Figure S4. Multiple sequence alignment of *PvCRK* genes using CLUSTAL.

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CRK1    ------------------------------------------------------------
CRK2    ------------------------------------------------------------
CRK3    ------------------------------------------------------------
CRK4    ------------------------------------------------------------
CRK5    ------------------------------------------------------------
CRK6    ------------------------------------------------------------
CRK7    ------------------------------------------------------------
CRK8    ------------------------------------------------------------
CRK9    MASYKILIFFILINFLNFAITEPQDYSPLYQYCSSEQTIDNTSLQVYVEKLLNNLSSLSS 60
CRK10   ------------------------------------------------------------
CRK11   ------------------------------------------------------------
CRK12   ------------------------------------------------------------
CRK13   ------------------------------------------------------------
CRK14   ------------------------------------------------------------
CRK15   ------------------------------------------------------------
CRK16   ------------------------------------------------------------
CRK17   ------------------------------------------------------------
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CRK42   ------------------------------------------------------------
CRK43   ------------------------------------------------------------
CRK44   ------------------------------------------------------------
CRK45   ------------------------------------------------------------
CRK46   ------------------------------------------------------------


CRK1    ------------------------------------------------------------
CRK2    ------------------------------------------------------------
CRK3    ------------------------------------------------------------
CRK4    ------------------------------------------------------------
CRK5    ------------------------------------------------------------
CRK6    ------------------------------------------------------------
CRK7    ------------------------------------------------------------
CRK8    ------------------------------------------------------------
CRK9    GHTQYNTNFSCANPSDSIYGLFMCRGDTSPPLCQQCVQSAKNRLSSECSLSKESVTWYEE 120
CRK10   ------------------------------------------------------------
CRK11   ------------------------------------------------------------
CRK12   ------------------------------------------------------------
CRK13   ------------------------------------------------------------
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CRK15   ------------------------------------------------------------
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CRK23   ------------------------------------------------------------
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CRK24   ------------------------------------------------------------
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CRK43   ------------------------------------------------------------
CRK44   ------------------------------------------------------------
CRK45   ------------------------------------------------------------
CRK46   ------------------------------------------------------------


CRK1    ------------------------------------------------------------
CRK2    ------------------------------------------------------------
CRK3    ------------------------------------------------------------
CRK4    ------------------------------------------------------------
CRK5    ------------------------------------------------------------
CRK6    ------------------------------------------------------------
CRK7    ------------------------------------------------------------
CRK8    ------------------------------------------------------------
CRK9    CMVRYSTNYFFSTETTIQCNTGKVVSNPENFTQLYFETMNKTADEAAHAPVVNNNNKMFS 180
CRK10   ------------------------------------------------------------
CRK11   ------------------------------------------------------------
CRK12   ------------------------------------------------------------
CRK13   ------------------------------------------------------------
CRK14   ------------------------------------------------------------
CRK15   ------------------------------------------------------------
CRK16   ------------------------------------------------------------
CRK17   ------------------------------------------------------------
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CRK39   ------------------------------------------------------------
CRK40   ------------------------------------------------------------
CRK41   ------------------------------------------------------------
CRK42   ------------------------------------------------------------
CRK43   ------------------------------------------------------------
CRK44   ------------------------------------------------------------
CRK45   ------------------------------------------------------------
CRK46   ------------------------------------------------------------


CRK1    --------------------------------------------------------MKKV--  4
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CRK2    ------------------------------------------------------------MKKV--  4
CRK3    ------------------------------------------------------------
CRK4    ---------------------------------------------------MRGEREM-VTD-  10
CRK5    ------------------------------------------------------------
CRK6    -----------------------------------------------------MERTA--  5
CRK7    ------------------------------------------------------------
CRK8    ----------------------------------------------MAFKCQSNNYKYKC--  14
CRK9    TREAPVSGFHTLYCLAQCAPDLSRDDCRTCLGDAIKDIPNSPQCSGVRLGGKVLHPSCN-  239
CRK10   ------------------------------------------------------------
CRK11   -------------------------------------------------MI-YQWL  6
CRK12   -----------------------------------------------------------M  1
CRK13   -------------------------------------------------MLQLKL--  6
CRK14   -------------------------------------------------MVQLKI--  6
CRK15   -------------------------------------------------MFELKL--  6
CRK16   ------------------------------------------------------------
CRK17   ------------------------------------------------------------
CRK18   ------------------------------------------------------------
CRK19   ------------------------------------------------------------
CRK20   ------------------------------------------------------------
CRK21   ------------------------------------------------------MIT-  3
CRK22   -----------------------------------------------------M-CIL-  4
CRK23   -----------------------------------------------------M-FIL-  4
CRK24   -----------------------------------------------------M-LVS-  4
CRK25   -----------------------------------------------------MFSRNM  6
CRK26   -----------------------------------------------------------M  1
CRK27   ------------------------------------------------------------
CRK28   -----------------------------------------MIIRKASVNVVP-YPD-  15
CRK29   ------------------------------------------------------------
CRK30   -----------------------------------------------------M-AII-  4
CRK31   ------------------------------------------------------------
CRK32   ------------------------------------------------------------
CRK33   ------------------------------------------------------------
CRK34   ------------------------------------------------------------
CRK35   ------------------------------------------------------------
CRK36   ------------------------------------------------------------
CRK37   ------------------------------------------------------------
CRK38   -----------------------------------------------------MPSNN-  5
CRK39   ------------------------------------------------------------
CRK40   ------------------------------------------------------------
CRK41   ----------------------------------------------MNT---------KS--  5
CRK42   -----------------------------------------------------MH-APWF  6
CRK43   -----------------------------------------------------M-VGTQ  5
CRK44   ------------------------------------------------------------
CRK45   -----------------------------------------------------MGM-KTTK  7
CRK46   -----------------------------------------------------M-EGKQ  5


CRK1    ---VYL---VFLCNLSLLIKLLLLSKTV-----IAEPRAKTVLITCGHVR--EHN---TT  48
CRK2    ---VSL---VFLCNLSLLIKLLLLSKTV-----IAEPRDKTVLVTCGHVP--GHN---NT  48
CRK3    ----------MSLASFLLVFLCCGALPA-----LADPRATELAVMCTNTT--AP-MLQRQ  42
CRK4    VSMASL---KLLLLLFILSFLHFN--T-CKAQELNSDPVYL-YHNCSGGN-----TTANS  58
CRK5    -----M---IPSSVSFLLLFLSVFAPLT-----LSDPRAQRAALLCTNRS--VSSLSRRQ  45
CRK6    ---PVV---YFQCFIFLLMKAVLLSKTV-----VAEPRAKTVNITCSQKL--EHN---YT  49
CRK7    --------------MLLSSSLLIPRAV-----CSGTGIRETGFTCGGSE--NPG---S-  34
CRK8    ---KKS---SFEVVIITVATLLCFSHSA-----LSDPRISEVGFFCGTQK--ASP---SG  58
CRK9    IRYESY-PFYRVPPTNPSPKLVLESKTSRHADLTFSKDPFYVSHNCSTN----ETLTSNN  294
CRK10   MATRIPRFVGFF-------MT--LFTMA-----SAQSLNYV-NDDCHNST--TKEQAITL  43
CRK11   FIIKLVY-----------LV--CFVAG--QNSSNSQPLDY-RYACLDQS--S--VPPSA  45
CRK12   VSVIRLKLISIL-MFYLLGTLNVL--P------TETASTFR-HYDCTNK----AKFSPKS  47
CRK13   ---LV-------LTLIWWSYNNFHAYGA-----VENSQTNLLNKGCSAYN--ASN---LR  46
CRK14   ---QEL---TLLVLCSWWSL-----EGT-----VGDPQIFFLKWDCSGFT--APN---LS  45
CRK15   ---IV-------LTMMLWSN--IVEHGA-----TGDPQTRMINSGCSTYN--ATN---LQ  44
CRK16   --MGAV---SCMLL-FFLCGV-------L-SQA---NAQYL-FQSCDN--S-NGNYTANS  39
CRK17   --MASF---NFFILHLTFFSLFLHCSPSPITQG-ALDGASKAYYNCTRN---STFASYSV  51
CRK18   --MAWY-LKYVIPLIFSIITL--NFTATRA------QGLSYQYQVCSTN----KFTPNS  44
CRK19   --MASC-FTYAIPFIFF-ISL--CFTPTRA------QGLQYQYQVCSPN-----KFTPNT  43
CRK20   ---------MSLLVYVFFLGFFFNFSITEA------TEIYYLNHSCSSN----KTFTPNT  41
CRK21   KS-------KNNLKLFLFCTLVLT--V-----TETSASVFN-NVSCTSN----HTFTPNS  44
CRK22   KSCSTQ---LLIL--SLFVFLNFA---------SEAA-TYS-SHVCT-D---GSFYRPNT  44
CRK23   KSCSTH---LLIL--SLFVFLNFA---------SEAAPTYS-RHACTND---GSFYRPNT  46
CRK24   NFCATS---LTLQSLCLLCMLFHA---------TASPPVYS-AHFCSDQNSDQNSYASDT  51
CRK25   FLSISNNLVTFLLFLSLFGIE---------PFCSSGAPVY---NYCPSNA--SYNSS-V  50
CRK26   IIFNSNCFISFLL-LSLLGSL---------TPLTSATPKYN-DIYCPKNA---SYQSNTT  47
CRK27   -----------MPI-FLFIFLQLI--S-I-SQC-NAQPVFH-LHQCM--NH-KGNYTANS  39
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3

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CRK28 YGMGAV---SCMLL-FFLCCL-------I-SQA---NAQYL-FQSCDN--S-NGNYTANS 56
CRK29 ---MAV---SFTLI-LFLSFSFL-----I-SLG---SA--Q-KYICDN--R-SGNYTANS 38
CRK30 IPMAAI---SCILS-LLL----SS--L-I-SQV--SAQFN-TEYCDN--N-KGNYTINS 45
CRK31 --MAAV---SYMLI-LFLSFPFLK--F-I-SLG---SA--Q-KILCDD--G-HGNYTANS 41
CRK32 --MAAL---SFMLI-LFFSFPFL-----V-I-SLG---SA--Q-KYVCDK----GGNYTANS 38
CRK33 --MAAL---SFMLI-LFLSFTFLK--F-I-SLG---SA--Q-NVICDD--G-HGNYTANS 41
CRK34 --MASV---SFTLF-SFLRCLCVI--V-I-LA-----QSSA-QTPCDN--T-KGNYTINS 41
CRK35 ----------MTAI-FFLFCLCVT--I-I-ISQ-------G-TAFCDN--S-KGNYTVNS 34
CRK36 --MPLL---LPRLL-FFLWCLPIT--F-FISQVSAVNNTQNFHYFCDDTND-QGNYTTNS 50
CRK37 --MPLL---LPRLL-FFLWCLPIT--F-FISQVSAVNNTQNFHYFCDDTND-QGNYTTNS 50
CRK38 LIFRIFCCILVIT--------FFNFPTTKA---QNEDRVYFEHQNCSAN----I--SLPS 48
CRK39 MAMATI---SSTLL-FFLFWLHAI--M-T-ACETTFGPDFGTSKFCD---S-SMNYTANS 48
CRK40 MAMATI---SSTLL-FFLFWLHVI--M-T-ACEDSFGPDFGASKICI---S-SMNYTANS 48
CRK41 ---ITS---NPP-WILFTTLFLSSFSLS-----LSDPRITEAGLYCGTTK--APL---KA 48
CRK42 LTVRSM-CFGFLL---CLSFS--CLSYT-----QAQTPIYQ-GSYCQNST--Q--ESLTT 50
CRK43 GNVRSI-CFSFLL---LLSFR--SFST------KTKADTYL-GSNCDNTT--Q--QTLSS 48
CRK44 -MIPIRVSVSFL-------FL--LFTTT-----RAQAPIYM-YNFCENST--S----VSP 38
CRK45 MMIPIRVVLSFM-------LL--LFITA-----SAQVPIYM-NNFCDNST--S----VSP 46
CRK46 LNVRSIYSFIFLF---LLSFK--PLVT------EAQSPNYV-GDDCNSTT--T--TSLSS 49
                                                   *


