVGL WSFG.-----
#Os03g08500 ADQYNHFNNGG AYES-----LDSL.F SADDVQTT-- -----AA.AA.ADQGMGL WSFP.GCCLV
#Os03g22170 GQSQVEA.PL MWN-----FD..I..AMPM-----
#Os05g29810 E..DDGG.GE PWD-----AV.MM LE-----
#Os06g09390 SAFLO.N.SD AM-----V PP--VMGNAS IDLADL.PYM KFL----- --ID.GGSESTI.TL LSSDGSQDVA
#Os07g42510 V.AA VADEFA FYD-----DPSY MQLGYQLD-- -----Q.GNSYENI.AL FGG----EAV
#Os07g47790 PQQQDAGLE .WS-----FDNIH .AVPM-----
#Os09g11460_SUB1c -----
#Os09g11480_SUB1b PAYLTGG.P. RMRNNYGIIV PQGNMGNPLA QNMPTFDPEM KYLPL----- --PYVE SSSDESM..L LQNDATQDGA
#Os09g26420 QAASDHPVAA .WS-----FA.DG --SFCF-----
#SUB1a HQNISYAGEA -----

#At1g53910_RAP2.12 EIHSMIGGVF -----
#At1g72360 -----
#At2g47520 -----
#At3g14230_RAP2.2 .NF.LE.D. -----
#At3g16770_RAP2.3 -----
#CaPF1 NAMDLWPSMM PLL-----
#HvRAF -----
#JERF3 -----
#Os01g21120 -----
#Os02g54160_OSEREBP1 SNMDLWSFDD MPVS-DFY
#Os03g08460_OSEBP89 -----
#Os03g08470 -----
#Os03g08490 DFLNASYY--
#Os03g08500 DVEASLSF--
#Os03g22170 -----
#Os05g29810 -----
#Os06g09390 SMDLWSFDD MPVSAEFY
#Os07g42510 N.GGLWSFDD MPMEFRAY
#Os07g47790 -----
#Os09g11460_SUB1c -----
#Os09g11480_SUB1b -----
#Os09g26420 SNEGIWSLDE LLMAAGAY
#Os10g25170 -----
#SUB1a -----

```

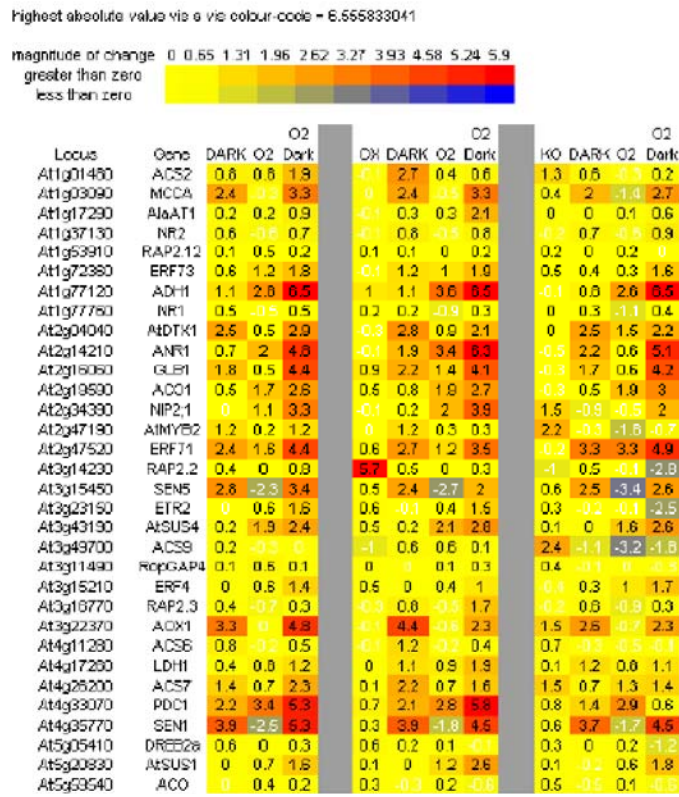
Supplementary Figure 2: ADH and PDC activity measurements in shoots of wt Col-0 and the *RAP2.2* over-expressing line *ox3*.

