



<b>BphP</b>	<i>Dr BphP</i>	AQARALYTRHLLRLTADTRAAAVPLDPLVLPQTNAPTPLGGAVLRATSPMHMQYLRRNM
	<i>Nc CphB</i>	QQARKLYSQNWLRRLIPDAKYQPVPIVPIINPLNDQPLDLSRSVLRVSPHIEYMQNM
	<i>Ci CphB</i>	KQARQLYRDNWLRRLIPVDVYQPVALLPHHNPVTNQPTDLSHSVLRVSPHIEYLRNM
	<i>Pf BphP</i>	EQARELYRTNWLRRLIPNADYQPVLPKLRPDTQTPLDLSFATLRVSPHICQYMKNM
	<i>Ps BphP1</i>	EQARELYRRNWLRRLIPDANYTPVPLVPQLRPDTQQQLDLSFSTLRVSPHICQYMKNM
	<i>Ps BphP2</i>	AQARELYRLNWLRRLIPDATYVPPVALIPTLRPATGQPLDLSLSTLRVSPVHCEYLKNM
	<i>Pa BphP</i>	AQARRLYIQNPRLIADVAYTPMRVFPALNPETNESFDLSYSVLRVSPHICQYLRNM
	<i>Pp BphP1</i>	RQARELYRVNRIRVIEDANYQPSPLLPATNPRTGKPLDMSFAALRSVSPVHLYQYMRNM
	<i>Pp BphP2</i>	QQARALYLRNPIRVIDAQFNTVAINPVL . PSGEPLDLSYAHLSRVSPHICQYLRNM
	<i>EnvSeq-1</i>	AQARALYIRNRIRLIADAGYTPVPLVPPLHPLTGNPTDLYTSSLRVSPVHLYQYMRNM
	<i>EnvSeq-2</i>	SQARALYLKNRVRCVFDVEHPPIALIPVQFAERPPMDLSMSMVRVSPVHLYQYMRNM
	<i>EnvSeq-3</i>	EQARELYRTNWLRRLIPNASYEPVLPKLRPDTGQPLDLSFATLRVSPHICQYMQNM
	<i>EnvSeq-4</i>	SQARELYLKNRVRVDFVEEQVIGLKPVSREAERPPLDLSMSMVRVSPMHIAYLKNM
	<i>EnvSeq-7</i>	AQARALYKTNWVRLTPDTELLPAKLVLPSTEASGREPLDLTRSLRTRTFSPHLYQYLRNQ
	<i>EnvSeq-12</i>	RIARELYLKNPWRLIPNAPAAPLPIR . . . SLTGRPPDLSMSDLRSVSPHIVAYLANM
	<i>Xc BphP</i>	AQARALYLRNRVRIADVGYQPSPIQPTVHPQLGTPVDLSDVLSRVSPVHLEYLANM
	<i>Xa BphP</i>	AQARALYLRNRVRIADVRYQPSPIQPTLHPRLGTPVDLSDVLSRVSPVHLEYLANM
	<i>Ra BphP</i>	QIARALYLRQRVGAITADACYRPVPLLGHPLEDDGKPLDLSHSSLRVSPHLYQYMRNM
	<i>Kr BphP</i>	AQARRLYTLNWRRLIADVDYVPSPLHPLDPTGAPLSDLSHSVLRVSPHVEYLRNM
	<i>Mm BphP</i>	VIARDLYTLNRQYIRDALAGSVPIG . . CDPADGAPDQTFGLRSVSPMHLTYLGNM
<i>Cyh BphP</i>	VQARELYIKNLRVIGDVNYKPVPIYTIIDS . ENQNLDSLSCVLRVSPHIVQYLRNM	
<i>Rr BphP</i>	AQARALYSRNLRSIPDVHYRPLPLVGRSP . DGRELDMTFCNLRVSPVHLEYLRNM	
<i>Rc Ppr</i>	RQARELYSQSLSRHVPDRDYVPPV . VHRIE . . GTEPLDLSFSRHRSLSPVHLYQYLRNM	
<i>Ri BphP</i>	VQARALYLRNLRRLIADVDVAVPVPILPPLD . EHGQPLDLSMSVLRVSPHIEYLRNM	
<i>At BphP1</i>	PQARQLYTIINRLRMIIPVDYKPVPIRPEVNAETGAVLDMFSFQLRSVSPVHLEYMRNM	
<i>At BphP2</i>	QQARALYLRNLRRLIISDASGTRIPVLPVAVD . VSGEPLDLSYAHLSRVSPHICQYLRNM	
<i>Br BphP</i>	QIARRLYERNRVRLLVDVNYTPVPLQPRIISPLNGRDLDMSLSCLRVSPHIVQYLRNM	
<i>Rp BphP1</i>	AQARRLYTINPVRIPDINYPVPTPDLNPTVTRPIDLSFAILRSVSPVHLEYMRNM	
<i>Rp BphP2</i>	AQSRALYTIINPVRIPDIGYRPSPLVPDINPRLGGPIDLSFVLSRVSPHILEYMRNM	
<i>Rp BphP3</i>	APARRLFALSWSVRLHLPDVGYPVPLLAAKSPLVTGPVDMSFASLRVSPVMTGYLKNM	
<i>Rp BphP4</i>	NQPGSIS . . RIRVQPDVHAPAAPLWPAHSPRNLALDLSFSATRSASPEHRLYLAQL	
<i>Rp BphP5</i>	QQARLLYLKNAIRVISDSRGISSRIVPERD . ASGAALDLSFAHLRSVSPHILEYLRNM	
<b>Fph</b>	<i>Nc Phy1</i>	PQARKLYMIKVRVLFDRSQRTSRLIGRDVSDMDVPLDLDLTHAYLRAMSPVHLKYLNSNM
	<i>Nc Phy2</i>	SQARELYKLNKVRLLYDRDVESARIVCRTPEDLETPLDMTHSYLRAMSPHILKYLNSNM
	<i>Um Phy</i>	AQARALYKINKVRLYDRDQPTARMICRDQADLDFPVDMTAHFIRAMSPHILKYLNSNM
	<i>Gz Phy</i>	RQARDLYKLNKINCLPNKRRRPHS . . . ARHEPILLSASHVAYSYH . . . . . YLKNM
	<i>Bf Phy1</i>	KQARELYKVNKVRLLYDRDLETARLVCRGVEELENPLDLSYAYLRAMSPHILKYLNSNM
	<i>An Phy</i>	KQARDLYRINKVRLYDRDHVTARLVCRALDLETPLDMTHAYLRAMSPHILKYLNSNM
	<i>Gm Phy</i>	RQARDLYKLNKVRLLYDRDQDTSRIVCRTKEDLDVPLDMSHSLRSVSPHILKYLNSNM
<i>Ch Phy</i>	KQARELYKINKVRMLYDRDLQATARLVCRTAEDLEVPLDLDLTHSYLRAMSPHILKYLNSNM	