CRK1  IFVPNFVATMDKISDEMRKT---GFGTAVVG---T--GPDTNYGLAQCYGDLSLLDCVLC 100
CRK2  IFVPNFIATMDKISDEMRKT---GFGTAVVG---T--GPDTNYGLAQCYGDLSLLDCVLC 100
CRK3  AFLTNFYDAMEALTDLITSQ---RYALVVKG---TT-QNETVYAFGECMKDLSKPDCDVC 95
CRK4  AYQLNLGTLLTSLSSNAST----EFSNNTVG----TSSSDRVYGLFMCRGDVPSTLCHQC 110
CRK5  VFISNFLEAMDALTPLTTTR---QRGAVVKG---S--GNVTVYAMGECMKDLSQSDCNVC 97
CRK6  IFVPNFVATMEKISEQMSST---GYGTAVEG---TG-GPDTNYGLAQCYGDLSPLDCVLC 102
CRK7  -SASRFMALMDTLSFQVKER---GWGAQT-----LLGSGPPMYALGQCRRDLRSTDCYKC 85
CRK8  NYFPIFTKEMEKLHELVKKN---NWGTHSEG---LS-SATPIYALVQCFQDLSNLDCLQC 111
CRK9  TLQISLTTLFSYLSSKATN--KRYY---------KADVNSTVYGLFMCRGDVPNDVCEKC 343
CRK10 AFRTNLNSTLSRLSSDAAT--SKGYNHTTTGNGSTPVDDDAVYGLYDCRGDVTGPFCQFC 101
CRK11 AYKTNINNLFTSLSSDSAT--SNGFGN-----GTSGIDQDMVYGLYLCRGDVNTSLCHSC 98
CRK12 SYQFNLNKLLSKLTSKINI--T-NYYNTTVS---GTNKRDIVYGLFMCNGYM--EKCGEC 99
CRK13 SFFANMNETFESLRAQISNDKNRHFAVED-----KARGEVLTYAMFQCRNYLSKTECLAC 101
CRK14 NFIQNLNASLDDLTAQVSNQ-SKHFATAK----ATSGTDPVYAMFQCRNYLSITDCATC 99
CRK15 SFHANINATFSELRGDIIND-SKHFGTTQ-----QATGDVLTFVMFQCRNYLSNNDCLSC 98
CRK16 TYNTNLITLLSNLSSNTEI--NYGFYNFSH-----GQNADKVNAIGLCRGDVEPNECRSC 92
CRK17 AYRSNVKTLLDWLSSNVTN--NARFYNTTVA---SRHAADTAYGSFLCT--INPEICQRC 104
CRK18 TFQRDLTTLFSSLSSTASS--NVEFFNNTVTA--GTNSSDTVYGLFLCRGDIPSDLCNHC 100
CRK19 TFQSHLTTLFSSLSSKASN--NVQFFNNTVT---GTNPSDTVYGLFMCRGDIPSDLCNHC 98
CRK20 AYETNLRTLLTSLSSHATT--AQFF-N-TTTG--GGDGSEIIYASFMCRGDVSNRTCQEC 95
CRK21 TFNANLNTLLSYLSSNVTN--DTRFFNT-TS----GTNSSDTVYGLYMCRGDVPFALCREC 97
CRK22 TFQNNLNLLLSSLVSNATL--HDGFYRTKIS----LGAPGEIKGLFLCRGDVTPSVCHDC 98
CRK23 TFQTNLNILLSSLVSNATL--HDGYYLTNIS----LGAPGEVKGLFLCRGDVTPSVCHHC 100
CRK24 KFMSNLNTLLSSLVSNSSLPSNNGFLRTSVA----KGTPDDIDGRFLCRGDVNETVCHSC 107
CRK25 TFETNLRVLLESLVSNISQ--SDGSYSSAM----GLGTASVASGYFLCRGDVSLTTCNDC 104
CRK26 TFQTNLNVLFASLTSNATQ--GVVSYTTTM----GFGSTNAVNGLFLCRADLFSATSNDC 101
CRK27 TYHNNLNTLLSNLSSNTDI--DYGFYNFSY-----GQESDRVNAIGLCRGDAKPDACRMC 92
CRK28 TYNTNLITLLSTLSSNTEI--NYGFYNFSH-----GQNADKVNAIGLCRGDVEPNECRSY 109
CRK29 IYSTNLTLLSTLSSNTQI--HYGFYNFSY-----GQNTDTVYAIGLCKGDVEPEECRSC 91
CRK30 TYHNNLNTLLSTLSSHTQI--NYGFYNFSH-----GQNNDKVNAIGLCRGDVKPDECRRC 98
CRK31 TYSTNLNTLLSTLSSNTQI--EYGFYNFSY-----GQNTDTVYAIGLCRGDQQPEECRSC 94
CRK32 TYSTNLNTLLSTLSSNTQI--EYGFYNFSY-----GQNTDTVYAIGLCRGDQQPEQCRSC 91
CRK33 TYSTNLNTLLSTLSSNTQI--EYGFYNFSY-----GQNTDTVYAIGLCRGDQQPEECRSC 94
CRK34 TYHNNLNTLLSSFSSYTQI--NYGFYNFSY-----GQEDKVYAIGLCRGDLKPDECLKS 94
CRK35 TYYNNLNTLLSSFSTHDQI--NYGFYNFSH-----GQGTDKAYAIGVCRGDRTRDQCLKC 87
CRK36 TYHTNLNTLLSTLISNTEI--DYGFYNFTN-----GESTDKVYAIGLCRGDIKPNECRRC 103
CRK37 TYHTNLNTLLSTLISNTEI--DYGFYNFTN-----GENTDKVYAIGLCRGDIKPDECRRC 103
CRK38 TYQNNLITLFSSFTSNASA--KLFY-NTTIL-----GGNSSVYGMFMCRGDIPLRLCKQC 100
CRK39 TFSTNLHTLLSTLTSHKEI--NYGFYNFSH-----GQNSDKVYAIGLCRGDLKVDECRSC 101
CRK40 TFNTNLHTLLSTLTSHTEI--NYGFYNFSH-----GQNSDKVYAIGLCRGDLKVDECRSC 101
CRK41 NYIPSFTKEMESISQLVTNH---NWGTHVVN---ISGSSIPIYGFAQCFKDLSNTDCLLC 102
CRK42 AYQTNLERILSWMSSDAAT--SKGYNYTSIGNS------STVYGLYNCRGNVVGYFCQFC 102
CRK43 AYQTNLDRILTWMPSDAAT--SNGYNQTSIGTN-----SSVYGLYCGDAVGYFCQFC 100
CRK44 SYKANVDTLLSWVTTDSDQ--SDGYNYTTVNNN---NDDDAVYGLYSCRYDITGYFCRFC 93
CRK45 SYKANVDTFLSWVTTDSYK--GDGYNYTTVNNNHNNDDDAVYGLYSCRYDITGYFCQFC 104
CRK46 AYKANLNSVLSWLSSDAAT--SKGYNHNSFGNN-TPGADAAVYGLYDCRGDVSGYFCQFC 106
           .     :   .                              *        .


CRK1  YAEARTVLP---QCYPYN----SGRIFL--DGCFMRAENYSFFNEYT-G--PG-DKAVCG 147
CRK2  YAEARTVLP---QCYPYN----SGRIFL--DGCFMRAENYSFFNEYT-G--PG-DKAVCG 147
CRK3  FAQCKTRVH---RCSPFQRGTNGGMFFF--DGCYLRYDGYNFFNESL-S--PR-DRTICG 146
CRK4  VLNATRRLR--SDCSLAK----QAVIWY--DECTVRYSNISFFSTVATR--PRVGLLNTG 160
CRK5  LAQCKTQLL---ACLPFQKGTQGGRLFF--DGCYLRYDDYNFFAESF-G--DQ-DTTVCG 148
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CRK6   YAEARTVLP---QCFPHN----GGRIYL--DGCFMRAENYSFYDEYT-G--PG-DKAVCG 149
CRK7   FSQARQVLS---RCVPKT----AGTIYL--DGCFLRYDNYSFIRESV-D--PTRDIGICM 133
CRK8   FATSRTKLP---RCLPSV----SAHIYL--DGCFLRYDNYSFYSEDT-D--PLRDTVNCT 159
CRK9   VQNAAHRIA--LDCNSSQ----EAIVWY--SQCMLRYSFRKIFRTVERS-----PVFSDL 390
CRK10  VSTAASEIL--QQCPNRS----SAVIVY--NYCILRYSNQNFFGNLTTT--PSWEIVEAK 151
CRK11  VQNSSILVM--QHCPNNA----SAILWY--PFCLVRYSNQNFFGNLTIR--PRIPMFDAT 148
CRK12  VSTSIQTLK--SKCVFNK----EAIIWT--HECLVRYSDKFFPNTPEKW--PSRCVRKSE 149
CRK13  FNTATSQIR---NCSA----ANGARIIY--DSCFLRYESDRFYDETN-E--PG-GGVSCG 148
CRK14  LATAAAKIR---NCST---GVNGARVIY--DGCFLRYESNDFFDQIM-P---R-SSILCG 146
CRK15  FNTASTQIR---NCSA----ANGARVIY--DGCFLRYESERFFDQTN-E--VG-NGVSCG 145
CRK16  LKDAGGNIT--QLCPNQK----EATIYY--DNCLLRYSNHSIFGVLDIS--PDFYMANPN 142
CRK17  VKEAAKLLS--SLCTIAK----EAIIWY--EVCYVRYSDRRFFSTVEVS--PKLSFMNDQ 154
CRK18  VGNATQRLSTHADCTLSK----AAVVYY--DECIVRYSNRSFFSTLT--MQAGYALWNPT 152
CRK19  VGNATQRLSTHVDCSFSI----EAVVYY--DECIVRYSNLSFFGTADMEINSGYVLASPI 152
CRK20  VRTAAEQIS--RVCPISK----EALIWY--HECLVRYSNRCFFSTLEEWPRFNFMGSHVT 147
CRK21  VGFATQTIA--SSCPTSK----EAVIWY--NECLLRYSYRFFFSKMEEW--PRHQVNIPL 147
CRK22  VTAAAKNIT--QRCTNQT----ESIIWY--DECMLRYSNSSVL-N-NIV--PGVNLLNVE 146
CRK23  VAAAADNIT--RLCTNQT----ESVIWY--DECMVRYSNLSFL-N-NIV--PSIDYSSEQ 148
CRK24  IAAAAANIT--RLCPNNT----ESYIWY--DECTLIYSNSTFQYD-NMV--PKFTLNDEG 156
CRK25  ITTAAAEIT--QLCPNKT----ESIIWY--DECTLRFTNRYFSPA-ATE--PGASLSNNK 153
CRK26  VATAVTEIR--RRCPNQT----ESIIWY--DECMVRYTDRYFSPT-SVV--PRANLWDDK 150
CRK27  LSDSKVLLT--QLCPNQK----EAILWY--DYCMLRYSNRSIFKTMEAT--PGFS-KRTY 141
CRK28  LKDAGGNIT--QLCPNQK----EASIYN--DHCMLRYSNRSIFGVLDIS--PDFSAYNTA 159
CRK29  LNNSRIYLS--HRCPNQK----KAIMWS--GDCMLRYSNDTIFLKMETS--PTYYWWNVG 141
CRK30  LNDSALTIT--QLCPNQK----EALLWLNTSKCLLRYSHRTIFGVMESS--PGFYLTNVN 150
CRK31  LNNSRVDLT--ERCPNQK----KAIMWS--DQCMLRYSNYTIFHQMETS--PRYYMWNTA 144
CRK32  LNNSRVDLT--QRCPNQK----KAIMWS--SECMLRYSNDTIFNQKETF--PRYYWWNTA 141
CRK33  LNNSRVDIT--ERCPNQK----KAILWS--DQCMLRYSNDTIFNQMEIS--PTYYMWNQP 144
CRK34  LNDSRVSLA--ERCPNQK----EAIWWT--VECMLRYTNRSIFGVMENQ--PTNNNYYNL 144
CRK35  LNDSRAALS--KECPNQK----EAIDWG--GECSLRYSNRSIFGLMENQ--PTLELLYTL 137
CRK36  LNGSRANLT--ELCPNRK----EVIGWYEDERCMLRYSDRSIFGLMETG-KPAYFAWNLG 156
CRK37  LNDSRANLT--ELCPNRK----EVIGWYEDEKCMLRYSNRSIFGLMETG-KPAYFVWNSD 156
CRK38  VGNATQKLSTDPECNQSI----EGFMWY--AECKLRYSNVSFFSIVAT--SPEYALFNNN 152
CRK39  INSSQANLR--QLCPNQK----EAIKWE--EKCMLRYSNRPIFHTMETS--PPYYTNNDE 151
CRK40  LNSSQANLR--QLCPNQK----EAISWE--EKCMLRYSNRPIFHTMDTS--PPYYMHNTY 151
CRK41  YAASRTKLP---RCLPSV----SARIYL--DGCFLRYDNYSFYAEVS-D--PLRDTLNCT 150
CRK42  VSNAAREVR--QHCPNRV----SATVMY--DFCILRYSNENFFGKILTY--PTWHAVGTK 152
CRK43  ISTAVREAP--QLCSNRV----SAVVWN--DYCVIRYSNEDFFGKALTD--PTWHTFGTK 150
CRK44  ITTAASELS--RRCPNAV----RAIIWY--DICIIRYSNQSFNGKVSLT--PTWNITGPK 143
CRK45  ITTASKELS--QRCPNTV----RGIIWY--DVCIIRYSNQNFIGKVSLT--PIWNTTGTR 154
CRK46  VSTASREVL--QRCSNRV----SAIIWY--DFCILRYSNENFFGNVTVD--PSWNHSGPK 156
                .          *                 *  :         .


