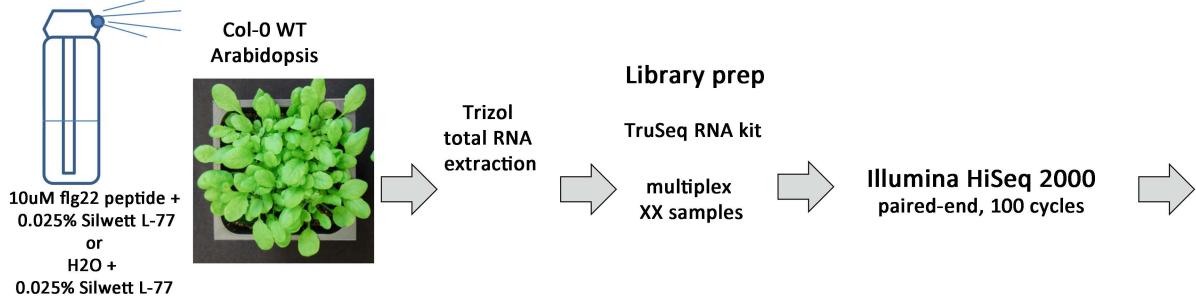


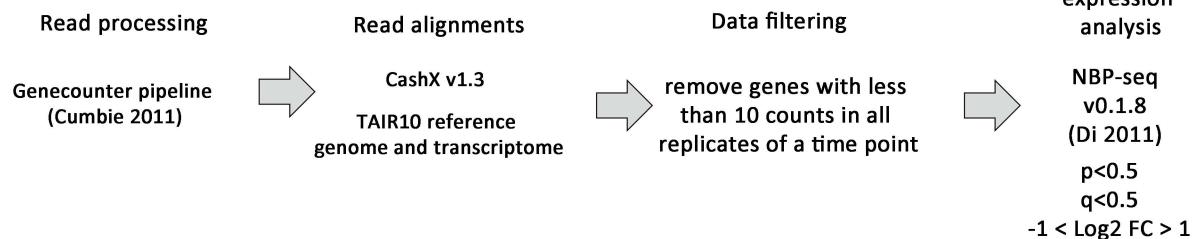
# Supplemental Figure 1. RNA-seq and MS/MS workflows

**A**

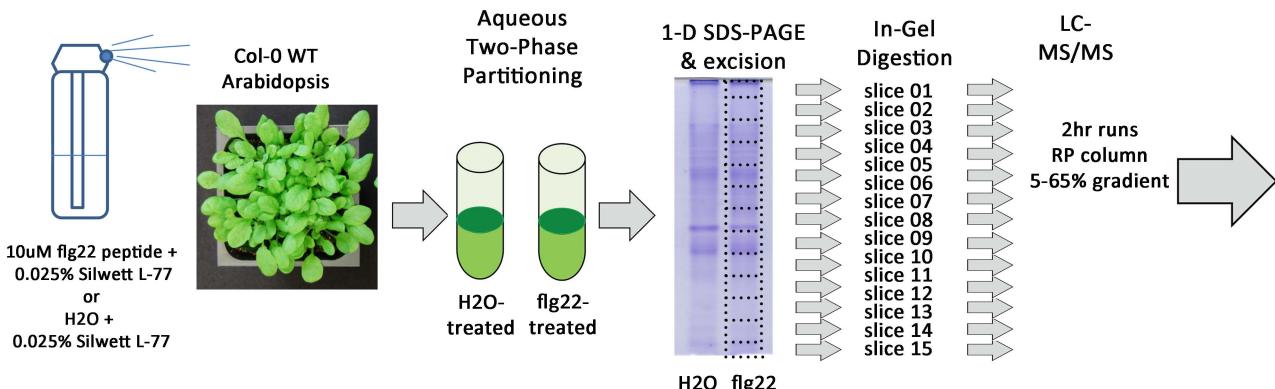
## RNA sample processing:



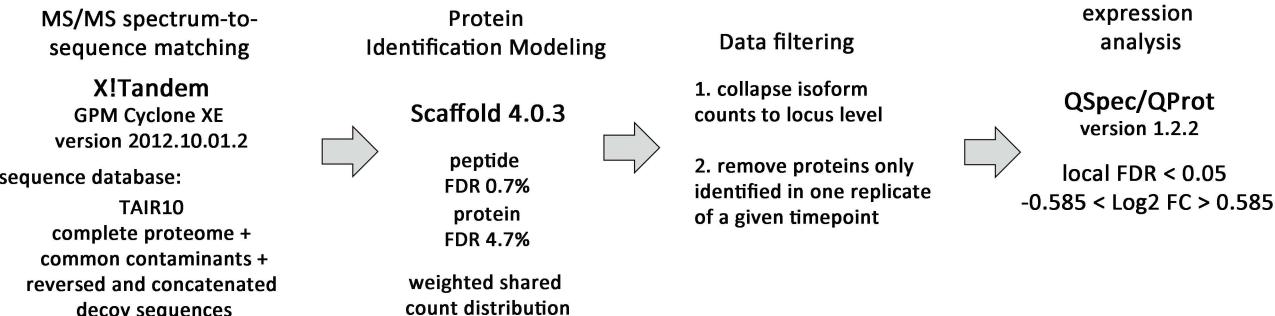
## RNA-seq data analysis:



