

>Os-POLLUX (Rice)

MAESDGGEASPSGGGGEGSPDRRPPARPQLTKSRTISGSAASAFDRWGTSNSSSSILV
RRSSTAPLPPGAAPRGLLTVAVDEPSYAAPNGGAAMLRDWCYPSFLGPHASRPPRSQ
QQTPTTAAAAADSRSPTPAAPPQTASVSQREEEKS LASVVKRPMLLDERRSLSPPPPQQ
RAPRFDLSPYLVMLVTVISFSLAIWQWMKATVLQEKIRSCCSVSTVDCKTTTEAFKIN
GQHGSDFINSADWNLASCSRMLVFAIPVFLVKYIDQLRRRNTDSIRLRSTEEVPLKKRI
AYKVDVFFSGHPYAKLLALLLATIILIASGGIALYVVS GSGFLEALWLSWTFVADSGNHA
DQVGLGPRIVSVSISGGMLVFATMLGLVSDAISEKVDSWRKKGSEVIEVNHILILGWS
KLGSLKQLAIANKSIGGGVVVLAERDKEEMEMDIGLEFDFMGTSVICRSGSPLILAD
LKKVSVSKARAIIVLASDENADQSDARALRVVLSLTGVKEGLRGHVVEMSDLNEPLVK
LVGGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKRWPELDGMRFGDV
LISFPDAVPCGVKIASKAGKILMNPNDYVLQEGDEVLVIAEDDDTYVPASLPQVRKGF
PNIPTPKYPEKILFCGWRRDIHDMIMVLEAF LAPGSELWMFNEVPEKERERKLDGGMD
IYGLTNIKLVHKEGNAVIRRHLESPLETFDSILILADESVEDSIVHSDSRSLATLLIR
DIQSKRLPSKELKSPRYNGFCHSSWIREMQHASDKSIIISEILDSRTRNLVSVKISDY
VLSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIRSAEFYLYEQEELFFDIMVRAR
ERDEVVIGYRLANDDQAIINPEQKSEIRKWSLDDVFVVISKGD

>Os-CASTOR (Rice)

MPLDPDSSPAPPHRDWFFPPAPPFLPSSRARTPRAPFPSTSRSSNPYSFPDRRPPPTPRS
RSRSLPPPEQQKQQQPPPTTPPPAPRRRDPYAGVRRGDVRTLTAEKAAAAAVPTAAQ
VHGSKSAASATTLRWGMVSVAAIVLCFSSLVRSNSSLHDQVHHLKAQLAEATTKLQSCI
TESSMDSSILSYQSNNSTSQNRGLKNFSLLLSLSTLYAPLLILKYMDLFLKLRSSQDSE
EEVPINKRLAYRVDIFLSLQPYAKPLVLLVATLLLIGLGLALYGVNDDSLDCLWLSWT
FVADSGNHANAEGFGPKLVSVSISIGGMLVFAMMLGLVTDSISEKFDSLKGRSEVIEQS
HTLVLGWSDKLGSLLNQIAIANESLGGGTIVVMAEKDKEEMEADI AKMEFDLKGTAIICR
SGSPLILADLKKVSVSKARAIIVLAEEGNADQSDARALRTVLSLTGVKEGLRGHIVVELS
DLNEVLVKLVGGDLVETVVAHDVIGRLMIQCARQPGLAQIWEDILGFENCEFYIKRWPE
LDGMQFEDVLISFPDAIPCGIKVASYGKIIINPDDFYVLQEGDEVLVIAEDDDTYAPAP

LPKVMRGYLPKDFVVPKSPERILFCGWRRDMEDMIMVLDAFLAPGSELWMFNDVPEMDRE
RKLIDGGGLDFSRLNITLVHREGNAVIRRHLESPLLESFDSILILADESVEDSAIQADSR
SLATLLLIRDIQAKRLPFREAMVSHVTRGSFCEGSWIGEMQQASDKSVIISEILDPRTKN
LLSVSKISDYVLSNELVSMALAMVAEDRQINDVLEELFAEQGNEMQIRPADLYLREDEEL
NFFEVMRLGRQRKEIVIGYRLVDAERAIINPPDKVSRRRWSAKDVFVITEKE

>Lj-CASTOR (*Lotus japonius*)