CRK1   N-MTKKNS------------SFQAAAKEAVSRAVQ-DAP----NNKGYARGNVAVEGATN 189
CRK2   N-MTKKNS------------SFQAAAKQAVSRAVQ-DAP----NNKGYARGNVAVEGATN 189
CRK3   T-EDFRG----------NWSVFKANTVELVRNLSIE-TP----KNEGFSAGYVR---RSN 187
CRK4   N-IS------------NPEAFMTLLFSTINTTAD-EAANFHMGVKKYATNQA--NFSGF 203
CRK5   T-NVSSKNSNNISDGAHSSGIYKANALELVRNLSEV-AP----KNDGFWVGSVE---KKN 199
CRK6   N-TTKKNT------------SFQAAAKKAVMTAVQ-TAP----NNKGYARAEVAVEGTAN 191
CRK7   T-PTLGD------DGG-------KRVAEMVSNVTK--EA----AERGFAVDGE------- 166
CRK8   T-EYGGV------AGEAAERLVFGNSVGKVVENVVRVAGN----EGRGFAVGEG------- 201
CRK9   N-ITSR-------------NEEQSFFSVTLAKTLDKVAVMAGDSDERFGKYST--KLNDK 434
CRK10  NS-T-------------DPEELQ-KAESYMQSLKREATVE---SNKLYAMGGF--NLSDG 191
CRK11  QNFT-------------SAGEYDSDAQVLMNGLIQ-IGSE---APLMFGTHMF--NINGT 189
CRK12  D--YEG-----------ELDSFNKVLSSLMDDLLTEA-NEAPMDSIKFAVKKI--TISED 193
CRK13  N-TSS-TVT----------GFRVAVQQV-LMELQEATP----KIKGFYAATKT-PVVGG 189
CRK14  N-QTANESP----------AFSAAGQQV-IKDLQRATP----KITAFYAATKT-QAVDG 188
CRK15  N-ITS-NAT----------GFISVGQQV-IWDIQRATP----KTKRFYAATKT-EVAGG 186
CRK16  N-AT-------------EVVEFNRVLDDLLKELKGKAASG--DSRRKYATDND--TTMNF 184
CRK17  DYV--G-----------DVGRFNNIVWDMLNDLRSEAASASNKS----ADKSV--NITDN 195
CRK18  N-MTNQ------------ESFKRLLYDTMNKTADD-AAHFPTGAKKFATRET--SIDIF 195
CRK19  N-MTNQ------------ESFKRLVYVSLNETADE-AVGSGSGGEKFATKET--DIDIF 195
CRK20  N-SRNE-----------KGSYGFWLLSKTLSDAVGEAANAGPAGTMKFATKNA--TVFGS 193
CRK21  GDPVVL-----------HSSGFYDALGSIFDELPNQAALALKGSNNPYAVKQE--NASAS 194
CRK22  S-VPDS-----------DYLQFNNILASTLNDAKQ-EAIS---SGKMFSTKEA--NVTSS 188
CRK23  S-VPDS-----------EITSFINFLASTLKGVAQ-DAVNS-PSAKMFATREA--IFTSS 192
CRK24  S-IVNS-----------NHDQFNQLLLSLLKGLEE-KASASSMGEKKFAAGTV--SVTSA 201
CRK25  S-ISAS-----------DLDSFNRTLFGLLDDLVEKTASS--NSARKFATGDR--EFAGS 197
CRK26  N-ISTS-----------DWGSFNQTLSSLLSGLATKAAGS--QSASKFAIGEM--NFTAT 194
CRK27  N-AT-------------DGDSFNEVLRNLLENLTSQASTG--DSLRKFAVANA--SGPAF 183
CRK28  N-AT-------------EADEFNRVLNLLRELKDKAASG--DSRRKYATDDN--TTSNF 201
CRK29  N-VTE------------VDQFNEVLGNLMTSLRDIAASG--DSRRKCAGGKN--ISGLNF 184
CRK30  N-VT-------------EADKFNQALSNLMRNLTVVAASG--DSRLKYAADSA--IAANF 192
CRK31  N-AT-------------DATQFNEVLGNLMKSLKDTAASG--DSRRKYATAEN--ATGLNF 187
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CRK32  K-VREV-----------DVDQFNEVLGNLMKSLRDIAASG--DSRRKYAAGKN-TTGLNF 186
CRK33  N-AT-------------DANQFNEVLGNLMKSLIDTAASG--DSRRKYATAEN-ATGLNF 187
CRK34  N-VT-G-----------SVEQFNTALESLMRNLTRIAASG--DSRRKYATASA--YGSDF 187
CRK35  E-VR-G-----------SVEQFNAALQSLMRNLIQTAASG--DSRRKYATGSA--SAPDF 180
CRK36  N-AT-------------QAEEFNKVLRDLLDGMRSRAASG--DSQSKYATANA--TGPDD 198
CRK37  H-AT-------------QAEEFNKVLRDLLDGMRSRAASG--DSQSKYATAKA--TGPDD 198
CRK38  N-VSSN-----------STISFMNFLRNTMNQT----AEAAADSEARFSTKEA--NLSRS 194
CRK39  N-AT-------------KVDEFNKVLGGLLRNLREKAAGG--DSRRKYATDTA--FVDNF 193
CRK40  N-AT-------------DVDEFNKVLGGLLRNLREKAAGG--DSRRKYATDTA--IVANF 193
CRK41  S-QHGTV------VDKTERLELEESVGRVVESVTNRALA----KGGGFAVGEV------ 192
CRK42  NI-Y-------------NKEETK-KGEDFMRGLIRKATVE---TNKLYYMDGF--NLSFT 192
CRK43  NI-S-------------NTTEIQ-KGQDFVRSLIRKATNE---TNQLYYKEGF--NLSAT 190
CRK44  KI-K-------------DSAEAK-KVEDSMESLITKVTID---TKKFWAVDEF--DWVDN 183
CRK45  KI-K-------------DSSEVK-KAEDSMQSLIRKATVE---SKTFWAVEEF--EWIDN 194
CRK46  NV-S-------------SVEEIQ-KGEGFMRSLIRKATVE---TNQLYYMDGF--NLSST 196


CRK1   ---QSVYVLADCWRTLDKRSCKACLENAFFSL--LGCLPWSEGRALNTGCFMRYSDKD-F 243
CRK2   ---QSVYVLADCWRTLDKRSCKACLENAFFSL--LGCLPWSEGRALNTGCFMRYSDTD-F 243
CRK3   ---VTIYGLAQCWKFVNSSSCQNCLAEAITRI--DSCAPKGEVRALNAGCYLRYATHN-F 241
CRK4   ---QTLYCLAQCTPDLSPGDCRNCLSGVIGDL-PWCCQGKQGGRVLYPSCNVRYELYP-F 258
CRK5   ---VSVYGLAQCWEFVNGSACKKCLADAATRI--ASCATQ-EGRALNAGCYLRFSAHK-F 252
CRK6   ---DSAYVLANCWRSLDAKSCRACLENASSSV--LGCLPWSGGRALNTGCFMRYSDSD-F 245
CRK7   ---EGVFALAQCWSTLNKGRCKICLTEAAKKV--QECVPNVEGRGLFTGCILRYSTRK-F 220
CRK8   ---EGVYALAQCWKTVGGKGCRDCLKKAENEI--RGCLPKKEGRALNSGCYLRYSSDK-F 255
CRK9   ---QTLYTLAQCTKDLPTDDCKGCLGNLIGTEIPWSRLGSIGGRVLYPSCNLRFEFHQ-F 490
CRK10  ---EERYGLVQCSRDLTNDECSQCLDAMIQKV-PQCCGTKRSWQVLAPSCLIKYDDFM-F 246
CRK11  ---QRRYGWVQCSRDITPEECRTCLSNMLEDV-ENCCQEKKVWRVFSPSCIVMYETQP-F 244
CRK12  ---QHLFGFAQCTPYLSKENCKKCLRDAMNFL-QTCARGKTGGRVIYPSCIVRYDHYL-F 248
CRK13  ---SAIYAVSQCVETAIKTNCLNCMQVAFNNL--QRCLPNTDGTAYDAGCFMRYSTTS-F 243
CRK14  ----AIYAIAQCAETLSQDNCLDCLSVESSSI--QGCLPNTNARAFDAGCFMRYSETP-F 241
CRK15  ---SAIYAVAQCVETATEDKCLSCMQVGYNNL--QSCLPKTEGRAYDAGCFMRYSTTP-F 240
CRK16  ---QTIYGLLQCSPDLTQTDCNDCLDEAITRI-PTCCDDRRGGRVVGPSCNIRYENYR-F 239
CRK17  ---QKSYGHAWCLPYLTKENCSWCLSEAIADIPTGCCRGKSGHVIFPSCGVRYELYP-F 251
CRK18  ---QKLYCLAQCTQDLFPGDCRSCLDSLINSDLPGCCAGSQGGRVVYPNCIIRFEIYP-F 251
CRK19  ---QKLYCLVQCTPDLSPRDCRSCLNSLINSDLPRCCAGRQGGRVLYPNCVIRFEIYP-F 251
CRK20  ---QKIHTLVQCTPDLSSEDCSNCLGDIMR-DIPLCCLGRIGGMVLYPSCTLMFGTRH-F 248
CRK21  ---ITVYGLAQCTPDLVAGDCRRCIADAAAEFAVSCCGGSIGASILFPSCIVRYETYP-F 250
CRK22  ---MKIYTLAQCTPDLSTSECNTCFSSAISSF-PNCCDRKQGARSLLPGCNVRYELYP-F 243
CRK23  ---MTLYSLAQCRPDLSAFDCNMCLTGAISSL-G---EGKRGARNLLPSCNVRYELYP-F 244
CRK24  ---QTLYGMAQCEPDATSGSCAACFENAISSI-PSCCNGSGGARLLLPICSIRYQLYP-F 256
CRK25  SSQRTVYSLTECEPTLTSTECEECLQNAISTL-PSCCEGKQGARALLAWCNVRYELFQ-F 255
CRK26  ---SRVYGLAQCASGMTNAQCEACLVNASITL-GTCCGKQGARALLAWCDIRYDLYQ-F 249
CRK27  ---QTIFGLVQCTPDLSEKHCDECLLKTISEI-PQCCNGSKGAKFFKPSCIIRYEIFP-F 238
CRK28  ---QAIYGLVQCTPDLTQTDCNDCLDEAIKQI-PTCCDEKRGGRVVGPSCNIRYEDYR-F 256
CRK29  ---QTIYGVVQCTPNLSQQECYQCLDVAISEI-PNCCSGKIGGRVLKPSCNIRFEIYS-F 239
CRK30  ---QTVYGLVQCTPDLSETDCNRCLDGAISEI-PSCCGNKMGGRVLRPSCNIRFESAI-F 247
CRK31  ---QTIYGLVQCTPDLSQQECTQCLDGVISEI-PTCCNGKVGGRVLRPSCNIRFETYS-F 242
CRK32  ---QNIYGVVQCTPDLSQQDCYQCLDGAISEI-PNCCNGKIGGRVLKPSCNLRFESNS-F 241
CRK33  ---QTIYGLVQCTPDLSQQRCTQCLDTAISEI-PNCCNGKIGGRVLRPSCNIRFQTNS-F 242
CRK34  ---QTIYGQAQCTPDLSSEDCTKCLDEAISII-PQCCSGKAGGNVVKPSCRIRFDPYS-F 242
CRK35  ---QTIFGYTQCTPDLSSEDCSKCLNEAISKI-PECCNGKAGGNVLKPSCRIRFDPYI-F 235
CRK36  ---KTIFGLAQCTPDLSEQDCNNCLIQSMEEF-GNCCDSKIGARVVRPSCNLRYETSFPF 254
CRK37  ---KTIFGLAQCTPDLSEQDCNNCLIQSMEEF-GNCCDSKIGARVVRPSCNLRYETSLQF 254
CRK38  ---QTLYALAQCTQDLSPQNCRTCLAEGIK-ILPTCCDGKQGARVIFPSCNIWYEMYP-F 249
CRK39  ---QPIHGLMQCTPDLSRQDCGDCLDWSISAI-PTFAKDKVGALVLLPSCNLRFEIYN-F 248
CRK40  ---QPINGLMQCTPDLSRQDCGDCLDWSISTL-PKFAKDKVGALVLLPSCNLRFEIYE-F 248
CRK41  ---EGVYALAQCWNTIGSDGCRECLRKAGKEV--RGCLPKRDGRALNAGCYLRYSTNK-F 246
CRK42  ---QERYGFVQCSRDLTNGGCRECLEAMLAEV-PKFYEQKLGWSIWSGTCMIKYDDYM-F 247
CRK43  ---ESRYGVVQCTRDLTNEVCRQCLEDILAEV-PKCCEQKVAWMVWSGSCLIKYDDYM-F 245
CRK44  ---EKRYGWVQCDRDIPSDECGECLHVLLDIF-PQCCSTNAQWAVFGPSCGMRMDDEK-F 238
CRK45  ---EKRYGWVQCDRVIENDECGECLHATLDIF-PECCSTNVQWAIFGPSCSIRMDDQN-L 249
CRK46  ---QRRYGMVQCSRDLTNEGCSQCLEAMLAKV-PKCCEHKLGWQVSTASCLIKYDDYI-F 251
                *         *  *:                          *  :          :