## B Protein sample processing:

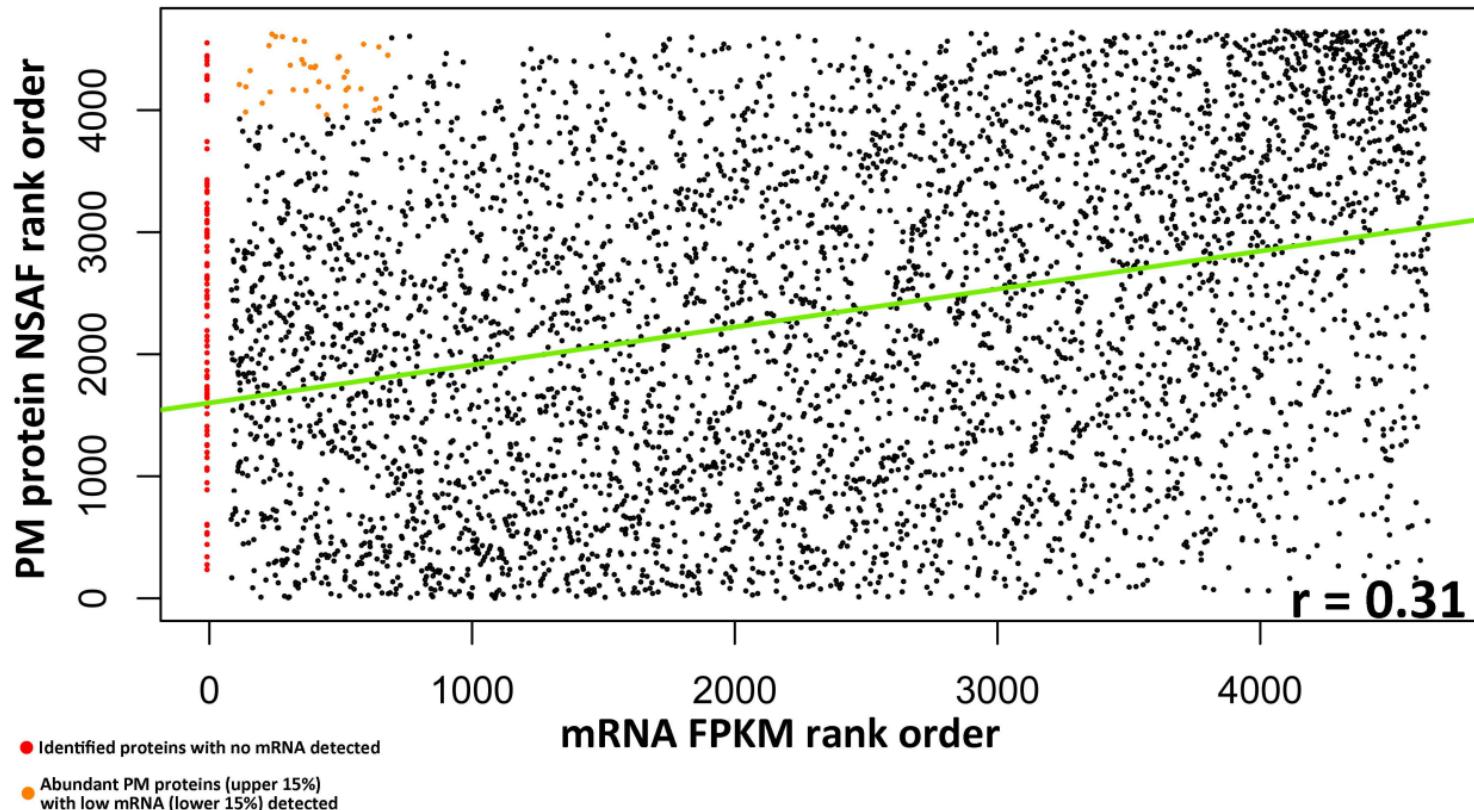


## MS/MS data analysis:

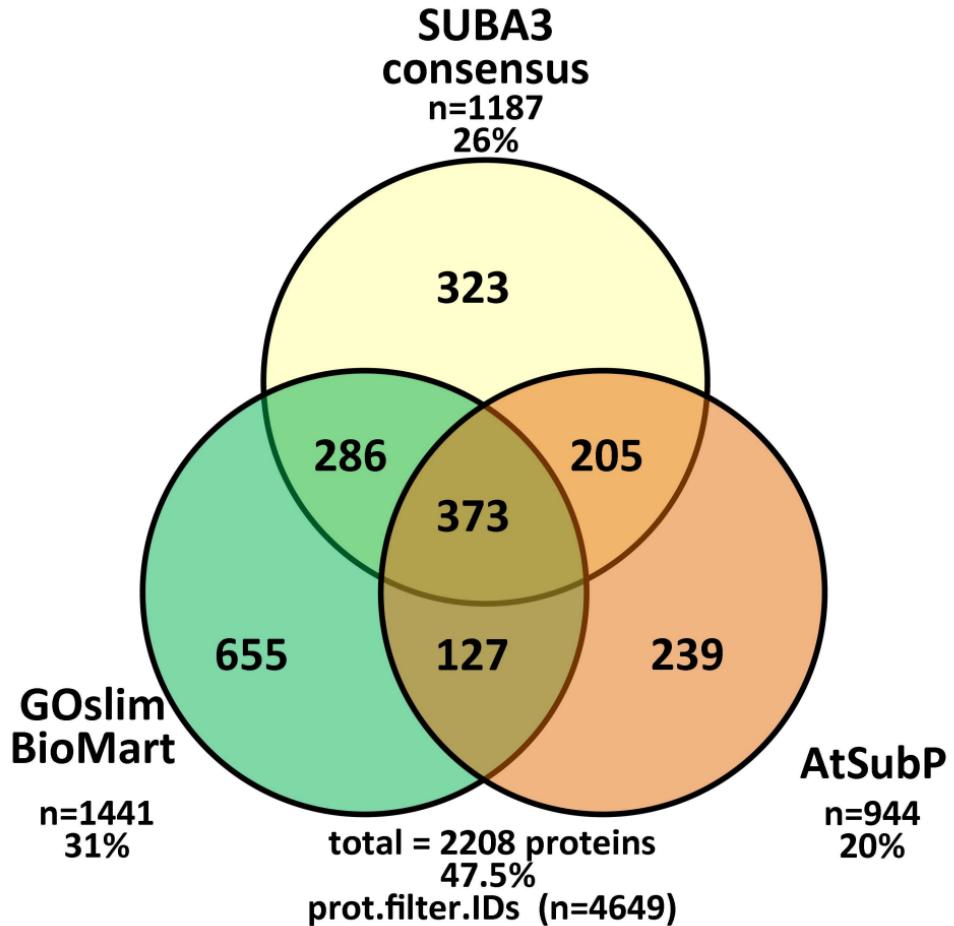


# Supplemental Figure 02

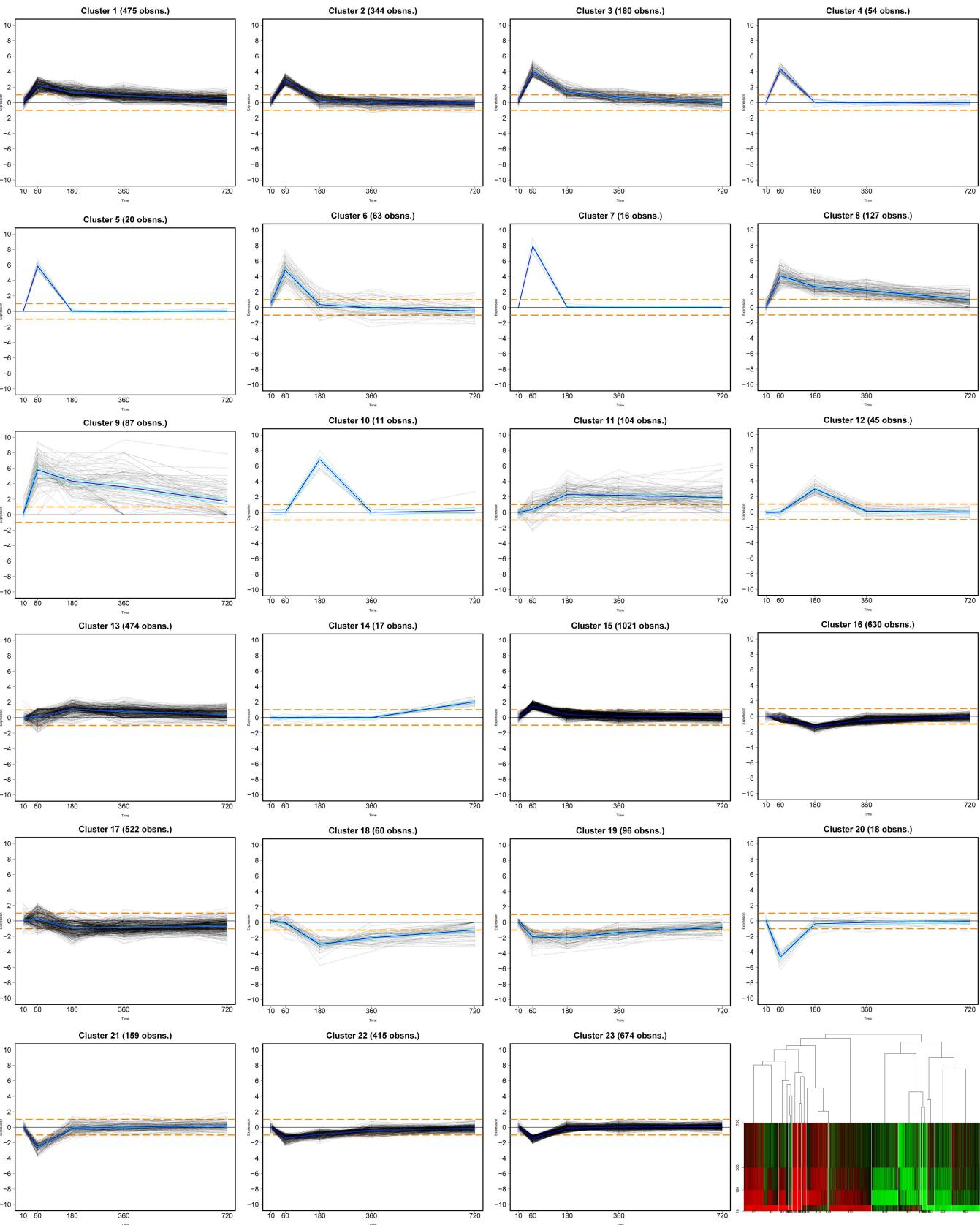