<i>Bf Phy2</i>	KQALDLYKINRIRMLHLDREKRTARLVCRHQSDFEKPLDLDLTHAYLRAMSPHILKYLNSNM	
<b>Cph</b>	<i>Sy Cph1</i>	QPARRLFIHNPRIVPIPDVYGVAVPLTPAVNPSTNRAVDLTESILRSAYHCHLTYLKNM
	<i>Sy Cph2-A</i>	PQAREELGNQRKMIAVDVAHRRKK . . SHELSGRISPTHEHSNGHYTTVDSCHIQYLLAM
	<i>Nc CphA</i>	KPARKLFIINSITRVIIPNAQAQAIQMI PALNPVSDRPVLDLNSILRSAAACHLEYLHNM
	<i>Np Cph1</i>	KPARKLFAANSIRIIPDAYSQPVKLPVNNPISDRPINLNTNSILRSAAACHLEYLHNM
	<i>Np Cph2</i>	AQARELYTRCFRFLRPLDLTAEPVKLVPTENPTTHQHLDLSYCLLRSFDWCCAEYHQN
<i>Ci CphA</i>	KPARKLFAANSITRILIPDAHAEPVQILPINHPQSQPIDLNTSILRTAANCHLEYLHNM	
<i>Cw Cph</i>	LPARRLFSSNYIRLIPDAKATGIDLFSKLHPLNDTALDLDLTHSILRSASPECHLEYLHNM	
<b>plant phy</b>	<i>Ath phyA</i>	QAARFLFMKNKVRMIVDCNAKHARVLQDEKLS . . FDLTLCGSTLRAPHSCHLQYMANM
	<i>Ath phyB</i>	QASRFLFKQNRVRMIVDCNATPVLVVQDDRLT . . QSMCLVSGSTLRAPHGCHSQYMANM
	<i>Ath phyC</i>	QASRFLFMRNKVRMIVDCSAPVVKVQDKLS . . QPISLSGSTLRAPHGCHAQYMSNM
	<i>Ath phyD</i>	QASRFLFKQNRVRMIVDCYASPVVRVQDDRLT . . QFICLVGSTLRAPHGCHAQYMTNM
	<i>Ath phyE</i>	QAARFLFKQNRVRMIVDCNATPVKVVQSEELK . . RPLCLVNSTLRAPHGCHTQYMANM
<b>Phy-Like</b>	<i>Gv Cph</i>	DGYQEQRRRGRI GAIADIE . . . . . TAPIQPCHADFTRRF
	<i>Te Cph</i>	RESAEAYVQGRVLAIAIDIN . . . . . TATLAQCHRDFLSOL
	<i>Av Cph</i>	ETHGEEKYRQGLQAIADIY . . . . . AEDISECHRDLLIQF
	<i>Syn P1pA</i>	PECYQRVYLNQYIYASRDQL . . . . . PDCATNCAVQCFTVA
	<i>Syn TaxD1-C</i>	DSYVEKYRSGRIQATRDYIY . . . . . NAGLTPCHIGQLKPF
	<i>Fd RcaE</i>	QEYQQLVYAQGRVRAIADVHD . . . . . PTAGLAECLVEFVDQF
	<i>Syn RcaE</i>	VEYHQAYTKGKVRAINDID . . . . . QDDIEICLADFKVQF
	<i>Syn TaxD1-N</i>	HPWGQEDMPSQIVAINDT . . . . . GASISNPHRQWLEQH
	<i>Syn Cph2-C</i>	GHYLRVYRGRVRAVSDIE . . . . . KADLADCKKELLRYH
	<i>Se CikA</i>	LSVIDPLVQPGLLITTEEW . . . . . QRFOQGETLLIDSVGFYKERLEQYSFYERY
	<i>Ma BphP1-N</i>	KLYSKAINGIQVQVNSETA . . . . . GTAAGTGKRVIVGNIMKDPFCRECREIAQKV
	<i>Ma BphP1-C</i>	VKSMGLWGEAVRQRKPIIT . . . . . NDYPAPNPLKKGYPKNN

<b>BphP</b>	<i>Dr BphP</i>	G.VGSSLSVSVVVGG.....QLWGLI.ACHHQTQYVLP..PDLRRTTL
	<i>Nc CphB</i>	G.VGASLTISLIKDN.....KLWGLI.ACHHLSAKYIP..YEIRSAC
	<i>Ci CphB</i>	G.VKASMSISLLKNQ.....KLWGLI.ACHHESPKYVY..YEIRSAC
	<i>Pf BphP</i>	G.VLSSMSISLLKGD.....KLWGLI.SCGNRQPLHVP..HELRTAC
	<i>Ps BphP1</i>	G.VLSSMSVSLIQGG.....KLWGLI.SCGHRTPLYVS..HELRSAC
	<i>Ps BphP2</i>	G.VRSSMSISLLDGG.....ELWGLI.TCSHPEPLLV..RELRDAC
	<i>Pa BphP</i>	G.VRASMSISIVVGG.....KLWGLI.SCHHMSPKLIP..YPVRMSF
	<i>Pp BphP1</i>	G.TLASMSLSIVVDG.....QLWGLI.SCHHQQRPVVD..LRTRTAC
	<i>Pp BphP2</i>	G.VGASMSISIVVNG.....ELWGLI.ACHHYAPRTLA..MGQRVAA
	<i>EnvSeq-1</i>	G.TLSSMSMSIVVRG.....QLWGLI.SCHHDTARIPS..FEVRAAC
	<i>EnvSeq-2</i>	G.IRSSFSVSLVFEQ.....KLWGLI.ACHNNEPKYID..QKKRLVC
	<i>EnvSeq-3</i>	G.VLSSMSISLMKGD.....KLWGLI.SCGNREPLLV..NDLRMAC
	<i>EnvSeq-4</i>	G.VRSSFSVSLVFEQ.....KLWGLI.ACHNSKPAYID..QKKRLVC
	<i>EnvSeq-7</i>	G.LRASFSISLVTDG.....ELWGLI.SCHHREACYIP..QDVRLOC
	<i>EnvSeq-12</i>	E.VLASLSLPVIAAK.....SLWGLV.ACHSRSPTLIG..LETLSAA
	<i>Xc BphP</i>	G.VTATLVASIVVND.....ALWGLI.SCHHYSPHFTN..HAMRDVT
	<i>Xa BphP</i>	G.VSATLVSIIVVND.....ALWGLI.SCHHYSPHFTS..HAMRDAT
	<i>Rs BphP</i>	N.TAASLTIGLADG.....RLWGLI.VCHNTPRIAG..PEWRAAA
	<i>Kr BphP</i>	G.VGASMSISLIVEG.....RLWGLV.ACHHYSGAHRPG.YDAQSAA
	<i>Mm BphP</i>	G.VRASFSASILMRG.....KLWGLI.ACHHPEPKPLS..LDVROQL