MSLDSEVSVSSSSGRDWFPPSPSFFRSSPSQYGRRFHTNSNTHSAPSSTYPSGIRHRRRV
KFSRTPPTSSNEKPQISIVSDKPSAISKNLNWLSQFGLQFALVTLTIVFLLLLLLRNTH
LESQVNKLQGEILRLHACHQLDTLNVSSSTAHSQDTHPCSCENFKRNLALFLSFMLLI
PLIIFKYIDYVSRRLSENISEQVSLNKQIAYRVDVFLSVYPYAKPLVLLVATLLIFLG
GLTLFGVTTEDLGHCLWLSWTYVADSGNHASSEGIGPRLVAVSISFGGMLIFAMMLGLVS
DAISEKFDSL RKGKSEVVEQNHTLILGWSDKLGSLNQLAIANESLGGGTIAVMAERDKE
DMELDIGKMEFDFKGTSVICRSGSPLILADLKKVSVSKARTIIVLAEDGNADQSDARALR
TVLSLTGVKEGLRGHIVVEMSDLDNEVLVKLVGGDLVETVVAHDVIGRLMIQCARQPGLA
QIWEDILGFENCEFYIKRWPQLDGMLFEDVLISFPAAIPCGIKVASYGKIIINPDDSYV
LQEGDEVLVIAEDDDTYAPAPLPMVRRGSLPKDFVYPKSPERILFCGWRRDMEDMITVLD
ASLAPDSELWMFNDVPEKEREKKLIDGGGLDISRLNISLVNREGNAVIRRHLESPLLESF
DSILILADESVEDSAIQADSRSLATLLLIRDIQARRLPYVAMASQTQGGNFSKGSWIGEM
KQASDKTVIISEILDPRTKNLLSMSKISDYVLSNELVSMALAMVAEDRQINDVLEELFAE
EGNEMHIRQADIYLRGEEMSFYEIMLRARQRREILIGYRLANAERAVINPPAKTGRRKW
SLKDVFVITEKE

>Lj-POLLUX (*Lotus japonicus*)

MIPLPVAANSNSNSNSNDEESPNLSTVIKPLKTKTKLLPPPSSSSSNRPLHLRVSI
DNNNNNAPPADFSHQWNYPSFLGTTTRKRRPSSVKPPSTSNLRFDTIPKTKTKTKT
NTNTNTNTNTNTNTDLPVVPPSSSPVARPQHNNHRSPPIFYLLIITCIIIFVPYSSYL
QYKLAKLEDHKLHLCRQSQIHFSGGHNGKISIPIHDAFSYILSRKAALYIVLFTLILP
FLLYKYLDYLPQIINFLRRTHNKNEDVPLKKRIAYMLDVFFSIYPYAKLLALLFATLFLI
GFGGLALYAVTGGSLAEALWHSWTYVADSGNHAETQGTGQRVVSIVSSGGMLIFAMMLG

LVSDAISEKVDSL RKGKCEVIERNHILILGWSDKLGSL LKQLAIANKSVGGGVIVVLAEK
EKEEMEMDITKLEFDFMGTSVICRSGSPLILADLKKVSVSKARAIIVLASDENADQSDAR
ALRVVLSLTGVKEGLRGHVVEMSDLDNEPLVKLVGGELIETVVAHDVIGRLMIQCALQP
GLAQIWEDILGFENAEFYIKRWPELDGLSFKDILISFPDAIPCGVKVAADGGKIVINPDD
SYVMRDGDEVLVIAEDDDTYSPGSLPEVLKGGFFPRIPDAPKYPEKILFCGWRRDIDDMIM
VLEAF LAPGSELWMFNEVPEKEREKLAAGGLDVFLENIKLVHREGNAVIRRHLESPL
ETFDSILILADESVEDSVAHSDSRSLATLLLRDIQSRRLPYKDTKSTSLRSLSGFSHNSW
IREMQQASDKSIIISEILDSRTRNLVSVSRISDYVLSNELVSMALAMVAEDKQINRVLEE
LFAEQGNEMCIKPAEFYLFQEEELCFYDIMIRGRARQEIIIGYRLANQERAIINPSEKLV
ARKWSLGDV FVVIASGD

>At5g49960 (Arabidopsis)