Correlation of mRNA and PM protein relative abundance



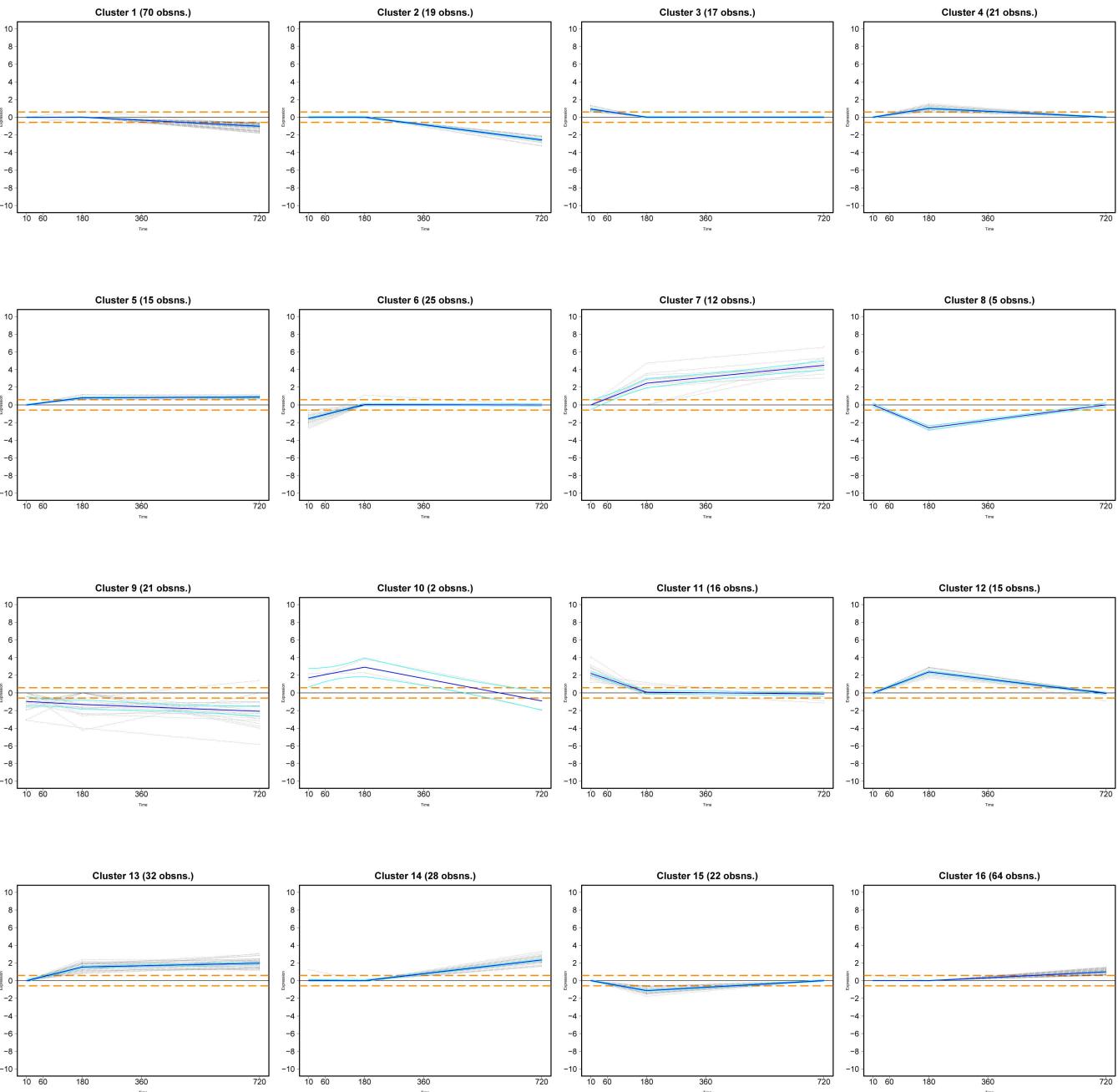
### Supplemental Figure 3. Overlap in PM association evidence