CRK1   LNKEQETGSSR-------------------------------GN----VAVIVVVVSS 267
CRK2   LDKEQETGSSR-------------------------------GN----VVVIVVAVVSS 267
CRK3   YNSSNNNPPQE----------------------------HRGHKNFAIIVAA-SSA 268
CRK4   YRATATPSPSPSPSPPLLPPPTSG--------------NSRGGGGISA-GTIVAIV-VPI 302
CRK5   YNNSTDVAISG---------------------------NHGQRSLAKILAA-TTA 279
CRK6   LNKEEKKGRSG---------------------------DN---VLVIVITVVSS 269
CRK7   YNDVALPNINN---------------------------STEERPGVWMIVACVLS 248
CRK8   YNQGGEDGEGD---------------------------DSSRK-RIIITAVSVLA 282
CRK9   YFDDPSAGPIQ--------------------------SENKGINVR-KIVIVVI-VP- 519
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CRK10  YQITDQTS-SPLPNPAKK----------------------G-GSIGS-KTLIIIT-VSV  279
CRK11  FSNGTDSAPAPQQDNEAT---------------------DGNSRRW-WVIVIIA-VAG  279
CRK12  FPLPR---------------------------------GKRKNLG-VIASIIF-FHA  270
CRK13  FADNQTIDIAPFL------------------------KQGGS-RK--WGIISGVVG  273
CRK14  FADNQTVDISPFI------------------------KQGRSSSK--KWVIIGCVVG  272
CRK15  FADNQTIDIAPFL------------------------KQGDS-SK--KWAIIGGSVG  270
CRK16  YEQTTIIDPE--TPPPSTIN-----------------TSPEESSNTT-IIVIAVI-VPA  277
CRK17  RMAHVNSGWVSPPPLPDSPPPF---------------ASSGKRKQKT-LTIIVTV-VPI  293
CRK18  FRSLPTAPTPSPAGLVPPT-----------------NSGENKSRS-RTIILIV-VP-  288
CRK19  FRSHGSAPTPTPPKL----------------------GEKKSSTS-RTIILVV-VP-  283
CRK20  YRDVNAIQESKPSGIKMG----------------------SPG-S------IFTV-VI-  276
CRK21  YQHSGTSAPTM-----I---------------------KGSGNIGT-EVIVIVV-VLV  280
CRK22  YNVSSVSTQ-----PEFF-SPSS-------------------GKGRI-SLIVAIV-VPI  275
CRK23  YNVSAESAK-----PESL-SPSS-------------------GKSSI-SIIVAIA-VPI  276
CRK24  LYNST---------AMIL-IPSS-------------------GSKSI-LMVVAIV-IPI  284
CRK25  YNTSATSAPSSG----------------------------SNNNVV-RVLVIVA-LVI  283
CRK26  YNTSIASSPVPSPPPPPSE---------------------KKKSGSQ-RTIIIVV-VAV  285
CRK27  YDPINAATTHASPPPLPQAS------------------TKGKIIVS-GSVIAIA-VTI  276
CRK28  YEQTTIIDPE--TPPPSTIN-----------------TSPEESSNTT-IIVIAII-VPA  294
CRK29  YGNTTTLDP--EAPPPSTNTTS------------SINTTSSQESNTT-IIVIAVV-VPT  283
CRK30  YDQTPKLDPDVTPPSPPPSSFT--------------NTSPKESNNTI-TIVIAVV-VSI  290
CRK31  YGATTTLDPDPEAPPPSTNT-----------------TSSQESDNTT-IIVIAVV-VPT  282
CRK32  YENTTTLDPDPEAPPPSTNTTSSTNNTSSTNNTSSTNTTSSQESDNTT-IIVIAVV-VPT  299
CRK33  YGNPTTLDTDPEAPPPSTNT-----------------TSSQESDNTT-IIAIAVV-VPT  282
CRK34  YGPTLNIDLDAPP-SPSTNNT----------------SSSQGKSNTS-RTIIAIV-VSV  282
CRK35  YGPTLKLDPDAPPPSRLTNNTS---------------LHLQGKSKTS-RTIILIA-VPV  277
CRK36  YGA-PAYTPSPSLSPPS-------------------NTSSEGKSNTI-IIAIATA-VPV  291
CRK37  YGA-AAYTP------S--------------------NTSSEGKSNTV-IIAIATA-VPA  284
CRK38  YGLVTDNIPPK--TLVPSPGF----------------SSSSSSSSYQT-RTIILIL-ISI  289
CRK39  YNSTVILDPPLPP----ASLP----------------LHQEDHGNSL-RTAIIIV-VPT  285
CRK40  YNSTAILDPPLPPALPPAPLS----------------LHQEDHGNSL-RTAIIIV-VPT  289
CRK41  YNEDGDAGGKN------------------------------GFLRR-GVIIAEV-LAA  272
CRK42  YL-----------PETD----------------------KDGVNKR-SKILIIS-FSV  270
CRK43  YLLNNDTTPAPAANPQTD--------------------KQGVNNR-SRILIII-FSV  280
CRK44  YQSSG----------------------------------NGGAS-K-TRKLIIS-SSV  259
CRK45  YQNSG----------------------------------NGGISSK-SRKLIIS-FSV  271
CRK46  YLFHNPASSVSVPDTQIA--------------------KQRSGSK-AKLLIIG-LSV  286


CRK1   VIVSVVGV--TIGVYIWKQRYIQKKRRGSNDAEKLA------------------KSLQNK  307
CRK2   VIVSVVGV--TIGVYIWKQRYIEKKRRGSNDAEKLA------------------KSLQNK  307
CRK3   SLAFLLIV--STVIFLVWTNLLK-RRRERRQVGVLL------------------NTVIKS  307
CRK4   SVAVLLF---IVGICFLSRRARK------KASAKE---------G----KNVD-DITTLE  339
CRK5   ALALLLVV--ATVVFFIRKNMVT-RRRERRQFGALL------------------DQVNKS  318
CRK6   AIVLVVGI--AIVVYIRKHRYVQMKRRGSNDAEKLA------------------KSLHHN  309
CRK7   AIVGILLI--AFAAFICCQKMSS-RRKVRDSGGVSP------------------DFSSVA  287
CRK8   -AAVVVLS--LLVTYVAFTK-----KRKNNNFIEIP----------------SSLKNS  316
CRK9   TIILVNLF--L-LAWYFQRRNTR------KSHTTIL-----------KENFGH-ETATLE  558
CRK10  LVALIFLCCS--IYYLWRKYVTN------KDELI---------SVNTLRSFHG-YVQREE  321
CRK11  TVALALLAIS--IYYCYLKRKKD-----KQSIQEE--------GLNSIFSQE-QTDREE  322
CRK12  LVPVIVLF----FVCYLLHRESR------KDLKHRK-----------GNCGEEISTELN  308
CRK13  -AVL-LLL--LLIAWRWYG---KSKG--VHRGDILG------------------ATELKG  306
CRK14  -GAGLVAI--LLLLFPWRRRPQSPKR--VAGGNILE------------------ATELKG  309
CRK15  -GFVVLLC--VLFAWLWFT---KPKR--VPRGDILG------------------ATELKG  304
CRK16  A-AV-VLV--TCLFLYLRRRKAR------KNL---AV------KEEEDEKEED-EISIVE  317
CRK17  VVSLVLLS--LGCSCFLRRKETK------NQHDILK-----------ESFGN-DSTTLE  332
CRK18  IVSLATFL--T-LLYYVLWRRAR------KSSKILL-----------RKNFGE-ESSTLQ  327
CRK19  IVSLATLS--A-FCYYLLRRRAR------KRLKNLL-----------RENFGE-ESSILE  322
CRK20  LLVLTMLI--SFHCYFLWRRARK------RKYKILL----------KENFGQ-ESVTLE  316
CRK21  ALLVIFFCFGYYGFIWIKGRKKR------KASDHR---------E----NFGE-EISVLE  320
CRK22  VVAVVLL---IVGVCFLRKRASN------TYLSSF---------R-QDSIVD--DLTDVE  314
CRK23  VVAVVLF---IVGVCFLRKRASN------RYINSF---------R-QDSIVD--DLTDVE  315
CRK24  AILAALL---FIGCCWWRRRQRK------NREDVQ---------EVNDSIRRY-LASEEE  325
CRK25  V-SIILL---CGVCYFIFERSRK------KYNTLL-----------RENFGE-ESSTLE  320
CRK26  A-ATILV---FSGGYFLVRRSRR------NYKTLL-----------KENFGD-DSATLE  322
CRK27  SAFVILVN--LICCINLRMRSCR------KQFE--------------AENDD-EIQSTK  312
CRK28  A-AV-VLV--ICLFLYLTRRNAR------KNHAGQTI------KEEEDEEDQN-EINIVE  337
CRK29  V-VVVLFL--ICLFLYLRRLKAR------KNLPVIED-------D-----DED-KINIVE  321
CRK30  VVVAVVSL--LGLCIYLRRRKAR------KSPTVNQ-----------DDDDD-DIEISQ  329
CRK31  V-VVVLFL--ICLFLYLRRLKAR------KNLPVKEE-------EEDADEDEG-EIKIVE  325
CRK32  V--VVLFL--ICLFLYLRRLKAR------KNLPVIED-------D-----DED-EINIVE  337
CRK33  V-VVVLFL--ISLFLYLRRLKAR------KNLAVKEE-------DD--VEDED-EIKMAE  323
CRK34  A-CVVLVL--TLLCIYLRLRKQR------KKIE---------FEREEESDED-EISFTE  322
CRK35  A-SAILAL--SLFCIYLIVRKPR------KKIEITR---------EKDSDDED-EVTFAE  318
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CRK36 VVIVSAVL--IFIYIRLKARKSG------KKFETKQE------E-LYDDDDDD-GIDASE 335
CRK37 IVIVSAVV--IFIYIRLIARKSW------KKFETKQE------EEELYDDDDD-GIDASE 329
CRK38 IILLGLLF--G-ICYSLMRRKTK------KSNKVIL----------RENFGL-GSSTIE 328
CRK39 VIVVLVLL--IVISRYLRRK-AR------KNLL------------AEEDGDDD-EIEMVE 323
CRK40 VIVVLVLL--IVIGRYLRRK-AR------QNLL------------AEDDGDDD-EIGMVE 327
CRK41 -AAVLMLI--LSASYVAFTKLTR-IKKENNNLGHIS-----------------SSISKS 310
CRK42 MGSITLLCLG--VYFFWNRRR---------------------DGIRLSSFH--KIQTEE 304
CRK43 IGAIIVLCFS--LYCFWYRKRVR------KGNHEEKTRDGVREEELPLPSFH--KIQWEE 330
CRK44 LGSVALLCFS--VYCFWYRKRVR------KDKMT---------------------FDEE 289
CRK45 LGAIALLCFS--VYCFWYRKRVR------KDKMM---------------------LDEE 301
CRK46 LGAVALLCFS--VYCFWFRKRTR------SGRKT----GGRIPDTIRLSSYH--NVQTDE 332