MPIHTPRRTSLFQRSKTLPTNSYRRFTSPVIPTFRYDDGDTVSYDGDSSNLPTVPNPEE
KPVVPVSPSQSPQRITRLWTQFSLTHCLKFICSCSFTYVMFLRSKVSRLAENIILLTRCN
SSSDNNEMEETNSRAVFFSVIITFVLPFLLYMYLDDL SHVKNLLRRTNQQKEDVPLKKR
LAYS LDVCF SVYPYAKLLALLLATVVLIVYGG LALYAVSDCGVDEALWLSWTFVADSGSH
ADRVGVGARIVSVAISAGGMLIFATMLGLISDAISKMVDSL RKGKSEVLESNHILILGWS
DKLGSL LKQLAIANKSIGGGVVVLAERDK EEMETDIAKFEFDLMGTSVICRSGSPLILA
DLKKVSVSNARAIIVLGS DENADQSDARALRVVLSLTGVKEGWKGHV VEMCDLDNEPLV
KLVGGERIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKKWPQLDGYCFED
VLISFPNAIPCGVKVAADGKIVLNP SDDYVLKEGDEILVIAEDDDTYAPGSLPEVRMCHF
PKMQDPPKYPEKILFCGWRRDIDDMIKVLEALLAPGSELWMFNEVPDQEREKKT DAGLN
ISKLVNIKLVHRQGN AVIRRHLESPLETFDSILILAEQ SLENSIVHSDSRSLATLLLR
DIQSKRLPYKDAKSSALRISGFPNCCWIRKMQQASDKSIVISEILDSRTKNL VSVSRISD
YVLSNELVSMALAMVAEDKQINRVL KELFAEKGNELCIRPAEFYIYDQEEVCFYDIMRRA
RQRQEIIIGYRLAGMEQAVINPTDKSKLTKWSLDDV FVVIASSQ

>Vv-CASTOR (Grape)

MSIDSESPSPSPSRDWF FSPSPFIHPNPNPNRR CVTNPRISRPPKSSSFQSF SHSSSKY
AGIRRRVEFARRTESLPASNVARPLSAQKPDVPVKKPDVSDVSGEKKFAWACAGRF GGR

WRMAILAAESDHLPNRNLKNMALIITFTLLFIPFLIFKYVDYVSKSRRSADNISEEVSLN
KQLAYQVDAFLSVHPYAKPLALLVATLLLICLGGALFGVTVDLADCLWLSWTYIADSG
NHANSEGIGPRLVSVSISFGGMLIFAMMLGLVSDAISEKLDLKRGRSEVVEQNHTLILG
WSDKLGSLLNQLSIANESLDGGIVVLAERDKEEMELDIKMEFDFRGTSVICRSGSPLI
LADLKKVSVSKARAIIVLAEDGNADQSDARALRTVLSLTGVKEGLRGHIVVELSDLDNEV
LVKLVGGDLVETVVAHDVIGRLMIQCARQPGLAQIWEDILGFENCEFYIKRWPELDGMQF
EDVLISFPDAIPCGIKAAAYGGKIIILNPDDSYILQEGDEVLVIAEDDDTYAPATLPMVWC
GKLPKNFIVPKSAEKILFCGWRRMEDMIMVLDAFLANGSELWMFNDVPEKERERKLIDG
GLDINRLLNITLVNREGNAVIRRHLESPLSFDSILILADESVEDSAIQADSRSLATLL
LIRDIQAKRLPYREAMVTQGHRSFSQGSWIGEMQQASDKSVIISEILDPRTKNLLSMK
ISDYVLSNELVSMALAMVAEDRQINDVLEELFAEEGNEMQIRQANLYLREGHEELSFYEII
LRARQRREIVIGYRQSSAERAIINPPAKNEKQRWSLKDFVIVIAEKE

>Vv-POLLUX (Grape)