**Supplemental Figure 04. Temporal expression clustering of RNA-seq data**

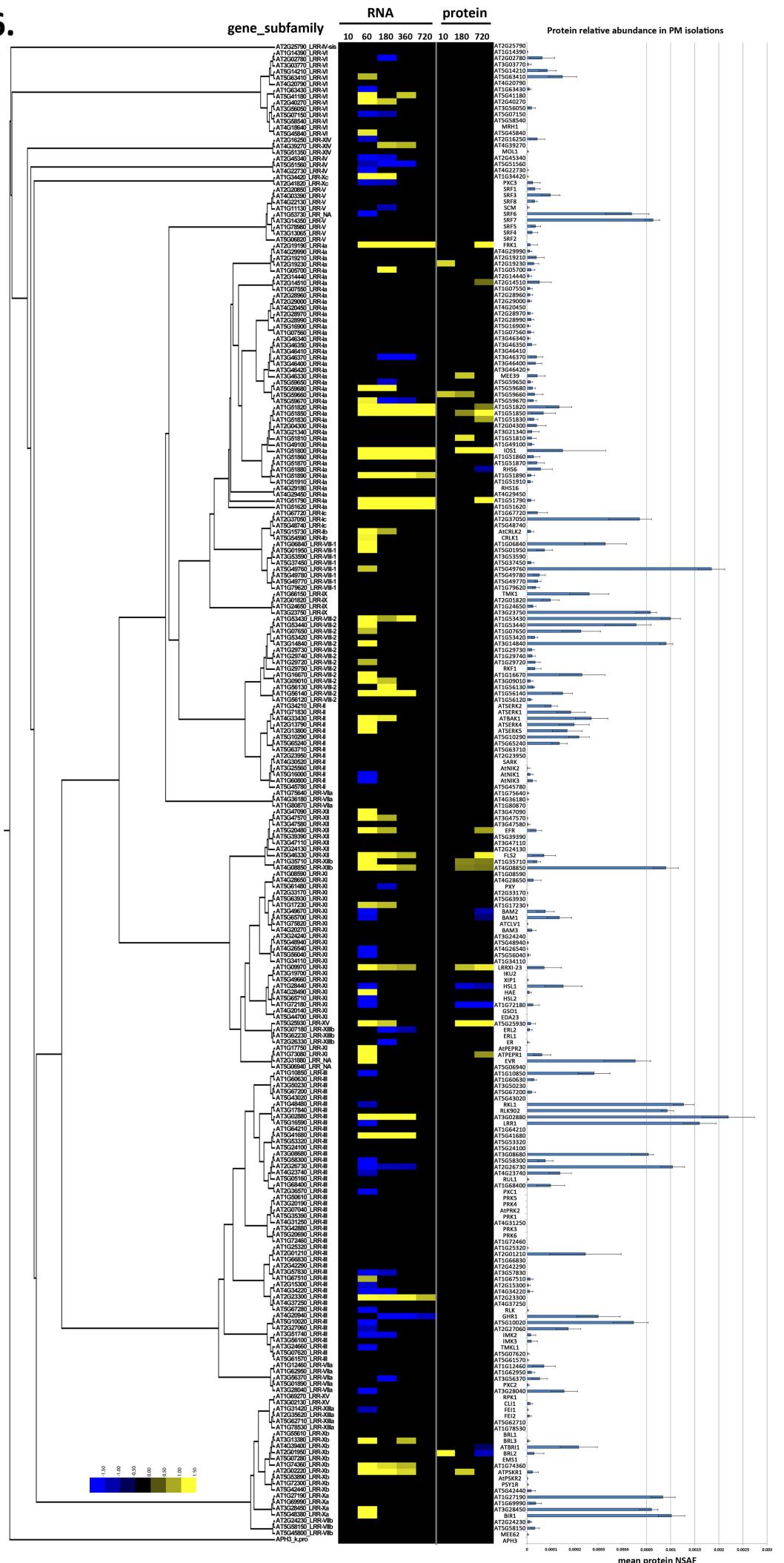


# Supplemental Figure 5. Temporal expression clustering of MS/MS data

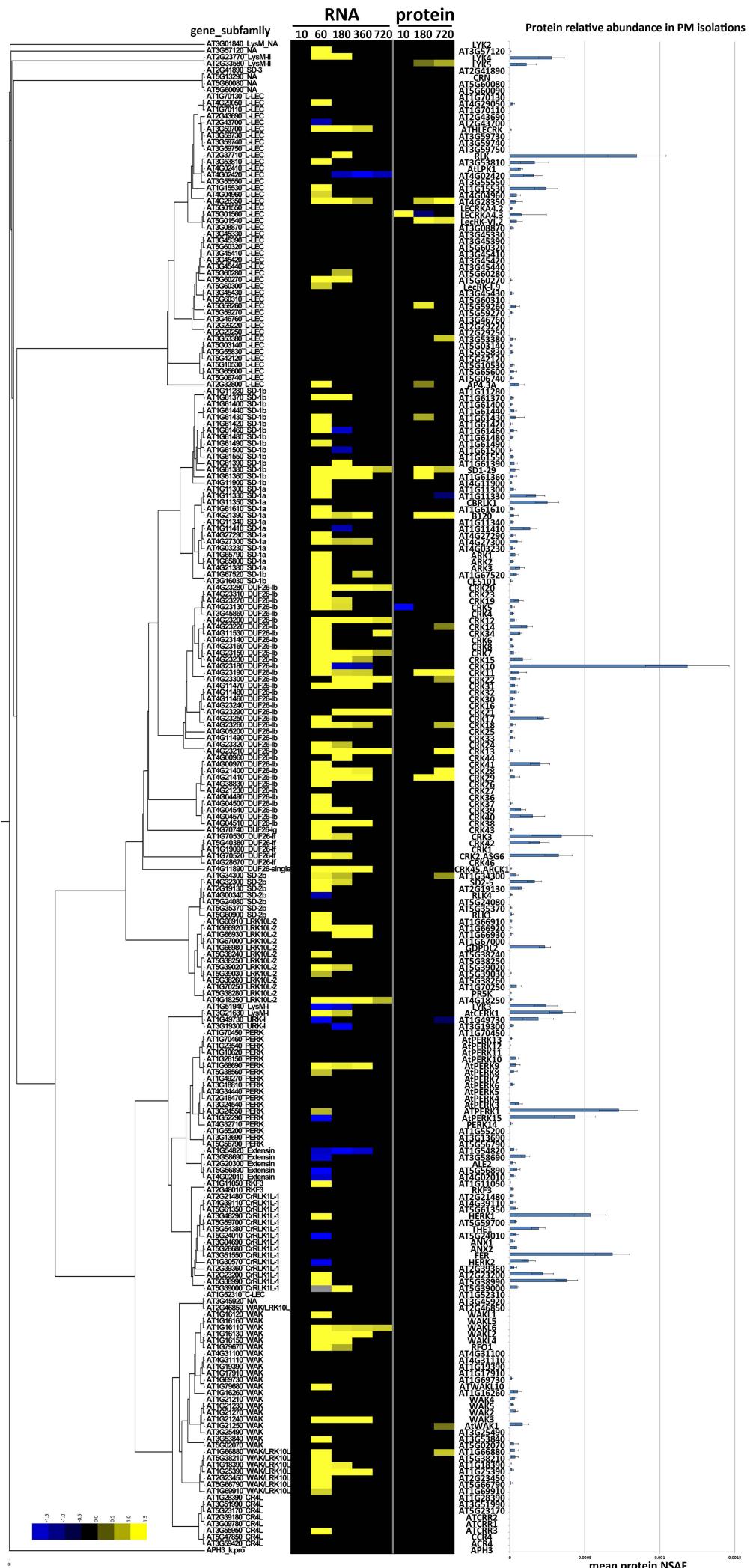


# Supplemental Figure 06.

## LRR-RLK full phylogeny

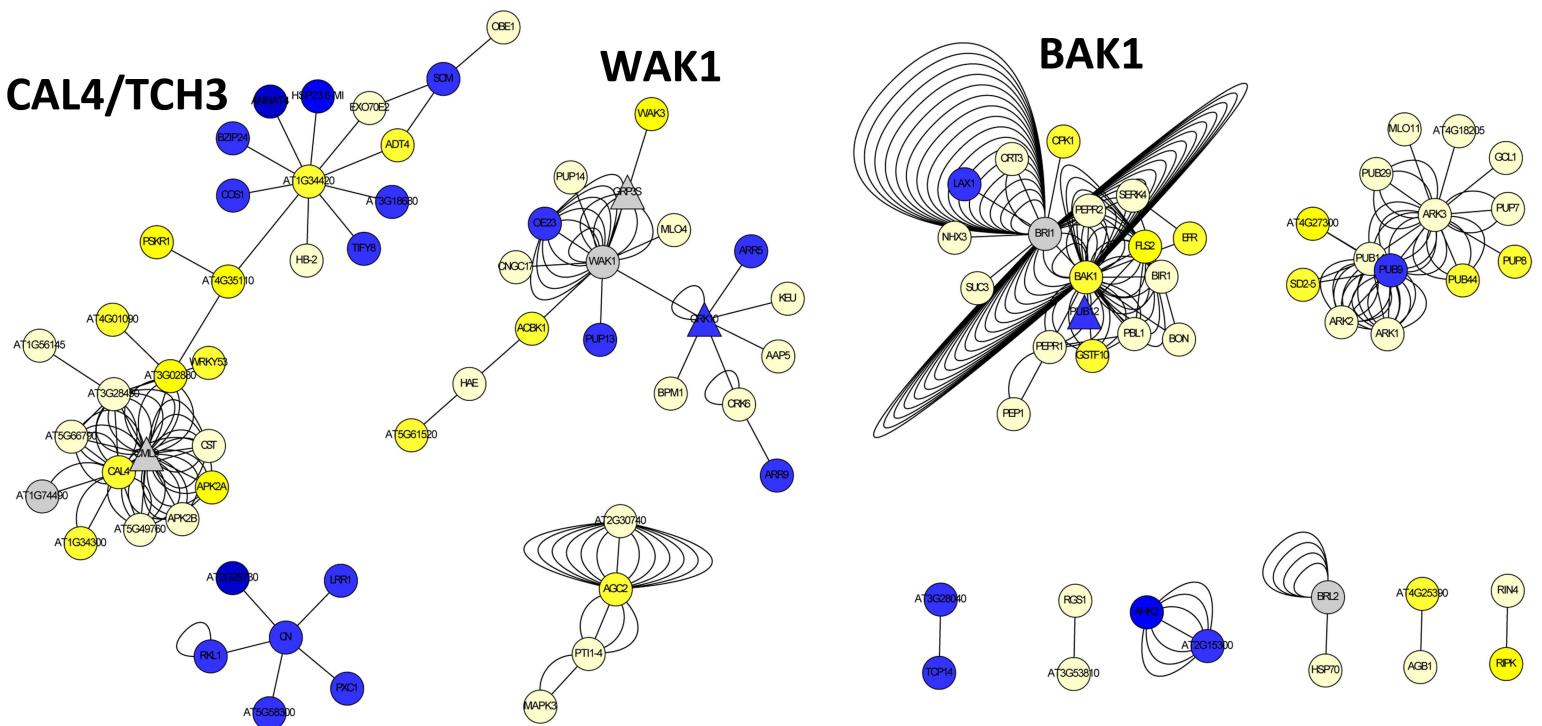


# Supplemental Figure 07. RLK-other full phylogeny

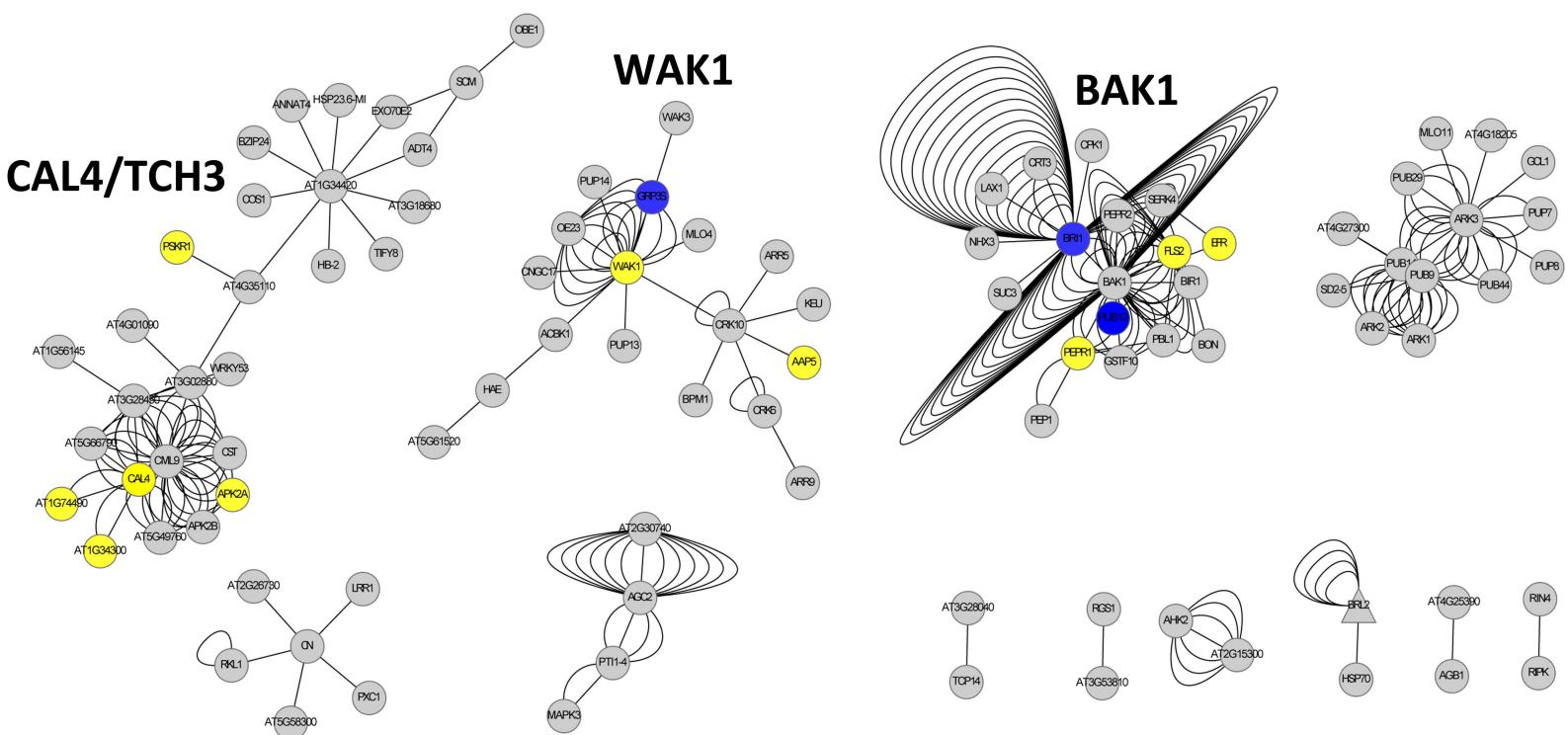


# Supplemental Figure 08. Major PPI Autosome clusters

## Differential expression detected by RNA-seq

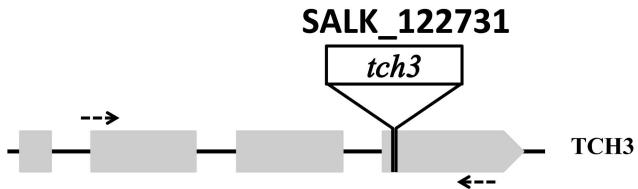


## Differential expression detected by MS/MS

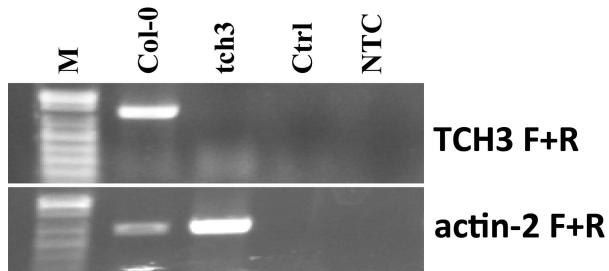


# Supplemental Figure 9. Characterization of T-DNA insertion lines

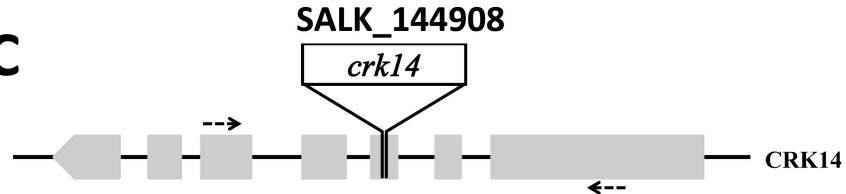
A



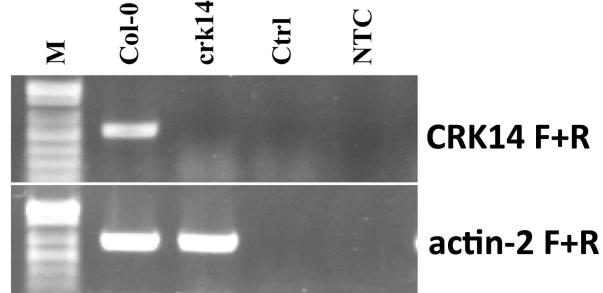
B



C



D



# Supplemental Figure 10. Conservation of identified CRK phosphopeptides

CRK13	-----MKQRSLLSILCFILLASG--VASVSAQTCIEN-----RKYFTP 36	CRK13	AVKRLSEKTEQSKEPKNEVVVLAQHQRNLVRLLGLFSVKGEKKIIYEVYELPNRSLDYL 443
CRK22	-----MKQRSFLSILCFILLAFG--VASVSAQTCIEN-----RKYFTP 36	CRK22	AVKRLSEKVSQDTDKFERNEAIVLVSQIQRNLRARLLGFCLQGDKFLIYEFLNKSLDYFL 438
CRK15	-----	CRK15	AVKRLSKSSQGDTEFKNEVVVVAKLQHQRNLVRLLGFSIIGGERFLVYEYMPNKDSLQFL 302
CRK10	MRRNTDQESPIMSYSSFFFLLFLSFLTSF--RVSAQDPPTYVYHTCQN-----TANYTS 52	CRK10	AVKRLSKSSQGEVEFKEVVVVAKLQHQRNLVRLLGFLGDEERFLVYEYVNPNSLDYFL 433
CRK19	-----MSSLISIFLFLFSSIT----ASAQNFTYLYHNCV-----TTTFSS 38	CRK19	AVKRLSKSSQGEKEFENEVVVVAKLQHQRNLVLKLLGCYCLEGEKKILVYEFPVNKSLDHYFL 411