	<i>Cyh BphP</i>	G.VGATLTISLIHKK.....KLWGLV.ACHHYSPLYLH..YETKLA
	<i>Rr BphP</i>	G.VAASFSVSLVVDG.....RLWGLV.ACHDRVPRRLS..LATMGAC
	<i>Rc Ppr</i>	G.VTASMSFSLVVEG.....RLWGLV.AAHHRQPHHVA..IPRRSAA
	<i>Ri BphP</i>	G.VGASLSISIVVDG.....KLWGLI.ACHHYSPLYLH..YETKLA
	<i>At BphP1</i>	G.TAASMSVSIIVVNG.....ALWGLI.ACHHATPHSVS..LAVREAC
<i>At BphP2</i>	G.VAASMSISIVVDG.....ALWGLI.ACHHYSPRVLS..MPVRIAA	
<i>Br BphP</i>	G.VGATLVCSLMVSG.....RLWGLI.ACHHYEPRFVP..FDIRAAAG	
<i>Rp BphP1</i>	G.MHGTMSISILRGE.....RLWGLI.ACHHRKPNYVD..LDGRQAC	
<i>Rp BphP2</i>	G.MHAAMSISIVRDN.....RLWGLI.SCHNLTFRFVS..YEVROAC	
<i>Rp BphP3</i>	G.VQSTLVMPPLVKEG.....RLWGLI.SAMHHAAPRHIS..HQMRMAA	
<i>Rp BphP4</i>	G.VAASLSLSLVVEG.....ELWGLI.VCHHATPRFLP..YRMREAC	
<i>Rp BphP5</i>	G.VSASMSLSIITIDG.....TLWGLI.ACHHYEPRFVP..MAQRVAA	
<b>Fph</b>	<i>Nc Phy1</i>	G.VRSSMSMSLESDDG.....KLWGLI.VCHSYGPAATRVPFSIRELS
	<i>Nc Phy2</i>	A.VRSSMSISINAFG.....DLWGLV.SCHSYGPKGMRVSPPIRKM
	<i>Um Phy</i>	G.VRSSMSVSTAFG.....ELWGLI.SLHNYGAGHKRVSPPIRQLL
	<i>Gz Phy</i>	A.VRSSMSISINAFN.....ELWGLI.SCHSYGNHGMRVSPPIRKM
	<i>Bf Phy1</i>	A.VRSSMSISINAFG.....ELWGLI.ACHTYGPKGMRVSPPIRKM
	<i>An Phy</i>	Q.IRSSMSISINSMN.....DLWGLI.SCHSYGPKGMRVSPPIRKM
	<i>Gm Phy</i>	A.VRSSMSISINAFN.....ELWGLI.SCHSYGNHGMRVSPPIRKM
<i>Ch Phy</i>	A.VRSSMSISINAFG.....ELWGLI.ACHTYGPKGMRVSPPIRKM	
<i>Bf Phy2</i>	G.VRSTMSVSIIVNG.....DLWGLI.ACHGYGSHGTRVTLPMRELA	
<b>Cph</b>	<i>Sy Cph1</i>	G.VGASLTISLIKDG.....HLWGLI.ACHHQTQPKVIP..FELRKAC
	<i>Sy Cph2-A</i>	G.VLSSLTVPVMQDQ.....QLWGLI.AVHHSKPRRFT..EQEWETM
	<i>Nc CphA</i>	G.VTASMSISIMKNQ.....KLWGLI.ACHHQSPLYVS..YELRKAC
	<i>Np Cph1</i>	G.VGASLTISLIKDQ.....KLWGLI.ACHHQSPLYVS..YELRKAC
	<i>Np Cph2</i>	G.VKALLVISLIQEQ.....KLWGLI.SCHHQTQPKYIS..YEVKMKC
	<i>Ci CphA</i>	G.VGASLTISLIKDG.....KLWGLI.ACHHQTQPKYVS..YEFKAC
<i>Cw Cph</i>	G.VGASLTISLIDDR.....KLWGLI.ACHHLTQPKYVY..YELRKAC	
<b>plant phy</b>	<i>Ath phyA</i>	D.SIASLVMVVVNEEDGEEDGAPDATTQPQKRKLWGLV.VCHNTTFRFVP..FPLRYAC
	<i>Ath phyB</i>	G.SIASLAMAVIINGNEDDG..SNVASG.RSSMRLWGLV.VCHHTSSRCIP..FPLRYAC
	<i>Ath phyC</i>	G.SVASLVMSTINGSDDSD..EMNRDLQGRHLWGLV.VCHHASPRFVP..FPLRYAC
	<i>Ath phyD</i>	G.SIASLAMAVIINGNEEDG..NGVNTGGRNSMRLWGLV.VCHHTSARCIP..FPLRYAC
	<i>Ath phyE</i>	G.SVASLALAVVVGK.....KDSKSLWGLV.VGHCSPRFVP..FPLRYAC
<b>Phy-Like</b>	<i>Gv Cph</i>	A.VRANLVVPILQ.....REQWLWGLLIAHQCSAPRQWS..TFETELL
	<i>Te Cph</i>	Q.VRALLAVPIIQEER.....LWGLFLCHHCSSARPWA..NDEVELI
	<i>Av Cph</i>	Q.VKANLVVPILQGEK.....LWGLLVTNQCGTSRHWQ..SWEIDL
	<i>Syn PlpA</i>	E.SQSRIVAPIVFDHS.....LWGLLIVHQCSSRTWQ..TAEIQLM
	<i>Syn TaxD1-C</i>	E.VKANLVAPINYKN.....LWGLLIAHQCSGPRDWH..QNEIDLF
	<i>Fd RcaE</i>	H.IKAKLIVPIVQNLNANS.....QNQLWGLLIAHQCDSVRQWV..DFELEM
	<i>Syn RcaE</i>	G.VKSKLVVPIIQHNRASSLD..NESEFPYLWGLLITHQCAFTRPWQ..PWEVELM
	<i>Syn TaxD1-N</i>	Q.VKASLTVPLHRDN.....YPLGLLMAHHCQRPHQWE..MREQOFL
	<i>Syn Cph2-C</i>	Q.VKANLVVPPVFNEN.....LWGLLIAHECKTPRYWQ..EEDLQLL
	<i>Se CikA</i>	Q.VRSVCKIPILVQG.....RLWGLLVVAHQCDHRWQ..PRELDIL
	<i>Ma BphP1-N</i>	G.LKACWAEPFSSGG.....EVLGVFTIYLRRETRKPRE..EELEFI
	<i>Ma BphP1-C</i>	VHLIRHLNIPVFDGK.....RIVAVAGVGNKEENYDES..DVRQL

Supplemental Figure 1-Page 4. Karniol et al.