MPQIKIPNSNPKPNPKYERPPVLKKSRTISDDVVPAPHFPGPLFAVRRSSPSPPPPPP
PPASSTAADVSGFSDRDWLFPSFLGPHTVRGRVPVQAAKSPKHDFSHSHSGSPNRSRSM
SGLGGGGHGEMVESMRLIGVLRSSTEVPESEKEAKPVAVRSSSTGLSARRARGFKRSVY
LYLLILTCIFSVSYAIYLRNEVTKLQANKYSCACTYIGVFLSVIKVAWVTFRTVALYTV
LFTLAMPFVYKCLDYFPQVKNLNRTKCNKEEVPLKKRIAYMVDVCFVYPYAKLLALL
FATIFLIGFGGLALYAVSDGSLAEALWLSWTFVADSGNHADRVTGQRIVSVSISGGML
IFAMMLGLVSDAISEKVDLKRKGVSEVIERNHILILGWSDKLGSLLKQLAIANKSIGGGV
VVVLAERDKEEMEMDIKLEFDFMGTSVICRSGSPLILADLKKVSVSKARAIIVLASDEN
ADQSDARALRVVLSLTGVKEGLKGHVVEMSDLDNEPLVKLVGGELIETVVAHDVIGRLM
IQCALQPGLAQIWENILGFENAEFYVWRWPQLDGMCFEDVLISFPEAIPCGIKVASDGGK
IILNPEDNYVLRGDEVLVIAEDDDTYAPGPLPEVHRVPFHGVISPPKYPERILFCGWRR
DIDDMILVLEAFAPGSELWMFNEVPIKEREKLLTDGGFDIFGLVNIKLVHHEGNAVIRR
HLEDLPLETFDSILILADESLEDIVHSDSRSLATLLLIRDIQSKRLPDRDTKSAASRHS
GFSHSSWICEMQQASDKSVIISEILDSRTRNLVSVSRISDYVLSNELVSMALAMVAEDKQ
INRVLEELFAEEGNEMCIRPAEFYLFQEEELCFYEIMIRGRQRREIVIGYRLATTERAI

NPPDKSKRRKWSIEDVFFVVISI

>Mt-DMI1 (*Medicago truncatula*)

MAKSNEESSNLNVMNKPPLKKTTLPSLNLRVSVTPPNPNDNNGIGGTSTTKTDFSEQQW
NYPSTFLGIGSTSRKRRQPPPPPSKPPVNLIPPHRPLSVNDHNKTTSSLLPQPSSSSITK
QQQQHSTSSPIFYLLVICCIILVPYSAYLQYKLAKLKDMKLQLCGQIDFCSRNGKTSIQE
EVDDDDNADSRITIALYIVLFTLILPFVLYKYLDYLPQIINFLRRTESNKEDVPLKRVAY
MVDVFFSIYPYAKLLALLCATLFLIAFGGLALYAVTGGMAEALWHSWTVADAGNHAET
EGTGQRIVSVSISAGGMLIFAMMLGLVSDAISEKVDSLRLKKGSEVIERNHVLILGWSDKL
GSLKQLAIANKSVGGGVIVVLAEEKEEEMEMDIKLEFDFMGTSVICRSGSPLILADLK
KVSVSKARAIIVLAADENADQSDARALRVVLSLAGVKEGLRGHVWVEMSDLDNEPLVKLV
GGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKRWPEDDLLFKDILI
SFPDAIPCGVKVAADGGKIVINPDDNYVLRDGEVLVIAEDDDTYAPGPLPEVRKGYFPR
IRDPPKYPEKILFCGWRRDIDDMIMVLEAF LAPGSELWMFNEVPEKERERKLAAGELDVF
GLENIKLVHREGNAVIRRHLESPLLETFDSILILADESVEDSVAHSDSRSLATLLLRDI
QSRRLPYRDTKSTSLRLSGFSHNSWIREMQQASDKSIIISEILDSRTRNLVSVSRISDYV
LSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIKPAEFYLFQEEELCFYDIMIRGRT
RKEIVIGYRLANQERAIINPSEKSVPRKWSLDDVFVVLASGE

>Ps-SYM8 (Pea)

MAKSNEEPNSNLNTNKPPLKRTKTLAQQPSLNLRVSIAAADNGIGNSSSSSTKTDFEQQQ
WNYPSTFLGIGSTSRKRRPPPPKPSNLTPNLKPPASDFQTKPHSEPKTSPSSSSPPLPI
AITKQQQQHSISSPIFYLVITCVIFVPYSAFLQYKLAKLKDMKLQLCCQIDFCGNGK
TSLQKDVDDGFSFSYILNADSRITISLYIVLFTLVLPFIFYKYIDYLPQMINFSRRTNSN
KEDVPLKRVAYMVDVFFSIYPYAKLLALLFATLFLIAFGGLALYAVTGGMAEALWHSW
TVADAGNHAETEGMGQRIVSVSISAGGMLIFAMMLGLVSDAISEKVDSLRLKKGSEVIER
NHVLILGWSDKLGSLLKQLAIANKSVGGGVIVVLAEEKEEEMEMDIKLEFDFMGTSVIC
RSGSPLILADLKKVSVSKARAIIVLASDENADQSDARALRVVLSLTGVKEGLRGHVWVEM
SDLDNEPLVKLVGGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKRWP
ELDGLLFKDILISFPDAIPCGVKVSADGGKIVINPDDNYVLRDGEVLVIAEDDDTYAPG