A, ADH activity measurements show significantly increased levels of ADH activity in *ox3* over wt following hypoxic treatment. B, PDC activity was not increased significantly in either *ox3* or wt following low oxygen treatment. The data represent averages (\pm standard deviation) of three independent biological repeats. A total of 25 plants were used per treatment. Values with different letters are significantly different from each other at $P \leq 0.001$ (ANOVA and Tukey test).



Supplementary Figure 4: Heat map of QRT-PCR gene expression data for 32 candidate genes.

The numbers are log₂ conversions of the average gene expression data relative to control samples (see Supplementary Figure 3).



Supplementary Table I: List of 32 candidate genes used for gene expression profiling studies using QRT-PCR. The table includes information about the differential expression of these genes in the microarray studies of Klok et al. (2002), Liu et al. (2005) and Loreti et al. (2005).

Locus	Gene	Description/Function	Hypoxia microarray detection		
			Klok et al.	Liu et al.	Loreti et al.
<i>ERF Factors</i>					
At3g14230	RAP2.2	AP2 domain transcription factor (Group VII)	Yes	No	No
At3g16770	RAP2.3	AP2 domain transcription factor (Group VII)	Yes	No	No
At1g53910	RAP2.12	AP2 domain transcription factor (Group VII)	No	No	No
At2g47520	ERF71	AP2 domain transcription factor (Group VII)	No	Yes	Yes
At1g72360	ERF73	AP2 domain transcription factor (Group VII)	No	No	Yes
At3g15210	AtERF4	AP2 domain transcription factor; modulator of ethylene responses (Yang et al. 2005)	No	No	No
<i>Low oxygen-induced genes</i>					
At1g77120	ADH1	Alcohol dehydrogenase, alcohol fermentation	Yes	Yes	Yes
At4g33070	PDC1	Pyruvate decarboxylase, , alcohol fermentation	Yes	Yes	Yes
At4g17260	LDH1	Lactate dehydrogenase, lactic acid fermentation	No	Yes	No
At1g17290	AlaAT1	Alanine aminotransferase	Yes	No	Yes
At2g16060	GLB1	Non-symbiotic hemoglobin, low oxygen-induced.	No	Yes	Yes
At5g20830	AtSUS1	Sucrose synthase; sucrose metabolism	No	Yes	Yes
At3g43190	AtSUS4	Sucrose synthase; sucrose metabolism	Yes	Yes	Yes
At1g77760	NR1	nitrate reductase 1; nitrate assimilation	Yes	Yes	Yes
At1g37130	NR2	nitrate reductase 2; nitrate assimilation	Yes	No	No
At2g04040	AtDTX1	MATE Efflux carrier (Christianson et al. 2009)	No	No	No
At2g14210	ANR1	Nitrogen responsive MADS-box, lateral root growth	No	Yes	Yes
At3g22370	AOX1	Alternative Oxidase	Yes	Yes	No
At2g34390	NIP2;1	Aquaporin, lactic acid transporter	No	Yes	Yes
At1g03090	MCCA	Methylcrotonoyl-CoA carboxylase; leucine degradation.	Yes	Yes	No
At2g47190	AtMYB2	MYB transcription factor (Hoeren et al. 1998)	No	No	No
At3g11490	RopGAP4	Rop guanosine triphosphatase (GTPase) activating protein 4	No	No	Yes
At5g05410	DREB2a	Drought responsive element binding factor (AP2 domain transcription factor)	No	No	Yes
<i>Senescence/Ethylene</i>					
At5g59540	ACO	ACC oxidase-like; expressed during leaf senescence and anthesis	No	Yes	No
At2g19590	ACO1	ACC oxidase, ethylene biosynthesis	No	Yes	Yes
At1g01480	ACS2	ACC synthase, ethylene biosynthesis	No	No	No
At4g11280	ACS6	ACC synthase, ethylene biosynthesis	No	No	Yes
At4g26200	ACS7	ACC synthase, ethylene biosynthesis	No	No	No
At3g49700	ACS9	ACC synthase, ethylene biosynthesis	No	No	No
At4g35770	SEN1	Senescence-associated gene; dark-induced. Rhodanese-like protein, chloroplast located	Yes	Yes	No
At3g15450	SEN5	Senescence-associated protein; unknown protein	Yes	Yes	No
At3g23150	ETR2	Ethylene Receptor	Yes	Yes	No

Supplementary Table II: List of PCR primers used in QRT-PCR experiments.