<b>BphP</b>	<i>Dr</i> BphP	EYLGRLLSLQVQVKEAADVAA	326
	<i>No</i> CphB	EFLGQMTSVEMSAKEDSEDT	326
	<i>Cf</i> CphB	EFLGQMTSLELAAKEDSENTE	343
	<i>Pf</i> BphP	QTIGQVLSLQISAMEALEVSR	322
	<i>Ps</i> BphP1	QAIGQVLSLQISAMEALEVSR	322
	<i>Ps</i> BphP2	AMIGQLLSVKISAIIVATHIQ	322
	<i>Pa</i> BphP	QIFSQVCSAIVERLEQGRIAE	313
	<i>Pp</i> BphP1	ELLASVLSLQTESRESHASTR	333
	<i>Pp</i> BphP2	EMFGEFFSLHLETLLRSRQKLE	314
	EnvSeq-1	EHTAEVLSLQIEAKEEHAQAA	327
	EnvSeq-2	ESLGHLIYAWQLHTKALHEK . .	321
	EnvSeq-3	QTIGQVLSLQISAMEALELSR	166
	EnvSeq-4	ESLGHLIYAWQLHTKALHKKKE	184
	EnvSeq-7	ENLSQLFSWHLLAKEEEI AKR	345
	EnvSeq-12	RSIVKHYNMALLQSHAEERIR	319
	<i>Xc</i> BphP	DAVARTLAGRIGALQAVARAR	318
	<i>Xa</i> BphP	DAVTRALAGRIGALQAVGRAR	318
	<i>Rs</i> BphP	GMIGQVVSLLLSRRLGEVENAA	401
	<i>Kr</i> BphP	EFLSQTASQLTGERARSQERD	334
	<i>Mm</i> BphP	VKIARDFSVGLLVYIASIHLK	316
	<i>Cyh</i> BphP	KLQGHFITSQIEIREQNEQYA	318
	<i>Rr</i> BphP	QVYAETIAQQLRLDNRTRRSR	311
	<i>Rc</i> Ppr	MTVVEAVALSTAAVERAEAMR	461
	<i>Rf</i> BphP	ELFGQMFASRLESRRERLALD	317
	<i>At</i> BphP1	DFAAQLLSMRTAMEQSSQDAS	316
	<i>At</i> BphP2	EMFGEFFSMHLQVLKQKRRLD	314
	<i>Br</i> BphP	EALAECAIRTAALLESFAQSQ	318
	<i>Rp</i> BphP1	ELVAQVLAQWIGVMEEQAITR	321
	<i>Rp</i> BphP2	ELIAQVLTWQIGVLEEAIEIVR	335
	<i>Rp</i> BphP3	EFLAHTLSLLMSAKEDAEQFE	329
	<i>Rp</i> BphP4	ALFAEMASLQLETRLAADQLA	325
	<i>Rp</i> BphP5	EMFADFFSLHFTAHHQRRFQ	314
	<b>Fph</b>	<i>Nc</i> Phy1	FFVGLAASTCLQKLLNSERLQ
<i>Nc</i> Phy2		RLIGDTASRNTERLSYASRLQ	672
<i>Um</i> Phy		RLIGESVSSNTERLSYTRRLS	651
<i>Gz</i> Phy		RLVGDTASRNTERLSYASRLQ	667
<i>Bf</i> Phy1		RLVGDTASRNTERLSYASRLQ	281
<i>An</i> Phy		RLIGDTVSRNTERLSYASRLQ	572
<i>Gm</i> Phy		RLVGDTASRNTERLSYASRLQ	617
<i>Ch</i> Phy		RMIGDSASRNTERLSYASRLQ	602
<i>Bf</i> Phy2	RNIGECASTNTERLLMRQRIE	542	
<b>Cph</b>	<i>Sy</i> Cph1	EFFGRVVFNSISAQEDTETFD	326
	<i>Sy</i> Cph2-A	ALLSKEVSLAITQSQLSRQVH	196
	<i>Nc</i> CphA	EFLGRVIFAETISAREETEDYD	326
	<i>Np</i> Cph1	EFLGRVIFAETISAREETEDYY	326
	<i>Np</i> Cph2	EFLGQIVSSELAHKISSSEWD	324
	<i>Cf</i> CphA	EFLGRVIFTEISTREETEDYD	326
	<i>Cw</i> Cph	EFLGQVVFSETSAKEETKDYD	160
<b>plant phy</b>	<i>Ath</i> phyA	EFLAQVFAIHVNKEVELDNQM	408
	<i>Ath</i> phyB	EFLMQAFGLQLNMELQLALQM	435
	<i>Ath</i> phyC	EFLTQVFGVQINKEAESAVLL	399
	<i>Ath</i> phyD	EFLMQAFGLQLNMELQLALQV	443
	<i>Ath</i> phyE	EFLMQAFGLQLQMEQLASQL	393
<b>Phy-Like</b>	<i>Gv</i> Cph	LQLADQMGIALAAQAQLLEQET	331
	<i>Te</i> Cph	RQLGEQLSFGIHRRAELVSALH	685
	<i>Av</i> Cph	QQLATQVGIAIQQSELYEQVR	195
	<i>Syn</i> PlpA	QSLGNQLAIAIQQSLLYERLQ	852
	<i>Syn</i> TaxD1-C	GQLTVQVGLALERSDLLAQKQ	660
	<i>Fd</i> RcaE	QQLADQISIALSQAQLLGRLE	272
	<i>Syn</i> RcaE	KQLANQVAIAIQQSELYEQQL	221
	<i>Syn</i> TaxD1-N	QQLTEELQTTLDLANLIQERN	488
	<i>Syn</i> Cph2-C	MELATQVAIAIATHQGELYEQLE	1090
	<i>Se</i> CikA	QHLAEHLSIAIYQAQLYGQLQ	353
<i>Ma</i> BphP1-N	RTNAYLAGIAIEHVQAADALK	467	
<i>Ma</i> BphP1-C	TLLMQGMWQLIQRKQLEEAR	761	





<b>BphP</b>	<i>Dr BphP</i>	LVQTDALGQLWPAG..ADLAPSAA*GLLAISVG...EGWSECLVWLRPELRLEVAWGG.*
	<i>Nc CphB</i>	IFATDSLATVYPDA..EKLRDVASGLLIALSISR...SQ.KNYILWFRPEVVRTVDWGCN