PLPEVRKGYFPRIRDPPKYPEKILFCGWRRDIDDMIMVLEAF LAPGSELWMFNEVPEKQR
ERKLAAGELDVFGLENIKLVHREGNAVIRRHLES LPLETFDSILILADESVEDSVAHSDS
RSLATLLLIRDIQSRRLPYRDTKSTSLR LSGF SHNSWIREMQQASDKSIIISEILDSRTR
NLVSVSRISDYVLSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIKPAEFYLFQEE
LCFYDIMIRGRTRKEIVIGYRLASQERALINPSEKSMTRKWSLDDVFVVIASGE

>Pt-POLLUX (Poplars)

MADIKKDSVSPPPQPPSLPPTNRDDVSRKASERPLKKTSSIPDDTHFPGLFP
AVRRTAPPPLTPSTHHLRPPLSDLRLSTNSNHHTTVNATNSSIDISSSSNNSFSVDRD
WMYPSFLGPHVARSRVTVKGRRGYNKVAEAEAEKEKHNTGATPSSITTSTDASAANKG
KVKEEKLLKVDDDIKEVKTAATQVLVTRSGVNRSGFKSSIFYLLNFTCTVFMSFSIY
LSNKVAKLEVCFIYIFCRTVALYTMFTLAIPFLLYKYLDYLPQIKTLSKRTMNNKEEAP
LKKRVAYMVDVCFVYPYAKLLALLFATIFLIGFGGLALYAVSDGSLAEALWLSWTFVAD
SGNHADRVGTGPRIVSVSISGGMLIFAMMLGLVSDAISEKVDLSRKGKSEVIEKNHILI
LGWSDKLGSLLKQLAIANKSIGGGVIVVLAERDKEEMEMDIAKLEFDFMGTSVICRSGSP
LILADLKKVSVSKARAIIVLASDENADQSDARALRVVLSLTGVKEGLRGHVVEMSDLDN
EPLVKLVGGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAIFYIKRWPQLDGL
LFQDVLISFPEAIPCGVKVAAEGGKIKLNPDDNYALKEGDEILVIAEDDDTYAGPLPEV
CRSSCPKTMPPKYPEKILFCGWRRDIDDMIMVLEALLAPGSELWMFNEVPEKEREKLT
DGGLDIHGLENITLVHREGNAVIKRHLENLPLETFDSILILADESLEDIVHSDSRSLAT
LLLIRDIQLKRLPHRDAKPTSLRISGFSHSSWIREMQQASDKSIIISEILDSRTRNLVSV
SRISDYVLSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIKPAEFYLFQEEIPFYE
IMIRGRQRNEIVIGYRLANAERAIINPPEKSEPRKWSLDDVFVVISLGD

>Pt-CASTOR (Poplars)

MSLDSQDSTSPSFNRDWFPPSPSFIHQSPPKPKPHRRFSTASKHSPGSNISNPPSFRSS
PSLSPTTT SKYGRLRRRVELPRPPDKYSIQHQND SVLDRKPAVSSEKKQSTDQILKLNVR
LRACNLLSNVDTFDSVMQELDDIGYGSNGLKNLALIVSVTLLSIPVLAFKYIDFVSKSR
SSDSVSEEALLNKQLAYRVDIFLSVHPYAKPLALLVATLLVICLGGALFGVTDDNLADC
LWLSWTFVADSGNHANTEGIGPRLVSVSISFGGMLIFAMMLGLVSDAISEKFDSLKGRS

EVVEQNHTLILGWSDKLGSLLNQLGIANESLGGGIVVMAERDKKEEMMDIAKMEFDFKG
TSVICRSGSPLILADLKKVSVSKARAIIVLAEDGNADQSDARALRTVLSLTGVKEGLKGH
IVVELSDLNEVLVKLVGDLVKTVAHDVIGRLMIQCARQPGLAQIWEDILGFENCEFY
IKRWPQLHGMQFEDILISFPDAIPCGIKVASCDGKIIILNPEDSYVLQEDDEILVIAEDDD
SYAPAALPTVWRGSLPKDFIGPKSAEKILFCGWRRDMEDMIMVLDAFLAPGSELWMFNDV
PENEREKKLIDGGLDLSRLENIQLVNREGNAVIRRHLESPLQSFDSILILADESVEDSA
IQADSRSLATLLLIRDIQVLDLTKVLRPLMVNQVRRGTFSQGSWIGEMQQASDKSVIISE
ILDPRTKNLLSMSKISDYVLSNELVSMALAMVAEDQQINDVLEELFADEGNELQIRQADL
YLSEGEELS FYEVLLRARQRREIVIGYRAANA EKAVINPPAKSERRRWSLKDFV FVIAEK
E

