

Table S1. PG-localized and related ABC1K and fibrillin proteins and their reported p-peptides.

Gene id	Protein name	location (a)	reported in Table 1 (based on strength of evidence)	relative abundance in PG and/or leaf (b)	module in coexpression network (c)	reported p-peptides (d)	p-site residue number (e)	protein length and predicted/experimental N-terminal residue (f)	p-site within cTP (g)	Source data (h)	Search engine used to identify reported p-peptide	Scores reported to identify reported p-peptide	Re-analysis with Mascot or/and manual evaluation of MS/MS spectrum	p-peptide confidence level following curation (i)	motif subtype (based on van Wijk et al 2014)
AT4G31390.1	ABC1K1	core PG		6	II (ABC1K1,3,6)	LDLpTDPtIK	T604, T606	682; A80 (T54; S58; A62)		PhosPhat 4.0	Mascot	17	peptide not found	4; no	TD
AT1G79600.1	ABC1K3	core PG		7	II (ABC1K1,3,6)	n.d.		711; A43							
AT1G71810.1	ABC1K5	core PG		18	connected to II & III (ABC1K1,3,6,9)	n.d.		692; A40							
AT3G24190.1	ABC1K6	core PG		24	II (ABC1K1,3,6)	n.d.		793; V20							
AT3G07700.1	ABC1K7	core PG		27	I (ABC1K7)	AIGFpSSLENHFTGEATQCPpYGSKSK	S26, Y41	695; A73 (S67)	cTP	Wang X et al., 2013	Sequest	3.308	spectra not available; Generally, values ≥ 1.9 for +1 ions, \geq for +2 ions, and ≥ 3.75 have been classified by others as significant	2; maybe	pSxS
AT3G07700.1	ABC1K7	core PG		27	I (ABC1K7)	LGQLSpSpTRpSDFPFR	S212, T213, S215	695; A73 (S67)		PhosPhat 4.0	Mascot	18	peptide not found	4; no	xSDx
AT3G07700.1	ABC1K7	core PG		27	I (ABC1K7)	NLKLAIEpYFOK	Y310	695; A73 (S67)		PhosPhat 4.0	Mascot	16	peptide not found	4; no	-
AT5G05200.1	ABC1K9	core PG		5	III (ABC1K9)	LFERMGATpYIK	Y140	540; A45 (Q46)		PhosPhat 4.0	Mascot	16	peptide not found	4; no	-
AT4G19170.1	CCD4	core PG		9	II (ABC1K1,3,6)	YYpYAAIGDPMpK	Y481	595; S35 (S42)		PhosPhat 4.0	Mascot	99	peptide not found	4; no	-
AT1G54570.1	DGAT3/PES1	core PG		11	I (ABC1K7)	n.d.		704; A28							
AT3G26840.1	DGAT4/PES2	core PG		23	not in network	pYKIMGGVPVSHFNipYK	Y498, Y512	701; A66 (V38)		Engelsberger & Schulze 2012; PhosPhat 4.0	Mascot	18-33	peptide not found phosphorylated	4; no	-
AT3G26840.1	DGAT4/PES2	core PG		23	not in network	MAVpTVLPpSpVpSGLSAVASSNLRR	T4, S8, S10	701; V65 (S37)	cTP	PhosPhat 4.0	Mascot	17	peptide not found	4; no	pSxS, SxpS, SG
AT3G26840.2	DGAT4/PES2	core PG		23	not in network	MAVTVLPpSVSGLSAVApSpSxNLRR	S17, S18, S19	701; V65 (S37)	cTP	PhosPhat 4.0	Mascot	20-21	peptide not found	4; no	pSxS, SxpS
AT3G26840.3	DGAT4/PES2	core PG		23	not in network	MAVTVLPpSVSGLSAVApSpSxNLRR	S18, S19	701; V65 (S37)	cTP	PhosPhat 4.0	Mascot	22	peptide not found	4; no	SxpS
AT5G41120.1	Esterase 1	core PG		30	not in network	n.d.		684; P67 (V54)							
AT4G04020.1	FBN1a	core PG	x	1	not in network	VFApSpSpTVpSVADK	S74, S75, S76, T77, S7	318; A56 (S41)		Reiland et al., 2011	Mascot	75-80		1; yes	SxpS, pSxS
AT4G04020.1	FBN1a	core PG	x	1	not in network	ApTDIDDEWGDGQVVER	T57	318; A56 (S41)		Roitinger et al., 2015; Wang et al., 2013; Reiland et al., 2011; Reiland et al. 2009	Mascot; Sequest; Inspect	68-102; 0.887; 2.634		1; yes	TD