	<i>Ci CphB</i>	VFHTNCLSEL.LPEA..SEWKDVASGLMALSISK...SQ.KSYLLWFRPEALQTVDWAGN
	<i>Pf BphP</i>	VFASHHLASV.YPPA..AHYQVASGVLAMSLPK...PV.DNGVLWFRPEVKENINWSGD
	<i>Ps BphP1</i>	VYASHHLSSV.YPPG..EAYQTLASGVLAMSLPK...PV.DNGVIWFRPEVKQSVQWVSGD
	<i>Ps BphP2</i>	VFHTDSMQRE.RPES..AAYRETASGVIAFTLPK...PV.DNAVMMWFRSOLASTMWNWVSGN
	<i>Pa BphP</i>	IYHTDNWPPQ.SEDS..PD.GGDCCGVLAIRFHRQE...SGWIFWFRHEEVHRIIRWVCGK
	<i>Pp BphP1</i>	VFHSDNIRRD.ITEL..PELANHAGGVLAVAISQ...IH.SHYLLWFRPEQIRTVNVAWGO
	<i>Pp BphP2</i>	IWASNRLSTV.LPSA..QAYFNDVSGVLIIPMSQHP...RDYLIFFRKEVETLVDWAGD
	<i>EnvSeq-1</i>	TFHTDRIATT.CPIL..DPHPNYA.GMLAVSISK...LF.RNYVLWFRPEVQTIKWAGD
	<i>EnvSeq-2</i>	SIATSKLAEE.VSEQ...CDLNGIRGMYISCVSAKL...GYTTVWFRPEQKDKTIRWAGR
	<i>EnvSeq-3</i>	VFSSHNLASV.YPPA..AEYQSVASGVLAMSLPK...PV.DNGVLWFRPEVKENINWVSGD
	<i>EnvSeq-7</i>	SIAINRIANE.VSDS...CNLNGIRGM.....
	<i>EnvSeq-8</i>	.YTNDALY.....
	<i>EnvSeq-12</i>	LWHTVSLTQT.FPGI..APLPVAGLMALKLPKNSE.....FWIFRFPETIQEIAWGCN
	<i>Xc BphP</i>	ALHVDALGEV.FPEL..ADLAPLAAGFIFVPLMPQS...RSALLWTRREIQIQKWAGN
	<i>Xa BphP</i>	ALHVDALGEV.FPEL..ADLAPLAAGFIFVPLMPQS...RSALLWTRREIQVQVQKWAGN
	<i>Rs BphP</i>	VLSLDDVTLR.HPEL..PELLAAGSGILLPLTSQD...GDLIWFRPEHVQTTWGCN
	<i>Kr BphP</i>	PTFTDHLPTL.DPGL..AEVAQTAAGALRVGIDG...TGW...LLWLRPERPRLLDWVSGD
	<i>Mm BphP</i>	FASTAHLAAQ.IPEA..ETFRAQASGVIALRVRLAWLSGSSLRWFWRREWPHLVQWAGD
	<i>Cyh BphP</i>	.QYATHFITAEPLDFK.NITASGIAGINYHALDKTS...NSCIMWYKPEITITEVWAGD
	<i>Rr BphP</i>	LLLSERLGGGR.LRLP..AELAGSFVGGVLLPLSDQP...DRDFLLLRPETLRSIEWAGR
	<i>Rc Ppr</i>	LFRTSSLSSV.FPDA..TAYRQKASGCLALRLSG...GDFVMWTRPEEPRQITWGGD
	<i>Rl BphP</i>	IYAVDRILAET.YPDL..EV.DDAVAGMLAIPISRSP...RDYVVLFRQELVTRVWCGD
	<i>At BphP1</i>	VFATDNLAGN.YPTA..AAYASVASGILAMRVSE...LH.GSWLIWFRPEVIKTRVWCGD
	<i>At BphP2</i>	VWATHALSQA.IPEA..EYAGTAA.GMLAIPLSQVK...SDYLLFFRKEIVQNLNWAAGN
	<i>Br BphP</i>	LTVTASLTLTLD.DPSF..ADIRSIASGLIAAPLSA...SEG.EYLLWFRPEQVRTVTVWCGD
	<i>Rp BphP1</i>	LFQTDRLSTI.IPEA..GAFAEVASGLAVPLSR...TPRRVMLWFRPEVAQTIVWAGN
<i>Rp BphP2</i>	IFQTTQLSAS.FPEA..EVYSDIASGLLAVPLGR...AS.TTLMLWFRPEVAQTVTVWGGD	
<i>Rp BphP3</i>	FA.TDRIPNL.DPAA..QAVASQASGVLALRP...LPDQPMLIAWLRPEQIEDVQWAGD	
<i>Rp BphP4</i>	VYHTDCLALA.YPPA..KAFAGCASGLLALSLSN...TP.HNYVLWFRPEVVRVTVWAGM	
<i>Rp BphP5</i>	IVATHALTDR.IAAA..TDYAGAAA.GMLAIPLSQVA...GDYLLFFRKEQVQTLNWAAGD	
<b>Fph</b>	<i>Nc Phy1</i>	ILFSHNIGDD.FKDLHFPSPGFKAIAGVLYIPLSSTT...DDCVVFFYRKNQIREVHWAGR
	<i>Nc Phy2</i>	VVTSQDIKID.FPDLRYPPGFQVIAGLLYVPLSVGG...NDFIVLFRKGQVREVKWAGN
	<i>Um Phy</i>	LVTSQDVHRD.FPDMVLSTGLHVIAAGLLVPLSGSG...VDFIAFLRKAQLRHVNWVAGK
	<i>Gz Phy</i>	VVASQDVSED.FPDLRYPPGFQVAVAGLLYVPLSVGG...SDFIVFFFRKGQIKEVWVAGN
	<i>Bf Phy1</i>	VVTSQDIKID.FPDLRYPPGFNVIAAGLLVPLNSEG...DDFIVFFFRAGQITNVKWAGN
	<i>An Phy</i>	VLTSNHIKID.FQDLNYPGPFKDISGLLYVPLSTDG...LDFIVFFFRGQLTEVWVWGCN
<i>Gm Phy</i>	VVASQDVKED.FPDLRYPPGFQVAVAGLLYVPLSVGG...NDFIVFFFRKGQIKEVWVAGN	
<i>Ch Phy</i>	VMTSTDIATD.FPDLRYPPGFHAIAGMLIVPLSVDG...EDFIVFFFRKGQLRQVWVWAGN	
<i>Bf Phy2</i>	IFSTHNIKID.LPKLKDSPAINSVAGILVIPLSTGG...NDFLIVFFFRGQLREVWVWAGN	