>Zm-CASTOR (Maize)

MPLDPDSSSPPPHRDWFFPPAPPFLASSRRTPSAPFPSTYRSSKPYSAYPLADRRPPP
TPRSRSRSPHPPEQQQKTPTPTPTSAPRRRDPYAGVRREDARTAASEQAAAPMAAPV
HGRKPAASAIAPRWGVLVAVILLCLASLLRRNFSLHDQVYLLQSRSLKNLSLLISLSV
LYAPLLILKYVDLVSKIRRSRDSEQVPINKRFAYRVDIFLSLHPYAKPLVLLVATLLLIA
LGGLALYGVTTDDSLSDCLWLSWTFVADSGNHANAVGLGPKLVSVSISIGGMLVFAMMLGL
VTDSISEKFDLSLRKGRSEVIEQSHTLILGWSDKLGSLLNQLGIANESLRGGTIVVMAERD
KEEMEADIAKMEFDMKGTAVICRSGSPLILADLKKVSVSKARAIIVLAEEDGNADQSDARA
LRTVLSLTGVKEGLSGHIVVELSDLNEVLVKLVGDLVETVVAHDVIGRLMIQCARQPG
LAQIWEDILGFENCEFYIKRWPKLDGMRFEVDLISFPEAVPCGIKVASYGKIIILNPDDC
YVLQEGDEVIVIAEDDDTYAPAPLPKVRGYPKDFVVPKSPERILFCGWRRDIEDMIMV
LDAFLAPGSELWMFNDVPEVDREKRLIDGGLDFSRDNLTLVHREGNAVIRRHLESPLLE
SFDSILILADESVEDSAIQADSRSLATLLLIRDIQAKRLPCKESLISHVPRGT FSEGSWI
GEMQQASDKSVIISEILDPRTKNLLSVSKISDYVLSNELVSMALAMVAEDRQINNLEEL
FAEQGNEMQIRPSMYLREEEELNFFEVILRARQRKEIVIGYRLEAAERAIINPIDKVS
RRWSPKDFV FVISEKE

>Zm-POLLUX (Maize)

MAESDGGSEAQSPSPDPRSGDANPDPRPPRQLTKSRTISGSVAASILAADR VAGGGGG

SGGGGLRDSILVRRSSTAPLPPYTASAAGASSAPRRLTVAVDDPSYAAPNGGVLDLDRWCY
PSFLGPHASRPRPPRQQQTATTTERRSANPTVPVPPRVAVSQREEEKSLASVVKRPALLE
ERRTPPPTLPPPRAPRFDLSPTIFALAIPLFLFKYIDLLRRRQTNSMRGRSGEEEVPLKK
RIAYKVDFVFFSGHPYAKLLALLLATIILIALGGIALYVVSQSGFLEALWLSWTFVADSGN
HADQIGLGPRIVSVSISGGMLVFATMLGLVSDAISEKVDSWRKKGSEVIEINHILILGW
SDKLGSLLKQLAIANKSIGGGVVVLAERDKEEMEMDIAKLEFDFMGTSVICRSGSPLIL
ADLKKVSVSKARAIIVLASDENADQSDARALRVVLSLTGVKEGLRGHVVEMSDLDNEPL
VKLVGGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKQWPELDGMRFG
DVLISFPDAVPCGVKASKSGKILMNPDDGYVLRGDEVLVIAEDDDTYAPAPLPEVNKG
FLPNIPTPPKYPEKILFCGWRRDIHDMIMVLEAFAPGSELWMFNEVPEKEREIKLTDGG
LDIGGLINIKLVHKEGNAVIRRHLESPLETFDSILILADESVEDSIVHSDSRSLATLLL
IRDIQSKRLPSKELKSPHRYNGFSHSAWIREMQHASDKSIIISEILDSRTRNLVSVSKIS
DYVLSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIRSAEFYLYEQEELFFDIMVR
ARERDEIVIGYRLANTDQAIINPEYKSQIRKWSLDDVFVVISKGD

>Gm-POLLUX (Soybean)

