

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.	NFNNYHNSKA.
#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	THLPTNPSR	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	-----	HHA
#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	-----
#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..	---	AAP	KR---ALS	NRDSTITTA.F
#Os03g08460_OSEBP89	RTTRKRKS.V	D...E.EL.E	.DDD.EFEL	S-----	---	DGDES LAVSC	V.S.---	KS	K.VPSFSFS	D.SSSSRPR
#Os03g08470	SPADVD..E	A..QFDDSD	F.DA-----	---	---	---	EED	EGHFVFASKS	R.VAG--HDG	---
#Os03g08490	RKVGGGG.D	D...A.ER.G	RE-----	---	---	---	DSEM	EEEEVEVVV	G---	AAVR
#Os03g08500	KKKGAR--AD	D...A.RD.D	N..D-----	---	---	---	DEEM	MVEEAEE.A	TSEH.PFVFR	---
#Os03g22170	-----	QH	ASDDPAEQAA	A.EE-----	---	---	EQEQ	Q-----	---	TSEH
#Os05g29810	-----	---	VLSAAG	AGDE-----	---	---	---	---	---	---
#Os06g09390	LP-LRQEEED	D.....EE.E	V..GEWEVES	-----	DADEA..	---	---	LA.	PRS--GFAK.	GLKNNT.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	DW..A.RE.L	SRDD.D..D	-----	---	GHHV.VAPLI	R.SN.CVHGH	EVVASTVGG.	ASG.RRRADD	---
#Os09g11480_SUB1b	KKKRGGG.D	DW..A.RE.I	AGD.VD.D.	-----	---	GVSMFP-----	---	G	.GTMETT-----	EV
#Os09g26420	KG-KAAAE	D...RE.E	RG.M.D.EAEG	GGEEEEEDD.	DVVV.V.PPA	AARFVVRAA.	K.A--PPTAD	GMLTT.LVQH	---	---
#Os10g25170	-----	E	.D.GDDSD	S..ES-----	---	---	---	EEDV	EYDVVVDDDD	ED.VV.LPP
#SUB1a	KKKRRKA.E	.W..A.E.E	M.AADD.DGG	-----	---	GLVSSKSLV	LRS.GENDAG	RGAAATMSMP	---	LDPVTEEAEP
#At1g53910_RAP2.12	DGDAEKSANR	KRK--NQYRG	IRQRPWGKWA	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..	.....	SK.V	.V.....L.	D.....V.	.IK..R.	L..N----	---	---
#At3g14230_RAP2.2	AEQ...SK.	-----	.....	K.S	.E...D.	-----	-----	-----	-----	K.PS
#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.	....D----	---	---
#JERF3	.AA.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.	.....E	.....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.RRQRRG	E.R--TL..	.....	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..R.	AK.	.V...A.	A...R.	....A.	....	---	---
#Os09g11460_SUB1c	.DGERRRR.	RRRRSYP..	.....R..S.	VK.I	.V...D.	G...DE	V...Y.GN.	T..P--S	---	---
#Os09g11480_SUB1b	AVVERPRR.	RVRRSYP..	V.....R..S.	VK..	.V...D.	A...E	....H.H..R	T..PDEPR	---	---
#Os09g26420	..PTAR..KH	-----	.....	SK.V	.V...YN.	.....E	....K..K.	....D----	---	---
#Os10g25170	PPPPPPVIPH	E.HGARRF.	V.K.....	VR.V	.V...P.	S.....	L..A..P.	....	---	SA
#SUB1a	VAAEKPRRR.	-PRRSYE.H.	.....R.S	S.....VK.V	.L...D.	V...L..E	....H.W..R	T...PADLSS	---	---
#At1g53910_RAP2.12	ANSQKR-SVK	AN-LQKPKVAK	PN-----	PN	PSPALVQNSN	ISFEN----	CFMEEKHQVS	NNNNNQFGMT	N-----	SVD
#At1g72360	--.SGKRKA.	.K-TVQQ.EE	NH-----	EAD	LDV.V.SSAP	S.SCLDFLWE	ENNPDTLLID	TQWLEDII	G	D-----
#At2g47520	-----	-----	-----	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	Q	KQCPPARTT	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	PAPAAAAAKA	VRVAVPTP.V	LP--PPKMEA	V.EGAGAC.S	DE-----	---	---	---	---	VKE
#Os02g54160_OSEREBP1	---APTTAQ.	RRAGSTTAKA	.KSSVEQK.T	VK..FNN-LA	NANAFVYPSA	N.TSN.PF.Q	PD.MPFVPAM	.S-----	---	A
#Os03g08460_OSEBP89	PRRSNDRECV	TID.NL.A.A	VSGDDDDAMA	VD.DADAGS	AGRAAAAYADQ	EALSAAKCKI	KQCPRDEQ.A	SA-----	---	---
#Os03g08470	---ATPAAR	PRRGNTRATA	VP--PPA----	-T.PAAAPP	RGLKREFSP	ETALPFPTTAA	VFVLLTTAAA	PPPAMMSTSS	---	---
#Os03g08490	TAATP.PRKC	RPTTATATP-	---KATTP	NVVVV.NLVD	KEA.VSESSG	ASSSALPDF.	WQMSASSDD	DAAAQQALL.	---	---
#Os03g08500	TRKR.G.ATAA	.APAV.ATPV	I.LVEEEDDE	EVA.AMASIK	YEP.TSESS-	ESNALPDF.	WQMSASSDEF	AVAAAAA.L.L	---	---
#Os03g22170	---EDNAPA.A	.PPYHLA..	---AAYGDA.S	T.YLYPMAMT	PAAAGLREQQ	LMITTTAVEYS	VNDAVDVASV	---	---	---
#Os05g29810	---PTIGAAAAAPP	P-----	KKRR	KAA.AANHHH	HHHQEESGSS	SSASSLPTPT	P-----	---	---	---
#Os06g09390	---APVA.QR	SHAEPSMMN	.AFSIEEK.A	VMS.GNKTMY	NTNAYAYPAV	EYTLQEPF.Q	IQ.VSFPVAM	---	---	---
#Os07g42510	PKRPR.S.A	HSPQ.QKARS	SSSSPASLNA	SDAVSKS.N	RVSSAGSST	ATAAAIADD	GVKLELLSE	DP-----	---	---
#Os07g47790	-----	-ED-----	P-----	DDFAA	DGHSHGGAAI	PCR-----	---	---	---	EFM
#Os09g11460_SUB1c	PPPPQPAAP	-----	VA	AERSPTTTT	TT.-----	SAED	SG--DSRIL	IECCSDDL.D	S	-----