CRK41	----MTSSCSLSRPQHLFFFFFLVFVPFLSLCQISVSDINSAIWEFPSPNPLCLSQQSNFAK 56	CRK41	AVKRLSMSGQGDNEFINEVSVLVAKLQHQRNLVRLLGFCLOQGEERILIYEFFKNTSLDHYI 429
CRK40	----MGKCSALMFLLSLLLVLQLTQHVNVNAVCFCGN-----SFNGN 38	CRK40	AVKRLSMSGQGDNEFINEVSVLVAKLQHQRNLVRLLGFCNEDEEILVYFPVNSSLQFL 433
CRK2	---MKKEPVHILPLYLPCLLMFLLSSRLRQITGDARARAVAKVTC-----PLLEHN 47	CRK2	AVKRKFNRHRATDFYEVNMISTVEHKNLVRLLGCSGSEPSLLVYEYOLQNKNSLDYFL 410
CRK13	***** . : . * **. :: ; : * ; ; * : ; : * ; : ; : * ; : ; : * ; :	CRK13	***** . : . * **. :: ; : * ; ; * : ; : * ; : ; : * ; :
CRK22	NGTYDSNRRLLLSSLPNNNTAS--RDGFYYGSIG--EEQDRRVYALGMICIPKSTPSDCSNCI 92	CRK22	FDPTKGELDWKKRKYIIIGTAGLILYHQDQSPTIIRHDLKAGNIILDAHMPNKVADFG 503
CRK15	-----	CRK22	FDPEAKQNLGDWTRRYKVIIGGIAQGILHQLQDQPLTIIYRDFKASNILLDAMNPKISDFG 498
CRK10	NSTYNNNLKLTLASLSSRNAS-YSTGFQNATVG--QAPDRVTGFNCRGDVSTEVRCCV 109	CRK10	FDPAKQNLGDWTRRYKIIIGVARGILYHQDQSLTIIHDLKASNILLDAMNPKIAIDFG 362
CRK19	NSTYSTNLKLTLSSLLSNNASSYSTGFQTAG--QAPDRVTGFLCRVDSVSECRSCV 96	CRK19	FDPAKQNLGDWTRRYKIIIGVARGILYHQDQSLTIIHDLKASNILLDAMNPKIAIDFG 493
CRK41	SSQFSKNLDSLSSVSLPSLKSNS--TYNFYSLVSGSISDQERVEAIGICNRVNRVDCLNCI 114	CRK41	FDSNRRMILDWETRTRYRIISGVARGLLLHEDSRFKIVHNDMCKASNVLDDAMNPKIAIDFG 489
CRK40	SSTFAQNRQKLEPITLEADKVIID--NDGFYNASLG--QDPDKVAVLASCARGYDQDACNYCV 94	CRK40	FDEDKRSLLTWEVFRRIEFGTARGLILYHEDSQLIITIHDRLKASNILLDAMNPKVADFG 493
CRK2	ETAYVPNFVATMEKISTQVQT--SGFGVALTG--TGPDANYLAQCYGDLPLNDCLVLCY 102	CRK2	FDVNRRGKTLWDQRYRRTTIVGTAEGLWVHEQSSVIIHFRDIKASNILLDSKLQAKIADFG 470
CRK13	KGAAG-WLIDQDCVNQTDAYYWALDP-TLCIWRYSNISFGSAAWFIEPQYLVLN--TAT 148	CRK13	** * * : * : * * ; : * : * ; : * ; : ; : * ; :