CRK1  SLNFK-----YSTLDKATGSFHENNKLGQGGFGTVYKGVLADGREIAIKRLYFNNRQ-RA 361
CRK2  SLNFK-----YSTLDKATGSFHENNKLGQGGFGTVYRGVLADGREIAIKRLYFNNRH-RA 361
CRK3  KLNMP-----YEILEKATDYFSDSNKVGEGGSGSVFKGVLPDGTTVAVKRLTFNTSQ-WA 361
CRK4  SLQFG-----FGTIEAATNNFSADNKLGEGGFGEVFKGTLPSGQVIAVKRLSKSSGQ-GG 393
CRK5  RLNIS-----YEILEKATDYFNDSNKLGQGGSGSVYKGVMPDGITVAIKRLRFNTTQ-WV 372
CRK6  SLNFK-----YSTLEKATNSFDEDNKLGQGGFGAVYKGVLPDGREIAIKRLYFNNRH-RA 363
CRK7  GFSFR-----YDLLEKATDHFDPANKLGQGEAASVFKGTLPSGGTVAVKRLFFNKRQ-WT 341
CRK8  SLNYK-----YEILEKATDYFSSPRKLGQGGAGSVFKGTLPNGKDVAVKRLVFNNRQ-WV 370
CRK9  PLHFN-----LTAIELATNNFSNDNKIGRGGFGEVYKGILLDGRQIAVKRLSKSSKQ-GV 612
CRK10 PLNVDLPTIPLIWIQQSTNYFSEFSKLGEGGFGSVHKGNLEDGTEVAVKRLSKASGQ-GL 380
CRK11 SMNTDFPMMPLSTILKCTNNFSEEQKLGKGGFGPVYKGTLPDGRQIAVKRLSKTSVQ-GG 381
CRK12 SLQFE-----LRTIQEATNKFSDDNKIGEGGFGAVYKGGFSNGLEIAVKRLKKNSSQ-GA 362
CRK13 PVNYK-----YNDLKAATKEFSAENKLGEGGFGDVYKGTLKNGKVVAVKKLVLGKSSKME 361
CRK14 PKKYK-----YSDLKAATKNFSEKNKLGEGGFGAVYKGTMKNGKVVAVKKLISGKSSKIN 364
CRK15 PVNYK-----YNDLKAATKKFSAENKLGEGGFGDVYKGTLKNGKVVAVKKLVLGKSSKME 359
CRK16 SLQFN-----FDTIRVATEDFSDSNKLGQGGFGAVYWGRLSNGQIIAVKRLSRDSGQ-GD 371
CRK17 SLRFE-----LAKIEAATNRFAKENMIGKGGFGEVYRGILSDGQEIAVKRLTGSSRQ-GA 386
CRK18 GLQFD-----LVTIKEATNNFSPENEIGKGGFGEVYKGILLDGRYIAVKRLSKSSRQ-GS 381
CRK19 GLQFD-----LATIKLATDNFSNEREIGKGGFGEVYKGVLVDGRHIAVKRLSIGSKQ-GS 376
CRK20 GLQFD-----LAIIEAATNNFSNENKIGKGGFGEVYKGILSCGLHIGVKRLSQSSTQ-GS 370
CRK21 SLEFD-----FATIEAATNKFSEERRIGKGGYGEVYKGILPNGEEVAVKRLSTNSKQ-GE 374
CRK22 SLQFD-----MATVEAATNRFSDENKIGRGGFGVVYKGVLSNGQEIAVKRLSVTSLQ-GA 368
CRK23 SLQFD-----LATIEAATNRFSDENKIGQGGFGVVYKGVLPDGQEIAVKRLSVTSLQ-GA 369
CRK24 SLRFD-----LATIEAATNSFSNEMKIGEGGFGAVYKGTFPNGEEIAVKRLSRTSLQ-GD 379
CRK25 SLQFD-----LATMEVATKKFSLENRIGEGGFGDVYKGILPDGREIAVKRLHSSGQ-GA 374
CRK26 SLQFS-----LATIEVATKKFSYENKIGRGGFGEVYKGILLDGRHIAVKKLHTSRQ-GV 376
CRK27 TLPLE-----FASIMVATNNFSDANKLGEGGFGPVYKGRLSYGQEVAVKRLSKNSLQ-GN 366
CRK28 SLQFN-----FDTIRVATEDFSDSNKLGQGGFGIVYWGRLSNGQMIAVKRLSRDSGQ-GD 391
CRK29 SLQFN-----FDTIRVATEDFSDSNKLGQGGFGAVYWGRLSNGQMIAVKRLSRNSGQ-GD 375
CRK30 SLQFD-----FDTIRVATEDFSNSNKLGQGGFGAVYRGRLPNGQMIAVKRLSSGSSQ-GD 383
CRK31 SLQFN-----FDTIRVATADFSDSNKLGQGGFGAVYRGKLPNGEIIAVKRLSRNSGQ-GD 379
CRK32 SLQFN-----FDTIRVATEDFSDSNKLGQGGFGAVYWGRLSNGQIIAVKRLSRNSGQ-GD 391
CRK33 SLQFN-----FDTIRVATEDFSDSNKLGQGGFGAVYWGRLPNGQIIAVKRLSRDSGQ-GH 377
CRK34 PLQNN-----FNTIRIATNGFADSNKLGQGGFGAVYKGQLSNGQEIAVKRLSRDSGQ-GD 376
CRK35 SLQFN-----FETIRVATNEFADSNKVGQGGFGAVYRGRLSNGQAIAVKRLSSDSGQ-GD 372
CRK36 SLQIR-----FSIIREATDDFSDSNKLGQGGFGAVYRGTLPDGQEIAVKRLSANSGQ-GN 389
CRK37 SLQIR-----FSIIREATDDFSDSNKLGQGGFGAVYRGTLPDGQEIGVKRLSANSRQ-GN 383
CRK38 SLQFN-----LALIEAATNNFADDNKIGKGGFGEVYKGILIDGTSIAVKRLSRNSKQ-GL 382
CRK39 SLQFN-----LSTIQVATSNFSDSNKLGEGGFGSVYQGKLSNGQVIAVKRLSRNSGQ-GD 377
CRK40 SLQFN-----LNTIQVATSNFSDSNKLGEGGFGSVYQGKLSNGQVIAVKRLSTNSGQ-GD 381
CRK41 SLNYK-----YETLEKATDYFNSSRKLGQGGAGSVFKGILPNKKVIAVKRLIFNNRQ-WV 364
CRK42 TLNTDLPIIPLITVLQSTDNFSEASKLGEGGFGSVYKGILPDGRQIAVKRLSKFSGQ-GS 363
CRK43 TWNTDLPRIPFATILQSTYNFSEASKLGEGGFGPVYKGTLPDGTQIAVKRLSKFSGQ-GS 389
CRK44 KLNGDLPTIPLIAVLHSTNNFSEESILGEGGFGSVYKGILPDGRQIAVKRLSQFSGQ-GS 348
CRK45 KLNGDLPTIPLIAVLHSTNNFSEAFKLGEGGFGPVYKGILPDGRQIAVKRLSKFSGQ-GS 360
CRK46 TLNPDVPIIPLNTILQSTDNFSEASKLGEGGFGPVYKGTLPDGRKIAVKRLSESSGQ-GS 391
                     :  .*   *      :*.*   . *. * :     ::.:*:*   .