AT4G22240.1	FBN1b	core PG	x	3	not in network	ApTDTGEGSALLAAEEAIEDVEETERLKR	T61	310; A60 (A60)		Hoehenwarter et al., 2013	Mascot, Sequest	182, -	confirmed pT61	1; yes	TD
AT4G22240.1	FBN1b	core PG	x	3	not in network	FAGPLGpTNSISTNAK	T188	310; A60 (A60)		Roitinger et al., 2015	Mascot	45	confirmed T188 - good spectrum	1; yes	-
AT4G22240.1	FBN1b	core PG		3	not in network	AEIGDLITOLEpSK	S120	310; A60 (A60)		Mithoe et al., 2012	Mascot		x	3; weak evidence	-
AT2G35490.1	FBN2	core PG	x	4	III (ABC1K9)	pSGPELEESGTR	S105	376; S54		Roitinger et al., 2015; Nakagami et al., 2010; Sugiyama et al., 2008	Mascot	21-43		1; yes	SG, SxP
AT2G35490.1	FBN2	core PG	x	4	III (ABC1K9)	SGPELEESGpTR	T114	376; S54		Roitinger et al., 2015	Mascot	50	peptide not found	1; yes	-
AT3G23400.1	FBN4	core PG		2	III (ABC1K9)	pYpSFSLTPK	Y30, S31	284; S73 (A54)	cTP	Engelsberger & Schulze 2012; PhosPhat 4.0	Mascot	15-24	peptide not found	4; no	pSxS
AT3G23400.1	FBN4	core PG	x	2	III (ABC1K9)	LLSVpSGLNR	S96	284; S73 (A54)		Roitinger et al., 2015	Mascot	45		1; yes	SG
AT3G23400.1	FBN4	core PG	x	2	III (ABC1K9)	GLVApSVDDLDER	S105	284; S73 (A54)		Reiland et al., 2011; Reiland et al., 2009	Inspect; Mascot	1.79/2.178; 46/70	confirmed S105; excellent coverage	1; yes	-
AT3G23400.1	FBN4	core PG	x	2	III (ABC1K9)	LLYSSAFpSSR	S148	284; S73 (A54)		Roitinger et al., 2015	Mascot	44	confirmed coverage for pS148	1; yes	-
AT3G23400.1	FBN4	core PG	x	2	III (ABC1K9)	pSLGGSRPGLPTGR	S151	284; S73 (A54)		Roitinger et al., 2015	Mascot	24-37	confirmed pS151	1; yes	
AT3G23400.1	FBN4	core PG	x	2	III (ABC1K9)	SLGGpSRPGLPTGR	S155	284; S73 (A54)		Roitinger et al., 2015	Mascot	24-37	confirmed pS155	1; yes	GS
AT3G58010.1	FBN7a	core PG		8	III (ABC1K9)	n.d.		308; A54							
AT2G42130.4	FBN7b	core PG	x	13	IV	IETPSSTVVETIEYDpS	S299	299; A49	C-terminus	Xue et al., 2013	Sequest	3.98	spectra not available; from Suppl data: pS299 has highest probability	1; yes	DS
AT2G46910.1	FBN8	core PG		17	connected to ABC1K5, II, IV	n.d.		284; V41							
AT1G32220.1	Flavin reductase related1	core PG	x	14	connected to UbiE1	SCVKCTYAEAGLpSSASWpSAPIDIVADVK	S46, S51	296; A58 (T39)		Wang X et al., 2013	Sequest	4.937	spectra not available; reported Ascore highest for S51 (11.23) and 4.31 for S46	1; yes high score	SxP, SxpS
AT1G32220.1	Flavin reductase related1	core PG	x	14	connected to UbiE1	SCVKCTYAEAGLpSSASWpSAPIDIVADVK	S47, S51	296; A58 (T39)		Wang X et al., 2013	Sequest	3.16	spectra not available; reported Ascore highest for S51 (10.18) and 2.47 for S47	1; yes high score	SxP, SxpS, pSxS
AT1G32220.1	Flavin reductase related1	core PG		14	connected to UbiE1	pSCVKCTYAEAGLSSASWpSAPIDIVADVK	S34, S51	296; A58 (T39)	cTP	Wang X et al., 2013	Sequest	0.60383	spectra not available	4; no low score	SxP, SxpS
AT1G32220.1	Flavin reductase related1	core PG		14	connected to UbiE2	pSCVKCTYAEAGLSSASWpSAPIDIVADVK		296; A58 (T39)	cTP	Wang X et al., 2013	Sequest		spectra not available	4; no low score	