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#Os09g11480_SUB1b PAPSQAPFCF LLDDDDDGVA RGNPSPASSA .DSTSACT-- ----TSSTVA SGERGDELIL LECCSDDV.D S-----
#Os09g26420 ---EPAVAQ. LSLK.NAAKQ EK----LA.P LKTCGDDAFF QLNSSDNDLF AMLAKVPAKP 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 PSTGTINV.. -----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 GGSDDLTLGFT 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 FDMTGT-----DMRF WS-----
#Os09g11480_SUB1b -----LLAG FVDS-----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 DG.GDSI.SL L.LDGSQDVV
#Os03g08460_OSEBP89 M..I.AVERD .ERRRRQVFE RRGHLVRQAS LLLD-----
#Os03g08470 ANTDM.AGVN .WS-----FD..P IDGALF-----E ANVAGESVGL WSFG.-----
#Os03g08500 GDQFGDLNGG AFASL-----MDGLF AAG-----AA AA.ADQGMGL WSFP.GCCLV
#Os03g22170 ADQYNHFNNGG AYES-----LDSL F SADDVQTT-----
#Os05g29810 GQSQEVA.PL MWN-----FD.I .AMPM-----
#Os06g09390 E..DDGG.GE PWD-----AV.MM LE-----
#Os07g42510 SAFLO.N.SD AM-----V PP--VMGNAS IDLADL.PYM KFL-----ID GGSDESI.TL LSSDGSQDVA
#Os07g47790 V.AA VADEFA FYD-----DPSY MQLGYQLD--FGG----EAV
#Os09g11460_SUB1c PQQQDAGLE .WS-----FDNIH .AVPM-----Q GNSYENI.AL FGG----EAV
#Os09g11480_SUB1b -----
#Os09g26420 PAYLTGG.P. RMRNNYGIIV PQQGNMPLA QNMPTFDPEM KYLPL-----PYVE SSSDESM..L LQNDATQDGA
#Os10g25170 QAASDHPAA .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 -----

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