CRK1  ADFYNEVNIISSLEHKNLVRLLGCSCSGPESLLVYEFLPNKSLDRFIFD-KNKGKELNWE 420
CRK2  ADFYNEVNIISSVEHKNLVRLLGCSCLGPESLLVYEFLPNKSLDRFIFD-KNKGKELNWE 420
CRK3  DHFFNEVNLISGIHHKNLVRLLGCSITGPESLLVYEFVPNHSLYYHLSG-RRNSQQLTWE 420
CRK4  EEFKNEVVVAKLQHRNLVRLLGFCLQGEEKILVYEYVPNKSLDYTLFD-PEKQSELDWR 452
CRK5  DHFFNEVNLISDIQHKNLVKLLGCSITGPESLLVYEYVPNQSLYDHLSV-RRISQPLSWE 431
CRK6  ADFYNEVNIISSVEHKNLVRLLGCSCSGPESLLIYEFLANRSLDRFIFD-KNKGRELNWT 422
CRK7  EGFFNEVNLINGIQHKNVVKLLGCSIEGPESLLVYEFVPSGSLDQVLFS-KDSEDALNWE 400
CRK8  DDFFNEVNLISGINHKNLVKLLGCSIEGPESLIVYEYLPNKSLDHFLFE-KDKTRILKWK 429
CRK9  AQFKTEVLLIAKLQHRNLVEFIGFCLEEEEKILIYEYVPNKSLDHFLFD-SQPQKLLSWC 671
CRK10 EEFKNEVIFIAKLQHRNLVRLDSHLFN-EEKRKQLDWK 439
CRK11 EEFKNEIILIAKLQHRNLVRLLAGCVEQNEKLLVYEYMPNSSLDFHLFD-TNKGVHLNWI 440
CRK12 IEFKKEVLLISKLQHRNLVRLLGFCVERNEKILIYEFVHNKSLDYYLSSKS*-------- 414
CRK13 DDFEGEVKLISNVHHRNLVRLLGCCSKGQERILVYEYMANSSLDKFLFG-HRKG-CLSWK 419
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CRK14  DDFESEVTLISNVHHRNLVRLLGCCSKNQDRILVYEFMANNSLDKFLFG-KRKG-SLSWK 422
CRK15  DDFEGEVKLISNVHHRNLVRLLGCCSKSQERILVYEYMANSSLDKFLFG-NRKG-SLSWK 417
CRK16  TEFKNEVLLVVKLQHRNLVRLLGFCLEGRERLLVYEFVPNKSLDYFIFD-PSMKAQLDWE 430
CRK17  VEFKNEVQVIAKLQHRNLVRLLGFCLEDDEKILIYEYVKNKSLDYFLSD-IKKRALLSWS 445
CRK18  VEFRNEILLIAKLQHRNLVAFIGFCLEEEEKILIYEYVSNRSLDYFLFG-YP-EEKLSWY 439
CRK19  VEFKNEILLIAKLQHRNLVAFMGFCLEEEEKILIYEYVPNRSLDYFLFG-NQ-QQKLSWH 434
CRK20  IEFKNEVLLIAKLQHRNLVELIGFCLAAQEKILIYKFMHNGSLDKFLFG-NQ-QKTLSWS 428
CRK21  EEFKNEVLLIAKLQHKNLVRLIGFCQEDREKILVYEYVPNKSLDHFLFD-SQKRRVLTWS 433
CRK22  VEFRNEAALVAKLQHRNLVRLLGFCLEGQEKILIYEYIPNKSLDHFLFD-PVKQRELDWS 427
CRK23  VEFRNEAALVAKLQHRNLVRLLGFCLEGQEKILIYEYIPNKSLDYFLFD-SIKQRELDWS 428
CRK24  REFKNEVLLVAQLQHRNLVRLLGFCMEGTEKILIYEFIQNSSLDRFLFG-HEDQGGLDWA 438
CRK25  AEFKNEILLIAKLQHRNLVTLLGFCLGAQEKMLIYEFVSNKSLDYFLFD-PDKSRQMKWS 433
CRK26  LEFKNEILLIAKLQHRNLVTLIGFCLENQEKILIYEYF----FDYIFTD-SHKTRLLSWI 431
CRK27  TEFKNEVLLVAKLQHRNLVKLLGFCLERRERLLVYEFVPNKSLDFFIFD-EDRREQLDWE 425
CRK28  TEFKNEVVLVVKLQHRNLVRLLGFCLEGRERLLIYEFVPNKSLDYFIFD-PAMNAQLDWE 450
CRK29  TEFKNEVVLVVKLQHRNLVRLLGFCLEGRERLLIYEFVPNKSLDYFIFD-PAMKAQLDWG 434
CRK30  TEFKNEVLLMAKLQHRNLVRLLGFCLEGRERLLIYEFVPNKSLDYFIFD-PVKKAQLDWE 442
CRK31  TEFKNEVVLVVKLQHRNLVRLLGFCLEGRERLLVYEFVPNKSLDYFIFD-PAMKAQLDWE 438
CRK32  TEFKNEVVLVVKLQHRNLVRLLGFCLEGRERLLIYEFVPNKSLDYFIFD-PAMKAQLDWG 450
CRK33  TEFKNEVVLVVKLQHRNLVRLLGFCLEGRERLLVYEFVPNKSLDYFIFD-PTMKAQLDWE 436
CRK34  LEFKNEVVLLAKLQHRNLVRLLGFGLEGRERLLVYEFVPNKSLDYLIFD-PTMKPQLNWE 435
CRK35  TEFKNEVLLLAKLQHRNLVRLIGFCLERRERLLIYEFVPNKSLDYFIFD-PIKKTRLDWQ 431
CRK36  TEFKNEVLLLAKLQHRNLVRLLHFCMEGREKLLVYEFVPNKSLDYFIFD-ETKRAQLDWY 448
CRK37  TEFKNEVLLLAKLQHRNLVRLLGFCMEGREKLLVYEFVPNKSLDYFIFD-KTKRAQLDWY 442
CRK38  EEFKNEVLLISKLQHRNLVTFMGFCVNEEEKILIYEYVTHKSLDYFLFD-TKQEKFLTWP 441
CRK39  LEFKNEVLLLAKLQHRNLVRLLGFSLQGREKLLVYEFVPNKSLDYFIFD-PTEKAQLDWD 436
CRK40  LEFKNEVLLLAKLQHRNLVRLLGFSLQGREKLLVYEFVPNKSLDYFIFD-PTEKAQLDWD 440
CRK41  DEFFNEVNLISGIEHKNLVKLLGCSIEGPESLLVYEYLPKKSLDQFIFE-KNRTQILNWK 423
CRK42  EEFNNEVMSIAKLQHRNLVRLFGCCLEENEKILVYEYMPNASLYFHLFD-DEKRKQLDWK 422
CRK43  EEFDNEVMFIAKLRHRNLVRLLACCSEGNEKILVYEYLPNKSLDFHLFD-VEKRKHFDWK 448
CRK44  QEFKNEVMFIAKLQHRNLVRLLGCCLEENEKILVYEYMCNASLDFYLFGDDEKRKQLDWG 408
CRK45  QEFKNEVMFIAKLQHRNLVRLLGCCLEENEKILVYEYMCNSSLDFHLFGDDEKRKQLGWR 420
CRK46  EEFKNEVMFIAKLQHRNLVRLLACCLEEKEKILVYEYMTNASLDFHLFD-ERKKRQLDWK 450
              *    *    :   :.*:*:* ::         : :::*::.    :    :


CRK1   KRFEIIIGTTEGLVYLHENSKTRIIHRDIKASNILLDAKFRAKIADFGLARSFQEDKSH- 479
CRK2   KRFEIIIGTTEGLVYLHENSKTRIIHRDIKASNILLDGKFRAKIADFGLARSFQEDKSH- 479
CRK3   VRHKIILGTAEGLAYLHEES-QRIIHRDIKLGNILIDENFTPKIADFGLARLFPEDKSH- 478
CRK4   RRYKIIQGTARGTQYLHEDSRLRIIHRDLKASNILLDGDMNPKISDFGMARIFGVDQTQ- 511
CRK5   FRHKIILGIAEGLAYLHEESHLRIIHRDIKLSNILLEEDFTPKIADFGLARLFPEDRSH- 490
CRK6   KRYDIIVGTAEGLVYLHENSNIRIIHRDIKASNILLDAKLRAKIADFGLARSFQDDKSH- 481
CRK7   QRFQIICGLAEGLAYLHEGSGTKIIHRDIKSSNVLLDENLNPKIADFGLARSVTGNKSH- 459
CRK8   QRFEIVVGIAEGLAYLHGGSEIRIIHRDIKSSNVLLDENLNPKIADFGLARCFGADKTH- 488
CRK9   ERYKIIGGVARGIVYLHEHSRLKVIHRDLKPSNILLDENMIPKISDFGIAKIVEISQDQ- 730
CRK10  LRLSIINGIAKGLLYLHEDSRLRIIHRDLKASNVLLDQEMNPKISDFGLARTFEKGQSQ- 498
CRK11  NRLNIINGIAKGLLYLHEDSRLRVIHRDLKASNILLDHEMNPKISDFGLARTFGGDQKQ- 499
CRK12  ----------------------------------------------------------- 
CRK13  QRYDIILGTARGLAYLHEEFHVSIIHRDIKTANILLNDDLQPKIADFGLARLLPEDLSH- 478
CRK14  QRYDIILGIARGLTYLHEEFHVSIIHRDIKSGNILDEELQPKISDFGLVKLLPGDQSH- 481
CRK15  QRYDIILGTARGLAYLHEEFHVSIIHRDIKTSNILLDDDLQPKIADFGLARLLPEDRSH- 476
CRK16  KRYKIIRGIARGLLYLHEDSQLRIIHRDLKASNILLDQEMNPKIADFGMARLVLMDQTQ- 489
CRK17  ERQKIIRGIARGILYLHEDSCLKIIHRDLKPSNVLLDSNMNPKISDFGMARIVAGDEIE- 504
CRK18  QRYNIIKGTALGIFYLHEYSRLKVIHRDLKPSNVLLDENMNPKISDFGLARIVDIDQNR- 498
CRK19  ERYKIIGGTASGILYLHEYSQLKVIHRDLKPSNILLDENMNPKISDFGLARIFDVDQNR- 493
CRK20  QRFKIIEGIAQGILYLHEHSRLKVIHRDIKPSNILLDKNMNPRISDFGMAKIMEIDQDH- 487
CRK21  ERFKIIKGIARGILYLHEDSRLKIIHRDIKPSNVLLNDINPKISDFGMARMVDTNHIQ- 492
CRK22  RRY-IIVGITRGILYLHEDSQLRIIHRDIKASNVLLDQNMNPKISDFGMAKIFEADQTQ- 485
CRK23  KRYKIIVGIARGILYLHEDSQLRIVHRDLKASNVLLDENMNSKISDFGMAKIFQADQTQ- 487
CRK24  RRYKIIVGIASGIQYLHEDSRLKVIHRDLKASNVLLDSDMNPKISDFGMAKIFHGDQSRE 498
CRK25  QRYKIIEGITQGILYLHEHSRLKVIHRDLKPSNVLLDNNMNPKISDFGMARMVAVDQYE- 492
CRK26  ERYKIIQGIAQGILYLHDHSRLKVIHRDLKSSNVLLDNNMNPKISDFGIARIIALEQDQ- 490
CRK27  KRYKIIIGIARGLLYLHQDSSVRIIHRDLKASNILLDAEMHPKISDFGMARLFEVDQSQ- 484
CRK28  KRYKIIRGIARGLLYLHEDSQLRIIHRDLKASNILLDEEMNPKIADFGMARLVLMDQTQ- 509
CRK29  KRFKIITGIARGLLYLHEDSQLRIIHRDLKAGNILLDEEMNPKIADFGTARLVLMDQTQ- 493
CRK30  MRYKIIRGIARGLLYLHEDSLLRIIHRDLKAGNILLDEEMNPKIADFGMARLVLLDETH- 501
CRK31  KRYKIIRGIARGLLYLHEDSQLRIIHRDLKASNILLDQEMNPKIADFGMARLVLMDQTQ- 497
CRK32  KRFKIITGIARGLLYLHEDSQLRIIHRDLKAGNILLDEEMNPKIADFGTARLVLMDQTQ- 509
CRK33  KRYKIITGIARGVLYLHEDSQLRIIHRDLKASNILLDQEMNPKIADFGMARLVLMDQTQ- 495
CRK34  KRYKIIRGIARGILYLHEDSRLRIIHRDLKASNILLDHEMNPKIADFGMARLVLMDQTQ- 494
CRK35  MRYQTIRGIARGILYLHEDSQLRIIHRDLKASNILLDENMYPKISDFGMARLVQVDQTQ- 490
CRK36  TRFKIIAGTARGILYLHQDSRLRIIHRDLKAGNILLDEGMNPKIADFGLARLFVVDQTH- 507
CRK37  TRFKIIAGTARGILYLHQDSRLRIIHRDLKAGNILLDEGMNPKIADFGLARLFVVDQTH- 501
CRK38  ERYKIIEGIAKGILYLHDHSRLKVIHRDLKPSNILLDENMNPKISDFGLARIVEKDQQE- 500
CRK39  TRYKIIKGIARGLLYLHQDSRLRIIHRDLKASNILLDKEMIPKISDFGLARLITADQTQ- 495
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CRK40 TRYKIIIGIARGLLYLHQDSRLRIIHRDLKASNILLDKEMIPKISDFGIARLMTAGQTQ- 499
CRK41 QRFNIILGTAEGLAYLHEGTKIRIIHRDIKSSNVLLDDNLTPKIADFGLVRCFGADKSH- 482
CRK42 LRLRIINGIARGLLYLHEDSRLRVIHRDLKASNVLLDHDMNPKISDFGLARAFEIGQNQ- 481
CRK43 LRLSIIHGIARGILYLHEDSQLRVIHRDLKASNVLLDHDMNPKISDFGLARAFEGGQNQ- 507
CRK44 LRLSIINGIARGILYLHEDSRLKVIHRDLKASNVLLDDEMNPKISDFGLARAFEIGENQ- 467
CRK45 LRLSIIHGIARGILYLHEDSRLKVIHRDLKASNVLLDDEMNPKISDFGLARAFEIGQNQ- 479
CRK46 LRLSIIHGIAKGLLYLHEDSRLKVIHRDLKASNVLLDDEMNPKISDFGLARSFEKGQNQ- 509