<b>Cph</b>	<i>Sy Cph1</i>	VFFTSSLSQI.YPDA..VNFKSVASGLLAIPIA...R.HNELLWFRPEVLQTVNWAAGD
	<i>Nc CphA</i>	VFYTDSLQV.YPDA..ERYKNVASGLLAIPIS...Q.RNYVLWFRPEVIQTVNWAAGD
	<i>Np Cph1</i>	VFYTDSLQV.YPDA..ESFKNVASGLLAIPIA...K.RTYVLWFRPEVIQTVNWAAGD
	<i>Np Cph2</i>	LFSTDSLQV.YPDA..LIFKDTASGLLLLRISK...VR.RYVILWFRPEVIQTVNWAAGN
	<i>Ci CphA</i>	VFYTDSLQV.YPDA..EKFKNVASGLLAIPIS...K.RNYVLWFRPEVIQTVNWAAGN
<i>Cw Cph</i>	VFSTPSLPHL.YADA..RNFKNVASGLLAIKIS...H.RNYILWFRPEVIQTVNWAAGD	
<b>plant phy</b>	<i>Ath phyA</i>	.LSTDSLHDAGFPRA..LSLGDVCGMAAVRISS...KDMIFWFRSHTAGEVVRWGGAA
	<i>Ath phyB</i>	.LSTDSLGDAGYPGA..AALGDAVCGMAVAYITK...RDFLWFRSHTAKEIKWGGAA
	<i>Ath phyC</i>	.FTTESLMESGYPPDA..SVLGESICGMAAVYISE...KDFLWFRSSTAKQIKWGGAA
	<i>Ath phyD</i>	.LSTDSLGDAGYPPRA..AALGDAVCGMAVACITK...RDFLWFRSHTAKEIKWGGAA
	<i>Ath phyE</i>	.LSTDSLVDAGYPGA..ISLGDVCGVAAAEEFSS...KDYLLWFRSNTASAIKWGGAA

			* * * * *		
	<i>Dr</i> BphP	.....ATPDQAKDDL	GPRHSFDTYLE	EKRGYAE	PWH 484
	<i>No</i> AphB	PHKPVE.VIA.NGEIRLS	SPRKSFDLWKE	TVLLKSQ	PW. 490
	<i>Cl</i> CphB	PHKPVE.LAD.DGSLRLS	SPRKSFDLWKE	IVQRQSL	PW. 507
	<i>Pf</i> BphP	PRKPLDLENSDAGLR.	LRPRTSFEIWKVEMAGIST	KWS	488
	<i>Ps</i> BphP1	PNKPLNLDASDNTLR.	LQPRTSFEIWKVEMTGIAT	KWS	488
	<i>Ps</i> BphP2	PAHHVSTRAAGSASHGLR	PROSFDVWQOEVTGIAR	PWS	504
	<i>Pa</i> BphP	PEKLLTIGPS...GPR	LTPRGSEAWEEVVRGH	STPWS	475
	<i>Pp</i> BphP1	PTKQVG.PQG.....NLD	PRHSFERWQEEQ	RGYSQAW.	493
	<i>Pp</i> BphP2	PNKTYDSGAL...GDR	LTPRKSFAIWKET	VHQQSLP	PWT 478
	<i>EnvSeq-1</i>	PRAKLQ.SQS...GTL	SPRKSFDAWTET	TVRGRSL	PWR 487
	<i>EnvSeq-2</i>	EAANKDVGKV.....L	TNRNSFDMLQSV	ADESVE	WS 483
	<i>EnvSeq-3</i>	EQKPL.....			300
	<i>EnvSeq-7</i>				
	<i>EnvSeq-8</i>				
	<i>EnvSeq-12</i>	PHKPVETDAS...GT	GISPROSFERWIE	KRVGQSL	PWN 479
<b>BphP</b>	<i>Xc</i> BphP	POLAKLEDIP...NSR	LSPRKSFDLWQOT	TVRGRARR	WS 490
	<i>Xa</i> BphP	POLAKLQDIP...NSR	LSPRKSFDLWQOT	TVRGRARR	WS 490
	<i>Rs</i> BphP	PAEHGTWNP...TQR	MRPRAFDWAKET	VTGRSL	PWT 565
	<i>Kr</i> BphP	PHHAEI.TRVEGLEVRIS	SPRKSFEKWEVVRGR	STTW	497
	<i>Mm</i> BphP	PTKP...GSGGV...L	TPROSFTTWSELAR	GRARP	W. 479
	<i>Cyh</i> BphP	PNKAI EKDKN...GL	S PRKS FELWGEK	VKNQSI	PWS 482
	<i>Rr</i> BphP	PEKQPEITPE...GGL	KIHPRTSFSLWRE	EVGRSR	VAFD 470
	<i>Rc</i> Ppr	PAKALG...AAGQR	PMPRISEFDRWVE	ERRGHA	APWP 622
	<i>Rl</i> BphP	PHKPV EYGP...GPR	LTPRKSFEAWSEL	VVRGRSL	PFT 480
	<i>At</i> BphP1	PHKTVQ.ESG...RI	HPRKSFEIWKEL	RNTSFP	PWS 480
	<i>At</i> BphP2	PEKSYETGPM...GDR	LTPRKSFAIWKET	VRLQA	APWS 478
	<i>Br</i> BphP	P...LKA.VIIGDD	PSDLSRRSFAQW	HQLVEG	KSEPWS 488
	<i>Rp</i> BphP1	PDKSVT.AES...GR	LRPRTSFAAWTE	QTHGRA	IAW. 483
	<i>Rp</i> BphP2	PHKPVQ.IGPR...GRR	LQTRAFEAWR	EEVDRDR	SRPWR 499
	<i>Rp</i> BphP3	PRKPV E.ISDADGM	QRLRPRNSFAL	WKESVQ	GRAVPWR 496
<i>Rp</i> BphP4	PNKPVG...VDAGAP	RTPKGCASSWQ	ESVRLH	GEPPW. 487	
<i>Rp</i> BphP5	PNKTYDTGPL...GDR	LTPRKSFSIWK	EQVDGQ	SVPWS 478	
<b>Fph</b>	<i>Nc</i> Phy1	PSLA.GKIGR.....L	EPRNSFKKWTE	VVDGTS	KAWS 662
	<i>Nc</i> Phy2	PHEKTIQAGS...AAY	LEPRKSFKVWYET	TVIGKS	REWS 830