CRK22	KGAAG-WLIDQDCVNQTDAYYWALDP-TLCIWRYSNISFGSAAWFIEPQYLVLN--TAT 148	CRK22	TARIFGMQDSVAI--TANAAGTPGYMAPPEYMLGEFSMSKSDVYVSYVLVEIICGKRNNTS 561
CRK15	-----MLRYSQD--NILSTLAYDGAWIRMNG-NIS 27	CRK15	MATVFGMEEESRGN--TNWIAETFVYMSPEYAVHGFMSKSDUVSQLKLLDS 556
CRK10	SFAVN-DTILCQNLKPQEATL YYDE-CVLRYSNQ--NILSTLAYDGAWIRMNG-NIS 27	CRK10	LARIIFGMDQTQEN--TSRIVGTGFGMAPEYIAIHQGSFSVSDVVSFGVLVLEIISGKKNN 420
CRK19	TFAVN-ETLTRCPKDKEGVFFYEQ---CLLRYSNRR--NIVATLNTDGGFMQOS---ARN 146	CRK19	MARIIFGMDQTEAM--TRRVGTYGVMPEYAMHGQYSMSKSDVVSFGVLVLEIISGKKNN 551
CRK41	AQAAVNLTMMPCQHKGAYRATK---CMFVYSDKD---PIFGKLETSPVLEAPN--PSN 165	CRK41	MAKLEDTQDSQTTRFTSKVAGTYGMAPEYAMGEFSVKTDVFSFGVLVLEIISGKKNN 549
CRK40	QSLTQ--NTLTDCRSRSDSFWIWGNGDVTCLVRSSNQ--STFGSVLQKPPVWVSPSDTIE 150	CRK40	TARLFDSDETRAE--TKRAGTRGMAPEYMLHNGQISAKSDVYSSFGVMLLEMISGERNTS 551
CRK2	AEART--MLPQCYQPQNGGRIFLDQ--CFMRAENY-----SFYNEYKGPE--DSI 145	CRK2	LARSFQDDKSHIS--TAIACTGLYMAPEYLAHQGLETMVYVSVGVLVLEIIVGQKONTK 527
CRK13	IASNLTTEFKTIWEDELTSRTITAASAARSTPSSSDNHYRVDFANLTQKFQNIYALMQCTPDI 208	CRK13	** * ; : * ; : * ; : ; ; : ; : * ; :
CRK22	IASNLTDFKNIWEDELTSRTITAASAARSTPSSSDNHYRVDFANLTQKFQNIYALMQCTPDI 208	CRK22	FS---SPVNQFVTYVWLWKSCTPLNVLDA----TIAENY-KSEEVIRCIHALLCV 610
CRK15	IDQNQ---MNRFKDFVSSTMNQAQVAKAAS--SPRKFTVTKATWTALQTLYGLVQCTPDL 81	CRK15	LYQNDETTAGRGN--TNWIAETFVYMSPEYAVHGFMSKSDUVSQLKLLDS 556
CRK10	VTSNQ---LDLSSLVLPNLQATVNL---SSKFKFTQRKNNFTALQSFFYGLVQCTPDL 213	CRK10	---SIGHNY-QSNEVTRCIHALLCV 610
CRK19	PLSVK---QDQFRSDLVLTPMNLAAVEAAR--SFKKWAVRKLIDINAQSLSLYGMVRCPTD 200	CRK19	FY---ETDG-AHDLVTHAWRLNSNTGALDLVDP----IIDNC-QKSEVRCVHICILLCV 471