AT2G34460.1	Flavin reductase related 2 ?	core PG	x	21	II (ABC1K1,3,6)	pSYKDLFASVK	S269	280; A52 (M35)	Roitinger et al., 2015	Mascot	34	support for S269, but fragment ions are low intensity	1; yes	SxxD/E	
AT2G34460.1	Flavin reductase related 2 ?	core PG		21	II (ABC1K1,3,6)	YKIMGGVPSVSHFNIVK		280; A52 (M35)	Engelsberger & Schulze 2011; Ph	Mascot	18-33	this peptide is not found in this protein. The experimental m/z matched to a different peptide.	4; no		
AT3G27110.1	M48 protease	core PG		29	I (ABC1K7)	n.d.		344; A48							
AT1G06690.1	NAD(P)-Aldoketo reductase	core PG	(x)	20	II (ABC1K1,3,6)	LGGpSLKVTK	S54	377; A32 (A32, V33)	Engelsberger & Schulze 2012	Mascot	17 with neutral loss	peptide with neutral loss (score 21)	2; probably yes, but weak evidence	GS, xSDx	
AT1G06690.1	NAD(P)-Aldoketo reductase	core PG		20	II (ABC1K1,3,6)	AVGVSNypSEK	S211	377; A32	Engelsberger & Schulze 2012	Mascot	15-24	No hit for AVGVSNYSEK with P but 5 matches for K.AVENSPFLEKL with mascot score 49-R5	4; no	SE	
AT5G08740.1	NDC1	core PG		12	II (ABC1K1,3,6)	n.d.		519; A53 (A2)							
AT4G39730.1	PLAT/LH2-1	core PG		25	connected to II (ABC1K6)	n.d.		181; A19							
AT3G10130.1	Soul heme-binding protein	core PG		16	not in network	n.d.		309; A71 (R50)							
AT1G78140.1	UbiE methyltransferase-related 1	core PG		19	connected to FRR1	n.d.		355; S41							
AT2G1040.1	UbiE methyltransferase-related 2 ?	core PG		22	II (ABC1K1,3,6)	pSRFPsAAIpSAVAPK	S47, S55	352; A56 (A53)	cTP	PhosPhat 4.0	Mascot	16-19	peptide not found	4; no	-
AT4G13200.1	unknown 1	core PG	x	15	III (ABC1K9)	TIMVDVEESSpSDED	S182	185; C57	Roitinger et al., 2015	Mascot	91	spectra not available; but high p-RS site score (99)	1; yes	SDx[D/E]	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSpSSSDED	S178, S179	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSpSSSDED	S178, S180	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSpSSpSDED	S178, S181	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSSSpSDED	S178, S182	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS, SDx[D/E]	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSpSSSDED	S179, S180	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSpSpSDED	S179, S181	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS, SDx[D/E]	
AT4G13200.1	unknown 1	core PG		15	III (ABC1K9)	TIMVDVEEpSSSpSDED	S179, S182	185; C57	Wang P et al., 2013	Sequest	-	4. no; no spectral data available; no		SxpS, pSxS, SDx[D/E]	
AT3G43540.1	unknown 2 (DUF1350)	core PG		26	IV	n.d.		373; T33							
AT1G73750.1	unknown SAG	core PG		28	I (ABC1K7)	n.d.		452; R50 (V38)							
AT4G32770.1	VTE1	core PG	(x)	10	not connected	SISRvVpSApSlpSpTPNSETDK	S47, S49, S51, T52	488; V99 (S49)	(cTP)	Nakagami et al., 2010	Mascot	21	S51 and T52 are ambiguous; but S47 and S49 confirmed in Suppl Information	1; yes	pSxS, SxpS, TP
AT3G25760.1	AOC1	recruited to PG			not in network	n.d.		254; P79 (A66)							
AT3G25770.1	AOC2	recruited to PG			not in network	HpSPKILK	S97	254; P79 (A66)	Wu et al., 2013	Maxquant	-	peptide not found	4; no	SP	
AT5G42650.1	AOS	recruited to PG	x		not in network	ASGpSETPDLTVATR	S36	518; A33 (S34)	Reiland et al., 2009	Inspect	1,422	no spectral data available	1; yes; high score	SxpS, GS	
AT5G42650.1	AOS	recruited to PG	x		not in network	ApSGSETPDLTVATR	S34	518; A33 (S34)	Reiland et al., 2009	Inspect	0.945	no spectral data available	1; yes high score	pSxS, SG	
AT5G42650.1	AOS	recruited to PG			not in network	TGpSK*DLPIR	S49	518; A33 (S34)	Roitinger et al., 2015	Mascot	25	no spectral data available	no spectral data available	GS	
AT3G45140.1	LOX2	recruited to PG	(x)		not in network	EFYEpSPEK*	S787	896; R56 (C50)	Roitinger et al., 2015	Mascot	34	no spectra available	2; weak score	SP	
AT3G45140.1	LOX2	recruited to PG			not in network	ELNNTLYApSR	S488	896; R56 (C50)	Wu et al., 2013	Maxquant	-	very ambiguous; score 21	3; unlikely	-	
AT1G17420.1	LOX3	recruited to PG			not in network	n.d.		919; A53 (S49)							
AT1G72520.1	LOX4	recruited to PG			not in network	n.d.		926; A59 (S55)							
AT5G13800.1	PPH	recruited to PG			I (ABC1K7)	GIWKHLpSGGFALPLLEDpTEEDWEESRIG R	S416, T428	484; S47	Wang P et al., 2013	Sequest	-		no spectral data available	SG	
AT5G24970.1	ABC1K2	plastid			not in network	n.d.		719; V60							
AT2G39190.2	ABC1K4	plastid			not in network	RAIPPVpSVGLGHFADVVR	S40	814; A25	PhosPhat 4.0	Mascot	19-99	only spectrum for low scoring spectrum	4; no	SxG	
AT5G64940.1	ABC1K8	plastid (IE or Nucleoid)			not in network	QVEVpSVTPGGR	S160	761; S29	Engelsberger & Schulze 2012	Mascot	16	peptide not found	4; no	-	
AT1G51110.1	FBN10	Thylakoid			not in network	n.d.		409; C56							
AT5G53450.1	FBN11/ORG1	plastid			not in network	LNpTTRAOR	T130	686; S53	PhosPhat 4.0	Mascot	17	peptide not found	4; no	-	
AT3G26070.1	FBN3a	Thylakoid	x		not in network	GATApSPDDQLR	S92	242; V51	Roitinger et al., 2015	Mascot	68	no spectra but good score reported	1; yes	SP	
AT3G26080.1	FBN3b	Thylakoid			not in network	n.d.		234; I46							