CRK1  -I-STAIAGTLGYMAPEYLAHGQLTEKADVYSFGVLLLEMVTGRQNNRSKVSEY---SDS 534
CRK2  -I-STAIAGTLGYMAPEYLAHGQLTEKADVYSFGVLLLEMATGRQNNRSKESDD---SDS 534
CRK3  -L-STAICGTLGYMAPEYVVLGKLTEKADVYSFGVLIMEIISGKKSTSFV--QN---SYS 531
CRK4  -GNTDRIVGTYGYMAPEYAMHGEFSVKSDVYSFGVLLMEIISGKKNSSFYQTDG--A-ED 567
CRK5  -I-STVIAGTLGYMAPEYVIRGKLSEKADVYSFGVLVIEIVSGKRNSSFI--MN---SSS 543
CRK6  -I-TTAIAGTLGYMAPEYLAHGQLTEKADVYSFGVLLLEIITGRQNNRSKASEY---SDS 536
CRK7  -L-STGNSRTLGYMAPEYVSKGQLTEKVDIYAFGVLIVEIVCGKKNSDHI--PG---STS 512
CRK8  -L-STGIAGTLGYMAPEYLIQGQLTDKADVYSFGVLVLETASGRKNNVFR--ED---SDS 541
CRK9  -ESTDLIVGTCGYMSPEYAMFGQFSEKSDVFSFGVMILEIITGRKNMHSSEPRR--IADG 787
CRK10 -ESTRRVMGTYGYMSPEYAMEGLYSVKSDVFSFGVLLLEIICGKRNSGFHLSEH--G-QS 554
CRK11 -ANTIRVVGTYGYMAPEYAMEGLFSVKSDVFSFGVLLLEIISGKRNSKFYLSDQ--G-QS 555
CRK12 ---------------------------------------------------------- 
CRK13 -L-CTKFAGTLGYTAPEYAMHGLLSEKADTYSYGIVVLEIISGQKSTDVKVDED--DSEY 534
CRK14 -L-STRFAGTMGYTAPEYALHGQLSEKADTYSYGIVVLEIISGQKSTDVKIVDDDAEDEY 539
CRK15 -L-STRFAGTLGYTAPEYAIHGQLSEKADTYSYGIVVLEIISGQKSTDVKGDED--GHEY 532
CRK16 -ANTSRIVGTYGYMAPEYAMHGQFSVKSDVFSFGVLILEIVSGQKNSGINNGEN--M-ED 545
CRK17 -ESTGRIVGTYGYMPPEYAMHGQFSVKSDVFSFGVMVLEIISGIRKCCSSESEV--I-DD 560
CRK18 -AETNRIVGTYGYMSPEYAMFGQFSEKSDVFSFGVMILEIITGKKNGNSYKSNE--DDGG 555
CRK19 -AETDRIVGTYGYMSPEYAMLGQFSEKSDVFSFGIIVLEIITSKKNARSYESHN--MEEG 550
CRK20 -GKTKRIVGTYGYMSPEYAMFGQFSEKSDIFSFGVMILEIVTGKKNINFHESQY--MPNG 544
CRK21 -GCTKRVVGTYGYMSPEYAMHGKFSDKSDVFSFGVMTLEIISGKKNSCSFESHR--V-DD 548
CRK22 -VQTGRIVGTYGYMSPEYAMRGQFSEKSDVFSFGILVLEIVSGKKNAGLYQSKH--A-DD 541
CRK23 -VNTGRIVGTYGYMSPEYAMRGQFSMKSDVFSFGVLVLEIVSGKKNTDFYQSNH--A-DD 543
CRK24 NTRTGRVVGTFGYMSPEYAMHGKFSVKSDVFSFGVLVLEIISGKKNSSYYRSHD--D-NE 555
CRK25 -GKTNRIVGTYGYMSPEYAMYGNFSEKSDVYSFGVIMLEIVSGKKNSRHVFSD---H-ED 547
CRK26 -GSTNRIVGTYGYMSPEYAMHGQFSEKSDVYSYGVIVLEIISSKKNSCSLLSDD--V-DD 546
CRK27 -ANTSRVVGTYGYMAPEYVIHGQFSVKSDVFSFGVLVLEIVSGQKNSWVQRGEN--E-GD 540
CRK28 -ANTSRIVGTYGYMAPEYAMHGQFSVKSDVFSFGVLILEIVSGQKNSGINKGEN--M-ED 565
CRK29 -VNTNRIVGTYGYMAPEYALHGQFSVKSDVFSFGVLILEIVSGQKNGGISNREN--M-DD 549
CRK30 -ANTNRVVGTYGYMAPEYIMQGQFSVKSDIFSFGVLLLEIVSGQKNSGFRHGEN--V-ED 557
CRK31 -ANTSRIVGTYGYMAPEYAMQGHFSVKSDVFSFGVLILEIVSGQKNSGINNGEN--M-ED 553
CRK32 -VNTNRIVGTYGYMAPEYALHGQFSVKSDVFSFGVLILEIISGQKNGGISNREN--M-DD 565
CRK33 -ANTSRIVGTYGYMAPEYAMHGHFSVKSDVFSFGVLILEIVSGQKNSGINNGEN--V-ED 551
CRK34 -ANTSRIVGTYGYMAPEYVMHGQFSVKSDVFSFGVLILEIVSGQKNSGINNGEN--M-ED 550
CRK35 -ANTHRIVGTYGYMAPEYAIYGQFSTKSDVFSYGVLVLEIVSGRKSIGSRHGER--V-ED 546
CRK36 -EDTQRVVGTYGYMAPEYALHGHFSEKSDVFSFGVLVLEIVSGKKISSIQHGEE--S-GD 563
CRK37 -EDTQRVVGTFGYMAPEYALHGQFSEKSDVFSFGVLVLEIVSGQKISSIQHGEE--T-GD 557
CRK38 -GSTKRITGTYGYMSPEYAVFGQFSEKLDVYSFGVMVLEIISGRKNIGSYEPHR--IVNC 557
CRK39 -ENTSRVVGTFGYMAPEYIMQGQFSVKSDVFSFGVLVLEIVSGQKNHGVRDEKN--G-ED 551
CRK40 -ENTSRVVGTFGYMAPEYIMQGQFSVKSDVFSFGVLVLEIVSGQKNHGVRDEKN--G-EG 555
CRK41 -L-STGIAGTLGYMAPEYLIRGQLTDKADVYSFGVLVLEVVCGRRNNVFR--ED---SGS 535
CRK42 -GNTKRVMGTYGYMAPEYAMQGLFSVKSDVFSFGVLVLETICGRKNNGFYLSKH--G-QT 537
CRK43 -ANTKRVMGTYGYMAPEYAMEGLFSVKSDVFSFGVLVLEIICGRKNGGFYMSD---G-QT 562
CRK44 -AKTKRVVGTYGYMAPEYAMEGLFSVKSDVFSFGVLVLEIICGRKNSGFHRSEH--G-QS 523
CRK45 -ANTKRVVGTYGYMAPEYAMEGLFSVKSDVFSFGVLVLEIICGRKNSGFHRAEH--G-QS 535
CRK46 -ANTRRVMGTYGYMAPEYAMEGLFSVKSDVFSYGVLVLEIICGKKNSGFYLSEC--G-QS 565


CRK1  LVTV-AWKHFQAGTAEQLFDPNLVLQEDHNSEVKDEILRVVHIGLLCTQEVPSLRPIMSK 593
CRK2  LVTV-AWKHFQAGTAEQLFDPNLVLQEDHNIEVKDEILRGVHIGLLCTQEVPSLRPIMSK 593
CRK3  ILHRPLWIKQAM*---------------------------------------------- 544
CRK4  LLSY-AWLLWKDGTPLELMDPILRES-----YNQNEIIRSIHIGLLCVQEDPEDRPTMAT 621
CRK5  LLQT-VWRLYGSNRLSEIVDPTLECP-----FPAEEACQLLQIGLLCAQATAELRPSMSV 597
CRK6  LIIM-TWKHFQSGTAEQIIDPYLLLDDNHRSKVKNDILRVVQIGLLCTQEISSLRPSMSK 595
CRK7  LLHS-VWKNYKTNNITASVDPALHGK-----LTVEEASNTLQTGLLCTQSTVTLRPSMSE 566
CRK8  LLQT-VWKLYQSNRLGEAVDPCLGNE-----FPAREASRVFQIGLLCTQASASLRPSMAQ 595
CRK9  LLNY-VWKQWRDQTPLSILNSNIKEN-----YAEIEVIKCIQIGLLCVQENPDVRPTMVT 841
CRK10 LLVH-SWRLWGEGKSLEMLDPMLEKT-----YKGSEVMKCIHIGLLCVQEDAADRPTMST 608
CRK11 LLVY-AWNLWCESKGLELMDPSIEKS-----SVHSEVVKCMQIGLLCVQEDAADRPTMSS 609
CRK12 ----------------------------------------------------------- 
CRK13 LLQR-SWKLYERGSHLELLEEAIDPN----EYDAEEVKRIIEIALLCTQATAATRPTMSE 589
CRK14 LLRK-AWKLNERGMHLELVKSLDPN-----SYDAEEVKKVLDIALLCTQPSAAMRPAMSE 594
CRK15 LLQR-TWKLYERGTHLELVDKAIEPN----EYDAEDVKKIIEIALLCTQASAATRPTMSE 587
CRK16 LLNF-AWRNWKEGKAINIVDPSLNS------NSRNEMLRCIHIGLLCVQENLVDRPTMAN 598
CRK17 IRKH-AWTKWTKETPLELLDPHVGGP-----YSCEEVIKYIHIGLLCVQEDPNDRPTMAT 614
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CRK18  LMSN-VWRNWTNQTPLSILEPNMKEN-----YFETEVIRCIEIGLLCVQENPNMRPTIAE 609
CRK19  LMTY-VWRHWKNETPMSILDPNMKEN-----YYETEVIRCIQIGLLCVQENPNIRPTMAT 604
CRK20  LLSY-VWRKWKEKTQLSIIDPLLEEN-----YSKNEVIKCIHISLLYVQEKKSIRPTIAD 598
CRK21  LLSY-AWNNWRDESPFVLLDPALEES-----YCPNEVEKCIQIGLLCVQENPDERPIIGT 602
CRK22  LLTL-AWKHWTEETPMEFLDPTLRGS-----YSRNEVNRCIHIGLLCVQESPSDRPSMAT 595
CRK23  LLIF-AWKKWTEQTTMEFLDPALRGS-----CSRNEVNRCIHIGLLCVQENPSDRPSMAT 597
CRK24  LLSF-AWKNWIDQTPFQILDPKLRGS-----YSRNEVQRCIHIALLCVEENPVERPSMAT 609
CRK25  LLSY-AWDQWRDQTPINILDQNIKES-----CNVSEVVKCIQIGLLCVQEKPQDRPTMTQ 601
CRK26  LLSD-AWRYWRDETPLKILDQNIEES-----SNHNEVLKCIQIGLLTYHNNLNALLSNLS 600
CRK27  LLTY-TWQTWRKRTMSNIVDPTIS-------GSSNEIMRCIHIALLCVEKGDDRPTMAS 592
CRK28  LLSF-AWRNWKEGKAINIVDPSLNN------NSRNEMLRCIHIGLLCVQENLVDRPTMAN 618
CRK29  LLSF-AWRNWKEGKAINIVDPSLNS------NSRNEMLKCIHIGLICVQENLVDRPTMAN 602
CRK30  LLSF-TWRNWRDGTAVNIVDPSLEN------NSRNEVMRCIHIGLLCVQENLTDRPTMAT 610
CRK31  LLSF-AWRNWKEGKAINIVDPSLNS------NSRNEMLRCIHIGLLCVQENLVDRPNMTN 606
CRK32  LLSF-AWRNWKEGKAINIVDPSLNS------NSRNEMLRCIHIGLLCVQENLVDRPNMTN 618
CRK33  LLSF-AWRNWKEGKAIYIVDPSLNS------NSRNEMLRCIHIGLLCVQENLVDRPTMAN 604
CRK34  LLSF-AWRSWKEGKAINVVDPSLNN------NSRNEMLRCIHIGLLCVQENLVDRPTMAN 603
CRK35  LLSI-TWRNWKDGTIANIVDPTLIK------GSQNEIMRCIHIGLLCVQENMDARPTMTS 599
CRK36  LRHI-AWRSWREGRATDIVDPTLNN------GSESEIMRCMHIGLLCVQDSVAARPTMAS 616
CRK37  LRHI-AWRSWREGRATDIVDQTLND------GSESEIMRCIHIGLLCVQDNVAARPTMAS 610
CRK38  LLNF-VWEHWRDETPLSTLDPRLKEN-----HSNIEVIRCVKIGLLCVQENPDVRPTMLT 611
CRK39  LLSF-VWRNWIEGTVTNIIDPTLKN------SSQNEMIRCIGIGLLCVEEDLNNRPTMAN 604
CRK40  LLSF-VWRNWREGTVTNIMDPTLNN------SSLDEMIRCIGIGLLCVEEDLNNRPTMAN 608
CRK41  LLQT-VWKLYRSNTLTEAVDPCLGDD-----YPATEASRVFRIGLLCTQASASLRPSISQ 589
CRK42  LLLY-VSHPFGLI---NQISTILAN*-------------------------------- 559
CRK43  LLVY-AWRIWYEGKCLELMDPVLEKS-----FIGDEVERCIQIGLLCVQEDARDRPTMSD 616
CRK44  LLLY-AWSIWCAGKCLELMDPALIKS-----FIASEVVKCLHIGLLCVQQDAADRPTMST 577
CRK45  LLLY-AWSIWCAGKCLELMDPALIKS-----FIASEVVKCLHIGLLCVQQDAADRPTMST 589
CRK46  LTLY-AWKVWCAGKCLELMDPVLEEC-----CVESEVVKCIHIGLLCVQEDAADRPTMST 619