	<i>Um</i> Phy	PFKE.GKEG...EA	ILEPRKSFKVWSE	TVEGTC	RAWK 807
	<i>Gz</i> Phy	PYEK FVREGT...AG	YLEPRKSFKTW	HETVVG	KCREWN 825
	<i>Bf</i> Phy1	PYEK FIKEGT...EG	YLEPRKSFKTW	NETVIG	KCREWT 439
	<i>An</i> Phy	PNEAKFTEG.....H	LEPRKSFQTW	RETVLD	RCDWT 727
	<i>Gm</i> Phy	PYEK FVREGT...AG	YLEPRKSFKTW	NETVVG	KCREWN 775
<i>Ch</i> Phy	PYEK FIKEGT...EG	YLEPRKSFKTW	SETVVG	KCLEWT 760	
<i>Bf</i> Phy2	PYEK.IKPAK...GQY	LEPRSF	SRWQT	TIKGT	SKIWN 698
<b>Cph</b>	<i>Sy</i> Cph1	PNHAYE.ATQEDGKIE	LHPROSFDLWKE	IVRLQSL	PW. 489
	<i>No</i> AphA	PNQPFV.VNKLDGN	VRLCPRKSFELW	KETVRLT	SLPW. 489
	<i>Np</i> Cph1	PNKAFE.VSQSEGN	VRLCPRKSFELW	KETVRLT	SLPW. 489
	<i>Np</i> Cph2	PQESIK.AEG.DGSY	TLSPRKSFEQW	OETVRLT	SLPW. 488
	<i>Cl</i> CphA	PNEAFE.VSQTEGN	LRLVPRKSFELW	KENVQLT	SLRW. 489
	<i>Cw</i> Cph	PSKAYE.MQKIDGN	LRLCPRKSFELW	KETVRLT	SLSW. 323
<b>plant phy</b>	<i>Ath</i> phyA	KHDPDDRDD...ARR	MHPRSSEKAFLE	VVKTRSL	PWK 569
	<i>Ath</i> phyB	KHHPEDKDD...GQR	MHPRSSEQAFLE	VVKSR	SQVPE 596
	<i>Ath</i> phyC	RHDPNDRD...GKR	MHPRSSEKAFME	IVRWK	SVPWD 559
	<i>Ath</i> phyD	KHHPEDKDD...GQR	MNPRSSEQTFLE	VVKSR	CQVPE 604
	<i>Ath</i> phyE	KHHPKDKDD...AGR	MHPRSSEFAFLE	VAKSR	SLPWE 555

Supplemental Figure 3. Karniol et al.

<b>BphP</b>	<i>Dr BphP</i>	21	TENCEREPHIHPG..SIOPHGALLTADGHSG.....EVLQMSLNAAATFLGQEPTVLRG.QTLAALL	78
	<i>No AphB</i>	14	LSNCSKEPIHHPG..LIOPHGVLVLQEVLDL.....TILQVSNNTFNILGRHPEQLLN.QHLSCLL	71
	<i>Ci CphB</i>	31	LTNCDREPIHHPG..SIOPHGMLLALTEPEL.....TIVQVSRNTDEILGVAATEFIN.QPLSRL	88
	<i>Pf BphP</i>	13	LANCADEPIRFPG..AIOPHGVLTLSEPDLL.....SIIQISANVETLLARPAQELIG.QPLQSL	70
	<i>Ps BphP1</i>	13	LANCADEPIQFPG..AIOPHGVLFTLKEPEL.....TILQVSNVQSVLQKVPDQLAG.QTLDCVL	70
	<i>Ps BphP2</i>	18	LAECAREPIRIPG..AIOPHGVLVSVAGDPL.....CIEQVSANCAKSLGLESSELLG.QPLSILL	75
	<i>Pa BphP</i>	9	LANCADEPIHVPG..AIOPHGALVTLRAD.G.....MVLAASENIQALLGFVVASPGSY.LTQEQV	64
	<i>Pp BphP1</i>	18	MERCAQEPHQVPG..SIOPHGVLVLDATDL.....RVLQASENVEHWLGLPARELIG.CHFADLV	75
	<i>Pp BphP2</i>	9	LTNCDREPIQIPG..SIOPHGCLLACDASAT.....VLRHSVNAQMLGVAN.DING.QKLHAVL	65
	<i>EnvSeq-1</i>	12	VENCANEPHIHPG..GIOPHGFLFSA.ADG.....TVLQASSNATQLNGEPAQNALG.QPLAQFL	68
	<i>EnvSeq-2</i>	1	LQNCDEFAHLLIE..SVQSFYVIAVDPETK.....KIQVSEINELFKVS..ITAGETLITEL	56
	<i>EnvSeq-6</i>	12	VNQCDREPIHLLG..KIQNQGFMIIVD.KAG.....VVTHLSENLEHFANVTRDNLIG.QSLWELL	68
	<i>EnvSeq-7</i>	27	FERCDEPIHHPG..SIQSYGFLIAFNKDL.....KISIVSDNCESVFTEP..LIG.KHFLEIL	81
	<i>EnvSeq-12</i>	21	SNICESEPFSFSG..MIOPHGALVQVD.LTG.....RITHASANIGNLIPELPEHFGK.KLPADLL	77
	<i>EnvSeq-9</i>	10	LANCADEPIRFPG..AIOPHGVLTLSEPL.....NIIQVSNVGTFLGHAPALLD.QPLHRLI	67
	<i>Xc BphP</i>	10	LDVCAREPIHHPG..LIQPYGVLLVDPADG.....RIVQASTTAADLLGVPMAALLG.MPYTQVL	67
	<i>Xa BphP</i>	10	MDVCAQEPHIHPG..LIQPYGVLLVIEPADG.....RIVQASSTAADLLGVPMDALLG.TPYTQVL	67
	<i>Rs BphP</i>	95	PSICEMEPHATPG..AIOPHGALMTARADSG.....RVAHASVNLGEILGLPAASVLG.APIGEVI	152
	<i>Kr BphP</i>	21	LTTCEREPHIHPG..AIOPHGVLAVERGDH.....RVVVASANAAGFFGRPLPEVLS.SSLADLL	78
	<i>Mm BphP</i>	12	LQGCESERHLHSG..EIQPFGALLRLD.PDG.....QVSHASANCGAVLGPPEALLG.QIPGPLL	71