MRKSNEESSNLSLRKPPLKRSKTIPNPKHTASAPHFSVSVSDSEQWNYPFLGTTTKKK
KPSFKPHNLNLSKPSLVPPPPPPPPPTSSSPLSSQVTRPQHQRTPILYLLFITSIV
FVPHSAYLQYRLTKLEDEKLNLCQIDFCGNERTSIEKVDASFYILNADSRVALYIV
VVTLILPFVLYKYLDYLPQIINFLRRTNNKEDVPLKRVAYIVDVFFSVYPYAKLLALL
FATLFLIGFGGLALYAVTGGFAEALWHSWTYVADSGNHAETEGTQQRIVSVSISGGML
IFAMMLGLVSDAISEKVDSLKKGSEVIEKNHILILGWSDKLGSLLKQLAIANKSVGGGV
IVVLAEKEKEEMEMDIAKLEFDFMGTSVICRSGSPLILADLKKVSVSKARAIIVLASDEN
ADQSDARALRVVLSLTGVREGLGGHVVEMSDLDNEPLVKLVGGELIETVVAHDVIGRLM
IQCALQPGLAQIWEDILGFENAEFYIKRWPELDGLFFKDVLISFPDAIPIGVKVAADGGK
IIINPDDSYVLRDGEVLVIAEDDDTYAPGLLPEVCKGLCPWIRDPPKYPEKILFCGWRR
DIDDIMVLEALLAPGSELWMFNEVPEKEREKLVGGLDVSELENIKLVHREGNAVIRR
HLEGLPLETFDSILILADESVEDSVAHSDSRSLATLLLIRDIQSRRLPYRDTKSTSLRLS
GFSHNSWIREMQASDKSIIISEILDSRTRNLVSVSRISDYVLSNELVSMALAMVAEDKQ

INRVLEELFAEEGNEMCIKPAEFYLFQEEELCFYNIMIRGRTRKEIVIGYRLANQDRAII
NPSEKSVPRKWSLGDVFVVIKGD

>Gm-CASTOR (Soybean)

MSLDSETSGSARDWFFPSPSFLRSSSSQYGRRFYSNSKPHSPPSSSTRIRHRRRVKFPRT
PTNDKSQSDTENVKSSATARNNLICLSQFRFQFALVTLTIVFLLLLLRNTHLESQVTKL
QGEILGLNHRLHACHKLDTLVYTSSISQDVPWSRENFKRNLALFFSFTLLFIPLLIKFY
IGFVSKSRFSDNISEQVSLNKQIAYRVDVFLSVYPYAKPLVLLVATLLLIIFLGGALFGV
TTEDLAHCLWLSWTYVADSGNHASSQGIGPRLVAVSISFGGMLIFAMMLGLVSDAISEKF
DSLKRGKSEVVEQNHTLILGWSDKLGSLLNQLAIANESLGGGTAVMAERDKEEMELDIA
KMEFDKGTSVICRSGSPLILADLKKVSVSKARAIIVLAEDGNADQSDARALRTVLSLTG
VKEGLRGHIVVELSDLNEVLVKLVGGLVETVVAHDVIGRLMIQCARQPGLAQIWEDIL
GFENCEFYIKRWPQLEGMQFEDVLISFPAAIPCGIKVASYGKIIILNPDDSYVLQEGDEI
LVIAEDDDTYAPASLPTVWRGSLPKDFVYPKSPERILFCGWRRDMEDMIMVLDASLAHGS
ELWMFNDVPEKEREKKTLDGGLDINLENISLVNREGNAVIRRHLESPLSFDSILILA
DESVEDSAIQADSRSLATLLLIRDIQARRLPYVSMASQAHGGSFSKGSWIGEMKQASDKT
VIISEILDPRTKNLISMSKISDYVLSNELVSMALAMVAEDRQINDVLEELFAEEGNEMHI
RKADLYLCEGEELNFYEIMLRARQRREIVIGYRLANAERAVINPPVKTDRRKWSLKDFV
VITEKE

>Sb-POLLUX (Sorghum)