CRK1   TLQMLTKKE-ENLIAPSNPPFLDENTMELHDTSGDP----------------FYPLN-AA 635
CRK2   TLQMLTKKE-ENLIAPSNPPFLDKNTMELHDTNGDP----------------FYPLN-ES 635
CRK3   ----------------------------------------------------------
CRK4   IVLMLDS-NTVTLPTPKRPAFFIHSGTD-ATMPK--GQ-Q----------FDQSITKSLP 666
CRK5   VVKMV-NHN-HEIPQPTQPPFINSGSSELSRSGLPGHN-------------FQPESNTQ 641
CRK6   ALKMLTKKE-EHVEAPSNPPFIDESTMELHDQNDGP----------------FYPLN-AA 637
CRK7   VVQMLTKKD-YAIPSPKQKPFLNFSGLSQNDRTVSSKGLASARSSFHSTTSSLIPNDDST 625
CRK8   VACMLSNSD-LDVPIPKQPPFLNSRLLNQTPPLGFSTD-NSSSNTFKKIGVSYSPTQSSS 653
CRK9   IVSYLDG-HFSELPTPQKPAFFLHGRMDSKSIGR-------------KSSSRKSMNISTP 887
CRK10  VVVMLAS-DTMALSNPNHPAFSVGRKTKEEE--------------------STSKGSKD 646
CRK11  VVHMLAS-DTMSLPNPTRPAFSVGRTVIEQE--------------------SSSNTSMQ 647
CRK12  ----------------------------------------------------------
CRK13  VVVLLKSKNSVEHMRPTMPVFVGTNVMTREGNSTS------------------------ 624
CRK14  VVALLSSNDLLEHMRPTMPLFIESKLRPHRDIFASIGS--------------------S 633
CRK15  IVVLLKSKSLVEHLRPTMPVFVATNMKTRESKSSSTSG--------------------S 626
CRK16  IVLMLNS-YSLSLPIPAEPAFYMNSRTRSLPEMQSWDY-NS-----RETGSSEPILKSAQ 651
CRK17  IVFYLNN-HSINLPSPNEPGYFKSNRKDNMATNE--------------------ELDNII 653
CRK18  VVSYLND-LTIELPSPQEPAFFSHGIDQKAVMQQ-------------ESSSNSSVIGSMP 655
CRK19  VVSYLNN-HSLELPSPQEPAFFLHGIDKK-VMQQ-------------GSSSTISANSSMP 649
CRK20  VVSYLDGRHTLEFPSPQEPAFFLEDKMDTKT-----------------------STEH 633
CRK21  IVSYLNN-TSVQVPIPLEPAFFMHGRVRRHSTEH--QP-SS-----EFTL-KRHWNE--L 650
CRK22  IALMLNS-YSVTMSMPRQPASFLRGRSP-NRLNP--GL-DS-----DQSTTNQSTTSSIP 645
CRK23  IALMLNS-YSVTLSMPRQPASFLRGRGP-NRLNQ--GL-ES-----DQSTTDQFTSCSVP 647
CRK24  IMLALNA-YSVTLGLPRKPAFFVRGRATTDRLRQ--QL-DS-----DH-----SNTSSVP 655
CRK25  VVSYLSG-SLSELSLPEKPINCNQSGIVQRML------------------VGGSSSGSA 641
CRK26  SNTDIDY-GFYNFSYGQDSSTVNAIGLCRGDV------------------K-PDACRRC 639
CRK27  VALMLNS-HSVTLPLPSKPAFSIDSTSLSVIQ---------------------SNEPNI 629
CRK28  IVLMLNS-YSLSLPIPAEPAFYMNSRTRSLPEMQSWEY-NS-----REPGSSEAIFKSVQ 671
CRK29  IMLMLNS-YSLSLPIPGEPAFYINSRTRSLPETQSWEY-NS-----RETGSREAKLISAQ 655
CRK30  IMLMLSS-YSLGLPIPSEPAFYANSTARSLPATSSWGH-SS-----RATA-----NQSAQ 658
CRK31  IMLMLNS-YSLSLPIPAEPAFYMNSRTRSLPEMQSWDY-NS-----RETGSSEPILKSAQ 659
CRK32  IMLMLNS-YSLSLPIPAEPAFYMNSRTRSLPEMQSWDY-NS-----RETGSSEAILKSAQ 671
CRK33  IVLMLNS-YSLSLPIPAEPAFYMNSRTRSLPEMQSWDY-NS-----RETRSSESIRKSAQ 657
CRK34  IVLMLNS-YSLSLPIPAEPAFYMNSRTRSLPETQSWEY-NS-----RETGSSEAILKSAQ 656
CRK35  VMLMLNS-YSLTLPVPSEPAFVVDSRTRSFPNMLSLEH-NS-----RETGSSESTNKSSQ 652
CRK36  VVPMLNS-HSFSLQVPLAPAFYGDAMSGIFEDMKLWEI-NS-----GTTRSIESTNRNDQ 669
CRK37  VVSMLNS-PSLSLQVPMAPAFYGNAMSGIFEDMQLREI-NS-----GTTRSNESTNRKDQ 663
CRK38  IVSYLNG-HLVELPSPVEPTFSLNRETNPIVA-Y------------E------SNLRQS 650
CRK39  VALMLNS-CSITLPVPKKPAFFIDSATGSLPNMSWED--S------WPTRGTQSSGRSAQ 655
CRK40  VALMLNS-CSITLPVPKKPAFFIDSATGSLPNMSSED--S------WATKGTQSSGISAQ 659
CRK41  VVYMLTNSN-EDVPTPNQPPFLSTGMLDSDGSKSYTTN-SFISNALKKIGVSYIYSESSS 647
CRK42  ----------------------------------------------------------
CRK43  VVVMLAS-DTVAIPKPKHPAFSIGRTS-EEV--------------------STSRSSKN 653
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CRK44 VVLMLGS-DTMDLPKPNHPAFSVGKLTSKEA--------------------SASENSKN 615
CRK45 VVLMLGS-ESMALPKPNHPAFSVGKLTSKEA--------------------SASRSTKN 627
CRK46 VVVMLAS-DMMSLPKPNQPAFSVGRMTLDDA-------------------STSKSSKN 657


CRK1  DSIATMSRSSFYPR*---------------------------------------------- 650
CRK2  DSIATMSRSSIYPR*---------------------------------------------- 650
CRK3  ------------------------------------------------------------
CRK4  MSINDVSISEMDPR*---------------------------------------------- 681
CRK5  SSANTMTESQIEPR*---------------------------------------------- 656
CRK6  DSLATMSHSSFYPR*---------------------------------------------- 652
CRK7  VLENSFSHSDMFIAGSPDSNIQINM--RAPEPR*-------------------------- 657
CRK8  SC------SLIRSSKTEETILEV*------------------------------------ 671
CRK9  LSINEMSTSECIPR*---------------------------------------------- 902
CRK10 PSVNDVTISNILPR*---------------------------------------------- 661
CRK11 YSVNEVTVSEVIPR*---------------------------------------------- 662
CRK12 ------------------------------------------------------------
CRK13 SSNATASISIASAR*---------------------------------------------- 639
CRK14 ASNGTASDSIVPA*----------------------------------------------- 647
CRK15 SSNATASISVLSAR*---------------------------------------------- 641
CRK16 ESENEVSITELYPR*---------------------------------------------- 666
CRK17 DSINEISLTKFFPR*---------------------------------------------- 668
CRK18 FSVNEMSISDFYPR*---------------------------------------------- 670
CRK19 FSVNEMPTTSFYPR*---------------------------------------------- 664
CRK20 FSVNEMSISTYYPR*---------------------------------------------- 648
CRK21 MDIGKN*----------------------------------------------------- 657
CRK22 WSVNEVSITELYPR*---------------------------------------------- 660
CRK23 WSVNEVSLTEVYPR*---------------------------------------------- 662
CRK24 FSAGDSLITEVYPR*---------------------------------------------- 670
CRK25 LSKNEMSVTIFIPR*---------------------------------------------- 656
CRK26 LNDSKVLLTQLCPNQKEAIGWYDQCMLRYSNRSLFNTMETSHSFALWNPGNASDIDQFNL 699
CRK27 QSVNEASITEPFAR*---------------------------------------------- 644
CRK28 ESENEASISELYPR*---------------------------------------------- 686
CRK29 ESENEASITELYPR*---------------------------------------------- 670
CRK30 ESENENSITEPYPR*---------------------------------------------- 673
CRK31 ESENEASITELYPR*---------------------------------------------- 674
CRK32 ESENEASITELYPR*---------------------------------------------- 686
CRK33 ESENEASITELYPR*---------------------------------------------- 672
CRK34 ESENEASITELYPR*---------------------------------------------- 671
CRK35 YSVDEASITETYPR*---------------------------------------------- 667
CRK36 DSLNEASITDPYPR*---------------------------------------------- 684
CRK37 DSLSEASITEPYPR*---------------------------------------------- 678
CRK38 TSNNEMSVSKLYPR*---------------------------------------------- 665
CRK39 ESVNEASITELYPR*---------------------------------------------- 670
CRK40 ESVNGASITELYPR*---------------------------------------------- 674
CRK41 SR------NSDGPSRSEESIVQV*------------------------------------ 665
CRK42 ------------------------------------------------------------
CRK43 LSINNITSSITLPR*---------------------------------------------- 668
CRK44 RSINDVTVSAVLAR*---------------------------------------------- 630
CRK45 LSINDVTVSTDLAR*---------------------------------------------- 642
CRK46 LSINDVTVSNIFPR*---------------------------------------------- 672


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CRK25  ------------------------------------------------------------
CRK26  VLGNLLDSLIGQATTLGDSQRKFAAANVSESVFQTIYGLVQCTPDLSEQDCSECLTGAIS 759
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CRK26  EIPQCCDGKRGGRILRPSCNFRYEIYRFYDLTDVKIPPAPAPAPKVSVLPPLSTDTLSTE 819
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CRK26   VQVENDDEIRSSETLQLDFSTIMTATNNFSDANRLGQGGFGPVYKGKLSNGQDVAVKRLC 879
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CRK26  KNSLQGDIEFKNEVMLVAKLQHRNLVKLIGFCLERRERLLVYEFVPNKSLDFFIFEYVFR 939
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CRK26  GQFSVKSDVYSFGVLVLEIVTDQKNSWACRGENEGDLLTYTWQNWREGTVSNIIDPTIID 999
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CRK26   SSRNEIMRFIHIALLCVQEKVTDRPTMASVVLMLSSYSVSLPLPSKPAFSVRSRNVSVIQ 1059
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CRK26   SEEYDPVSGNSIN* 1073
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