Gene Assayed	Name	Forward Primer	Reverse Primer
At5g59540	ACO (ACC oxidase-like)	TCAAGTATGCGTCCAAATTCC	ACGTTCCATCGAGACCTTTCT
At2g19590	ACO1	CCAGTCAGAGATGGTCAAGG	CATCCATCGTCTTGCTGAG
At1g01480	ACS2	AACAAGATCGTCGAGAAAGCA	TGACATTATCCCTGGAGACGA
At4g11280	ACS6	AGGAGGAGACTAAACCGATGG	AGAAGAAGCCATCATCGAACC
At4g26200	ACS7	ACGGTACGATACCATTGTGGA	GCTCGCCGCTTTAGTTTTCT
At3g49700	ACS9	CACAAACACATTGGAAGCAGA	ACTCATGTTGGCGAAACAAAC
At1g77120	ADH1	TTGCTCCACCGCAGAAACAC	CCAACACTCTCAACAATCCCTCC
At1g17290	AlaAT1	TAGTCGTTGTCCTGGTTCTG	GAACTCGTCCATGAAGCTCTG
At2g14210	ANR1	CTACAAGAATGCCACAGGAAAC	GTTGATCCTTTTGAGACGAAC
At3g22370	AOX1	CGGAGCTTCCTTGAGTTCAT	CAACGCTTAGGGATGTGGT
At3g15210	AtERF4	AAGCGACTCTGATTCGTATC	TGAAACGACACCGTTAAAAGC
At2g47190	AtMYB2	CGTGTGAACAAGTGGAGTCAA	GAGAATTCGAAGACGTTGCTG
At5g05410	DREB2a	CCCACAACGACTGTTGATTCT	TTCTCTATTGTCATATCACTGTTTCG
At2g47520	ERF71	GCGTAAACCGTCTCAGTGAGTG	GCCAAGCCAGACACGTACACC
At1g72360	ERF73	CGTTGATGCTTCTCTGCTTTC	ATGTCATTGCCTCCATCAAAG
At3g23150	ETR2	CGGCTATGGGTTAGGACAAG	GTCTACGTCGAAACCGAAGG
At2g16060	GLB1	TGTTACAGAAAGAGCAAGAGG	ATTTCACTTTAATGGCAGCA
At4g17260	LDH1	GATCCACCCGGTTACTGTTCT	ATATGCACATTGGTCACAGCA
At2g04040	AtDTX1	AAAAAATTTGCATAAGGCATACAA	AACGGAAAAGGACTGTGGTG
At1g03090	MCCA	TTGCAAAGCTTGTGCTGG	TTCTACATTGCCACTGCAA
At2g34390	NIP2;1	CCGCCATTGCCGTGAA	CCCCAAACACAGCAATCC
At1g77760	NR1	GTTGAAATCGCAAAGGAAGGT	TGCAACGCAAACCTGAATCATA
At1g37130	NR2	GCTAAGGAAGGTTGGGCATAC	CTGAACGCAAACCTGAATCAT
At4g33070	PDC1	TGATGCTTCAGGCTATGCTTT	GTTGAAGATTGGACCTGCAAA
At1g53910	Rap2.12	AAGCCAATCCAGCTAAGAAGC	GTTTGACCATTGTCCTGAGT
At3g14230	Rap2.2	CACTAGAAGTGAAGCCATGC	GGAACCATCGATCACTTCAAA
At3g16770	Rap2.3	GCCGGATTATGATCTGAAACA	CAAGCATCCACATATCCACCT
At3g11490	RopGAP4	TAGACAACCTTGAGCGGAGA	TTCTGTCCAAAACCTCCACTG
At4g35770	SEN1	GGATACCGCTATCTCGACGTGA	CCGTGAAGCCAGCAGTGAGAAG
At3g15450	SEN5	AAACATACATCCATTAGGGAAAGG	CAAACCTTCTCTGTTTTCTCAGC
At5g20830	AtSUS1	TTCAAAGCAATGCCACAGAG	AGTGGTCCCGGTTTGAAG
At3g43190	AtSUS4	TGGAACATGTCTCGAACCTT	CTCTTCATGAGCAAGAGGAACA
At5g08290	RT-PCR control	TTGAGACTGTCTACCGTGGTG	CAAACCTAGATAGTGTGGGAAGCTC