MAESDGGSEADSPSPDPRSGGGASPDPRPPRPQLTKSRTISGSAAASILAADRGGGGGG
GGGGLRDSILVRRSSTAPLPPSTASAAGASSAPRRLTVAVDDPSSYAAPNGGVLDRWCY
PSFLGPHASRPRPPRQQQTPTTTDRRSANPTVPVPPRVVVSQREEEKSLASVVKRPALLE
ERRPLPPIPPPAPRFDLSPYLPLLLVVTIASSTLAVWQWMKVMGLQEKIRSCSNGNAG
DREGTEKMSWIDRDHGSAFIGSGSWNLTPSGTIFALAVPLFLFKYIDQLRRRQTNSMRGR
SGEEEVPLKKRIAYKVDVFFSGHPYAKLLALLLATIVLIAWGGIALYVVS GSGFLEALWL
SWTFVADSGNHADQVGLGPRIVSVSISGGMLVFATMLGLVSDAISEKVD SWRK GKSEVI
EINHILILGWSDKLGSLLKQLAIANKSIGGGVVVLAERDKEEMEMDIKLEFDFMGTSV
ICRSGSPLILADLKKVSVSKARAIIVLASDENADQSDARALRVVLSLTGVKEGLRGHV

EMSDLNEPLVKLVGGELIETVVAHDVIGRLMIQCALQPGLAQIWEDILGFENAEFYIKR
WPELDGMRFGDVLISFPDAVPCGVKASKSGKILMNPDDDYVLREGDEVLVIAEDDDTYA
PAPLPEVNKGF LPNIPTPKYPEKILFCGWRRDIHDMIMVLEAF LAPGSELWMFNEVPEK
EREIKLTDGGLDIGGLTNIKLVHKEGNAVIRRHLESPLETFDSILILADESVEDSIVHS
DSRSLATLLLIRDIQSKRLPSKELKSPHRYNGFCHSAWIREMQHASDKSIIISEILDSRT
RNLVSVSKISDYVLSNELVSMALAMVAEDKQINRVLEELFAEEGNEMCIRSAEFYLYEQE
ELSFDMVRARERDEVVIGYRLANTDQAIINPEHKSDIRKWSLDDVFVVISKGD

>Sb-CASTOR (Sorghum)

MPLDPDSSSPPPAPPHRDWFPPAPPFLPSSRARTPRTPFPSTYRSSRPYSAYSLADRRP
PTTPRSRSRSPHPPEQQQLTPQPQPPSAPRRRDPYAGVRREDVRTAASEQAAAPKAA
PVHGRKPAASAIVPRWSGVL SAAVILLCLASLLRRNFSLHDQVYHLQEQLVATAKLQSC
IVDSSLDTSSINMFYQDANSTTQNRSLKYLSLLISLSVL YAPLLILKYVDLVSKIRSSRD
SEEVPI NKRFAYRVDIFLSLHPYAKPLVLLVATLLLIALGGLALYGVTDSDSLDCLWLSW
TFVADSGNHANAEGFGPKLVSVSISIGGMLVFAMMLGLVTDSISEKFD SLRKRSEVIEQ
SHTLILGWSDKLGSLLNQIAIANESLGGGTIVVMAERDKEEMEADI AKMEFDLKGTAVIC
RSGSPLILADLKKVSVSKARAI VVLAEEGNADQSDARALRTVLSLTGVKEGLSGHIVVEL
SDLDNEVLVKLVGGDLVETVVAHDVIGRLMIQCARQPGLAQIWEDILGFENCEFYIKRWP
KLDGMR FEDVLISFPDAVPCGIKVASYGGKIILNPDDCYVLQEGDEVIVIAEDDDTYAPA
PLPKVRRGYLPKDFVVPKSPERILFCGWRRDIEDMIMVLDAFLAPGSELWMFNDVPEVDR
ERKLIDGGLD FSRLDNITLVHREGNAVIRRHLESPL ESFDSILILADESVEDSAIQADS
RSLATLLLIRDIQAKRLPYKESLVSHVSRGTFSEGSWIGEMQQASDKSVIISEILDPRTK
NLLSMSKISDYVLSNELVSMALAMVAEDRQINNVL EELFAEQGNEMQIRPSDLYLREEEE
LNFFEVILRARQRKEIVIGYRLEAAERAIINPTDKVSRRRWSPKDV FVVI SEKE

Supplemental Figure 1. Alignment of the CASTOR and POLLUX homologs in plants. The alignment was based on C-terminal ~650 amino acids of the proteins. Sequence alignments were performed using ClustalX (Thompson et al., 1997).

Supplemental sequence data. The amino-acid sequences of CASTOR and POLLUX homologs were predicted using FGENESH+ (HMM plus similar protein-based gene prediction; <http://linux1.softberry.com/berry.phtml>). The *L. japonicus* CASTOR and POLLUX sequences were used as references. The nucleotide sequences were downloaded from the following websites: <http://www.ncbi.nlm.nih.gov/>; <http://www.phytozome.net/>; and <http://maizesequence.org/index.html>.