	<i>Cyh BphP</i>	14	LQNCDOEPHIHPG..SIOPHGFLIAITKETW.....EIRFCSENVIDFIGLSHKQLLQ.KKITEIF	68
	<i>Rr BphP</i>	5	HSTCDQEPHVPG..LVQPHGFLVVLDSKSG.....RIAQVTPGIEAVAGVVAQRLIG.EPLERV	62
	<i>Rc Ppr</i>	157	FSVCEQEDIRRVG..AIQPWGAVLAVDPRDW.....TVCAASDNAQALLDCARPP.LG.RPLGEVL	213
	<i>Ri BphP</i>	10	LTNCDREPIHQLG..SVQPFGLVLAWS.DW.....IVIRASANLAEFLGVTEANALG.RPVISLI	66
	<i>At BphP1</i>	17	LDSGAEPIHHPG..AIQEHGALLVLSAREF.....SVVQASDNLANYIG.VDLPIG.AVATEAN	72
	<i>At BphP2</i>	10	LTNCDREPIHHPG..YIQPHGCLLACDNAMR.....MVLRHSNCGELLLGLEG.DLNG.RTAEDVL	66
	<i>Br BphP</i>	15	LANCEREPHLAG..SIOPHGILAVKEPDN.....VVIQASINAAEFLNTN.SVVG.RPLRDLG	70
<i>Rp BphP1</i>	12	LSTCDDEPIHHPG..AIOPHGVLALALA.ADM.....TIVAGSDNLPCLTGLAIGALIG.RSAADV	68	
<i>Rp BphP2</i>	25	LTECDREPIHHPG..AIOPHGVLVFWSETDL.....RIASVANVEDLLRQPASL.N.VPIAHYL	82	
<i>Rp BphP3</i>	17	LSSCDRELVQYPE..AIOPHGAMLVDEQSD.....RVLHASANCAAFIGKPEAVIG.APIAAVL	74	
<i>Rp BphP4</i>	20	TLAGGTRTEVLPG..AIOPHAALLALAPADL.....TIVHAAGATASLLGAAAELLPG.TAATAF	77	
<i>Rp BphP5</i>	7	LTSNCDREPIHHPG..SIQPCGCLLACDAQAV.....RITRISSENAGAFFGRET.PRVG.ELLADYF	63	
<b>Fph</b>	<i>Nc Phy1</i>	120	FTTCDEPIHHPG..AIQSYGMVLVAKLVDERVAGPSRYLPRICSENSAFVCHYQPSSELLSLDSFYQVM	186
	<i>Nc Phy2</i>	291	LQRCDEPIHHPG..AVQGFGLMVVQVEERD....GRFIVRFVSEMSKRIIGYTPQELFRMNNFLDIF	352
	<i>Um Phy</i>	181	LARCEDEPIHHPG..AVQSFQCMIVVRISPD....GEMLRQASENSAAILGMSPSYLFSLPTFLDLF	242
	<i>Gz Phy</i>	300	LQRCDEPIHHPG..AVQTFGVVVALREEND....GCFVARYVSENSVRMLGYTPKQLFQLKNFLDIL	361
	<i>An Phy</i>	192	FKACDEPIHHPG..AIQSFQALVAVREEPG....EQMVVRIVSEMSQDILGYSPPNDLFSLPTLCDIF	253
	<i>Gm Phy</i>	237	LQRCDEPIHHPG..AIQTFGALVALREEND....GCFVARYISENSERMLGYTPKQLFQLKNFLDIL	298
	<i>Ch Phy</i>	221	LQRCDEPIHHPG..AVQGFGLVVALRDDPD....GNLQVRIVSENSKRILGRTPKELFALESFTDIL	282
<i>Bf Phy2</i>	157	FFKCEDEPIHHPG..AIQOYGALLALRYNDQ....GDLMVRIASENAFKILKYTPEQLFSLNSFLDLL	218	
<b>Cph</b>	<i>Sy Cph1</i>	12	LRQLETLAHTAH..LIOPHGVLVVLQEPDL.....TISQISANCTGILGRSPEDLLG.RTLGEVF	69
	<i>No AphA</i>	12	VTSLKEAPIHLSG..QIQPHGVLVLEEPGL.....KILQVSNNTWVILGINAENILQ.KKLEDLL	69
	<i>Np Cph1</i>	12	LISLKEAPIHISS..QIQPHGVLVLEEPGL.....KILQVSNNTWVILGINAENILQ.KKLEDLL	69
	<i>Np Cph2</i>	14	LTNHRKPIHHPG..SIOPHGILALSTL.QL.....EIVQVSNNTQVYLCKAPEDLLG.RPLSYLL	70
	<i>Ci CphA</i>	12	VNSLKEAALHVCS..QIQPHGVLVLEEPGL.....NILQISSNNTWVILGINAENILQ.KKLEDLL	69
<i>Cw Cph</i>	?	LKRLEELQHLHWG..KIQPHGVLVFLDESNL.....KIVQTSNNTKQFFGIIPQEI.VN.LTLDLDF	??	
<b>plant phy</b>	<i>Ath phyA</i>	66	VTTTYLHHTQKKG..LIQPFQCLLALDEKTF.....KVIAYSENASELLTMASHAVPSVGEHPVLG	124
	<i>Ath phyB</i>	96	QITAYLSRIQRGG..YIQPFQCLLAVDESSF.....RIIGYSENAREMLGIMPQSVPTLE.KPEIL	153
	<i>Ath phyC</i>	61	AVSTYLQKIQRGM..LIQPFQCLLAVDEKTL.....KVIAFSENTQEMGLIPHTVPSMEQREALT	119
	<i>Ath phyD</i>	102	QITAYLSRIQRGG..YIQPFQCLLAVEESTF.....TIIGYSENAREMLGLMSQSVPSIEDKSEVL	160
	<i>Ath phyE</i>	62	HITAYLSNIQRGG..LVQPFQCLLAVEEPSF.....RILGLSDNNSDFLGLL.SLPSTSHSGEFD	118
<i>Ma BphP1</i>	409	LKACWAEPIHHPG..GGEVGLGVFTIYLRETRKPR.....EEEFIRTNAYLAGIAIEHVQAADALKE..	468	



Supplemental Figure 4. Karniol et al.