AT5G09820.2	FBN5	Stroma	not in network	TSNLFQPPpSMAASR	S10	296; C62	cTP	PhosPhat 4.0	Mascot	20	18	3; weak evidence	-
AT5G19940.1	FBN6	Thylakoid	not in network	n.d.		239; V51							
AT4G00030.1	FBN9	plastid (x)	not in network	SSITDDSLSApTWR	T87	212; C26		Mithoe et al., 2012	Mascot	20	weak spectral coverage (only 2 b-ions)	2; possible	-
AT1G11390.1	ABC1K10-a	mitochondria	not in network	n.d.		624							
AT1G61640.1	ABC1K10-b	mitochondria	not in network	n.d.		621							
AT5G24810.1	ABC1K11	mitochondria	not in network	n.d.		1009							
AT4G24810.2	ABC1K12-a	mitochondria	not in network	n.d.		481							
AT5G50330.1	ABC1K12-b	mitochondria	not in network	n.d.		479							
AT4G01660.1	ABC1K13	mitochondria	not in network	pSFpTRLVNGVSLVAK	S7, T9	623; L11	mTP	Engelsberger & Schulze 2012	Mascot	17-23	peptide not found	4; no	-
AT1G65950.1	ABC1K14	mitochondria	not in network	IATAVEGVVRpSSR	S59	551; A71		Engelsberger & Schulze 2012	Mascot	17-99	not found or very weak	3; unlikely	RS
AT2G40090.1	ABC1K15	mitochondria	not in network	n.d.		538							

(a) Curated location based on all available information. P-plastid, M-mitochondria, C-cytosol, PG - plastoglobule; IE - chloroplast inner envelope membrane

(b) Relative abundance of PG proteins based on label free spectral counting from Lundquist et al 2012.

(c) Assignment to mRNA based co-expression modules as published in Lundquist et al 2012. Co-expression module I contains ABC1K7, module II contains ABC1K1,3,6, module III contains ABC1K9, module IV has no kinases. ABC1K5 connects to both module II and III

(d) reported p-peptides in databases or publications.

(e) p-site residue number

(f) protein length and predicted or experimental N-terminus

(g) p-site within cTP

(h) Source of the reported peptide

(i) Confidence levels based on all available data and manual inspection: 1- probably true; 2-some evidence; 3 - weak evidence; 4 - not identified upon search of original data; 5 - no spectral data available