CRK41	ATGDRINEFTRLQSEMLNRLRMSMAAGSGK---RKYAQGTDPSPYTFQAVQVQCTPDL 221	CRK41	FY---QTDG-AHDLVSYAWGLWSNRGPPLELVDP----AIVENC-QRNEVRCVHIGLLCV 602
CRK40	SSKNITLFKQWQEVMNRTEATAKAEGS--SVLKYYKAEGFTEFPDVYMLMQCTPDL 208	CRK40	LY---QMDESVGNLVTYTWRWLWNSNGSPSELVDP----SFGDNY-QSEIITRCVHICILLCV 581
CRK2	VGCNTRKNKTFQDAVRQLGRNLNAVEASG--TGGYARASAKAGESESESASFALVANCWRDL 203	CRK2	SP---EEDSSLFLLSYVWKWSREGEVNLNIDP----SLVETIGVSDIEIMKCIHIGLLCV 601
CRK13	* : * ; : * : * ; : ; : * ; :	CRK13	FE---GEGLAAFAWKRWVVEGKPEIIIDP----FLIENP--RNEIKLQIQGLLCV 597
CRK22	* : * ; : * : * ; : ; : * ; :	CRK22	SK---MSDYSDSLITEAWHKHFQSGELEKLYDPNLDWKSQYDHSIITKKEARVQJIGLLCT 584
CRK15	* : * ; : * : * ; : ; : * ; :	CRK15	: : . * : : * : : * . . : : ; : * ; :
CRK10	* : * ; : * : * ; : ; : * ; :	CRK10	FS---SPVNQFVTYVWLWKSCTPLNVLDA----TIAENY-KSEEVIRCIHALLCV 610
CRK19	* : * ; : * : * ; : ; : * ; :	CRK19	LYQNDETTAGRGN--TNWIAETFVYMSPEYAVHGFMSKSDUVSQLKLLDS 556
CRK41	* : * ; : * : * ; : ; : * ; :	CRK41	---SIGHNY-QSNEVTRCIHALLCV 610
CRK40	* : * ; : * : * ; : ; : * ; :	CRK40	FY---ETDG-AHDLVTHAWRLNSNTGALDLVDP----IIDNC-QKSEVRCVHICILLCV 471
CRK2	* : * ; : * : * ; : ; : * ; :	CRK2	FY---QTDG-AHDLVSYAWGLWSNRGPPLELVDP----AIVENC-QRNEVRCVHIGLLCV 602
CRK13	SSDECNNCLQRGVLEYQSCCGNNNTGGYVMRIPCFFRWQLFTFSKAFHNITLATTPLPSS 268	CRK13	QEEPTDRPDFSIIMSMLTSNLLILPVPKPPSFIPGRPNQSTTRPSSQNINDGRWSLLKM 670
CRK22	SSDECNNCLQRGVLEYQSCCGNNNTGGYVMRIPCFFRWQLFTFSKAFHNITLATTPLPSS 268	CRK22	QENPEDRPLKLSIIVSMLTSNTISVPAFG-IPGFFP---QSRRELDPLESEGLESG---- 660
CRK15	TRQDFCSLESSIKLMP---LYKTGGRILYSSCNSRYELF---AFYNETTVRTQ---QA 131	CRK15	QEDPAERPLLISTIFMMLTSNTVTLVPLVPLQPGFFVOS----- 507
CRK10	TRQDFCSCLCQLINQVNP---TDRGARINPSCSRYEFL---AFYNETSNGV----P 260	CRK10	QEDPAERPLLISTIVMLMTSNTVTLVPLVPLRQPLFQSRIGKDPDLSQTSKLLGSVDDAS 662
CRK19	REQCDCLCLKIGINQV---YDKIGGRILLPSCASRYDNY---AFYNESENVG--- 246	CRK19	QEDDAEPRLTMSIVQMLTTSLLALAEPRPQQGGFFRS---KQEAGQPSIDSSTHCSVDEAS 638
CRK41	SEKDNDCLLCSYFNAT--KGRVGIRWFCPCSN---FQIESDLR--- 260	CRK41	QENAESRPTMASVVMLNANSFTLPRFSQPAFYSGD---GESLSRDKNQINHIAISLNDVT 658
CRK40	SSRDKCQCLGDCVMYFRDKYMGKRMASLSPCYFRWDLTSFHNAFDNVTVPAP--- 263	CRK40	QENSTKRPTMSSVIWLGSETIPIIPLPKAPATWIR-----SQSEGAMSLSDDV 647
CRK2	SPDSCQCLCLENASAVVKGCLPWSEGRALHTGFLRYSQ--- 243	CRK2	QEIPSRLRPMSKLHLMLKNKEEVLPPLPSNPNFDER--VMLERDGSDGDSACASLATVS 642
CRK13	* : * ; : * : * ; : ; : * ; :	CRK13	** . * ** ; : .. * . . : : ; : * ; :
CRK22	* : * ; : * : * ; : ; : * ; :	CRK22	MFH---- 673
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CRK13	PYQE--VELN-QTGITSVRQLOYKFKTIETATNNFS--ERLGHGGSGHVFGRGPDKGEKI 383	CRK13	
CRK22	SLQR--TEFEDSDVTTNLSLQYEFTKTEAATNPKFSNSKNLGEGRFGEVYKGRFESNGTEV 378	CRK22	
CRK15	SSDN--AAPFDGDDITT-ESLQLDYRMRATAATNPKFSNSNNKICQGGFEGEVYKGRFESNGTEV 242	CRK15	
CRK10	SYYT--PSAFAGDDDTTADSLQDLYRTRQATDFFVSESNKICQGGFEGEVYKGRFESNGTEV 373	CRK10	
CRK19	LNEKE--PVAEDGNDTTAGSLQDFDKFAIEAATNCFLPINKLQGGFEGEVYKGRFESNGTEV 351	CRK19	
CRK41	AKQRHEGKDLCEELMIKADQLLQDFTDTRLATNDFSDNQLGEGGGFAGVYKGRFESNGTEV 369	CRK41	
CRK40	LNNVG---SAEYSDSGQFMFLRFDLGMIVMATDDFSSENTLGQGGGGTYYKGRFESNGTEV 373	CRK40	
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