Additional file 2. Arabidopsis proteins affinity purified with cyclic nucleotide baits following negative subtraction

			LEAF o	CAMP			LEAF cGM	ſP		CA	LLUS cAM	P		CALLUS cGMP				
DESCRIPTION	ACCESSION	2-AHA-cAMP-agarose	8-AEA-cAMP-agarose	2-[Biotin]-AHA-cAMP	cAMP antibody	2-AH-cGMP-agarose	8-AET-cGMP-agarose	2-[Biotin]-AH-cGMP	cGMP antibody	2-AHA-cAMP-agarose	8-AEA-cAMP-agarose	2-[Biotin]-AHA-cAMP	cAMP antibody	2-AH-cGMP-agarose	8-AET-cGMP-agarose	2-[Biotin]-AH-cGMP	cGMP antibody	
Nucleoside diphosphate kinase family protein (NDPK1)	AT4G09320		1,2,3,4 ,B		В	1,2,3,4 ,5,6,B	1,2,3,4 ,5,6,B			1,2,3,B	1,2,3,B			1,2,3,4 ,5,6,B	1,2,3,4 ,5,6,B			
Nucleoside diphosphate kinase 3 (NDPK3)	AT4G11010		1,2,3,4			1,2,3,4	1,2,3,B			1				2,3	1,2,3			
Serine transhydroxymethyltrans ferase 1 (SHMT1)	AT4G37930	2,B	В	1,B	В	В	В	2,3, B										
Glyceraldehyde-3- phosphate dehydrogenase B subunit (GAPB)	AT1G42970	В	В	В	1,2, B	В	В	В	В									
NAD(P)-binding Rossmann-fold superfamily protein	AT2G47130													2,3,4,5				
Phosphoglycerate kinase 1 (PGK1)	AT3G12780	В	В	В	В	В	В	В	В									
Ribosomal protein L6 family	AT1G33120 AT1G33140									1,2,3,4 ,5,B	1,3,4							
Eukaryotic translation initiation factor 4A1 (EIF4A1)	AT3G13920			В		В			В	В	В	В	В	В	В	В	В	
Breast basic conserved 1 (ATBBC1)	AT3G49010	4,B	1							1,2,3,4 ,B	1		2				1	
Ribosomal protein S8e family protein	AT5G20290					В				1,2,3,4 ,6,B	1			В				
RAB GTPase homolog E1B (ATRABE1B)	AT4G20360	В	В	В	1,2, B	В	В	В	В									
Nucleoside diphosphate kinase 2 (NDPK2)	AT5G63310						1,2,3,5 ,B								1			
Ribosomal protein L5 (RPL5A)	AT3G25520									1,2,4,5 ,B	1							
Ribosomal protein S5 domain 2-like superfamily protein	AT2G09990									1,3	1							
Transketolase Cytosolic ribosomal	AT3G60750		В	В	В	В	В	В	В	1,2,4,B								
protein S15 (RPS15) Chloroplast RNA binding (CSP41B)	AT1G04270 AT1G09340			1	В	В		2,B										

	AT2G40510	Т			I	1	1	I	l	I		1		I	I	\Box	
Ribosomal protein S26e	AT2G40510 AT2G40590									1,2,3,4	1					'	1 1
family protein	AT3G56340									,6,B	_					'	i I
Auxin transport protein	A13030340	\vdash		1								1				$\vdash \vdash \vdash$	\vdash
(BIG)	AT3G02260															В	i I
Ribosomal protein S13A																+-	
(ATRPS13A)	AT4G00100	3,B								1,2,3,4	1					'	1 1
Ribosomal protein S5							1									†	
family protein	AT2G41840									1,2	1					'	i I
CLPC homologue 1			_		_	_	_	_									
(CLPC1)	AT5G50920	В	В	В	В	В	В	В								'	i I
Metallopeptidase M24										1,2,3,4	1					\vdash	
family protein (ATEBP1)	AT3G51800									, 6	1					'	1 1
Ribosomal protein	AT1G04480															\Box	\Box
L14p/L23e family	AT2G33370									1,2,B	1,2					'	1
protein	AT3G04400															'	i I
Ribosomal protein										1	4			В		Π,	
L18ae/LX family protein	AT2G34480									1	4			В		'	
Ribosomal protein	AT4G16720									1,2,4,5	1,4						
L23/L15e family protein	AT4G17390									, 6	1,4					'	
Translation protein	· I	3								1,4,B	1						
SH3-like family protein	AT3G49910	J														<u> </u>	
Ribosomal protein L32e	AT4G18100									1,2,B	1					<u>'</u>	
Glucoside	1															'	1
glucohydrolase 2	1		1	1												'	i I
(BGLU37)	AT5G25980															<u> </u>	ш
Ribosomal protein L24e	1									1	1					'	1
family protein (RPL24B)	AT3G53020															↓ —'	ldot
Zinc-binding ribosomal	1									1	1					'	1
protein family protein	AT3G60245	\vdash														— —'	\vdash
Ribosomal protein L6	3 = 1 0 1 0 5 4 0									1,2,3,6	1					'	1
family protein	AT1G18540															$+\!-\!\!-\!\!\!-$	\vdash
Ribosomal protein	1									1 2 5	1					'	i I
L22p/L17e family protein	AT1G67430									1,3,B	1					'	1
Ribosomal protein L36e	AT1G6/430	\vdash										1				+-	\vdash
family protein	AT3G53740									1			2			'	i I
Subunit of exocyst	AIGGGGA40	\vdash								-		-				+-	\vdash
complex 8 (ATSEC8)	AT3G10380															В	1
Aldolase-type TIM	AIJGIUJOU	-		-								 				+	\vdash
barrel family protein	AT3G14420		В		В			В	В							'	1
Ribosomal protein	1113011120	\vdash										1				┼	\vdash
L7Ae/L30e/S12e/Gadd45	1									6,B						'	i I
family protein	AT3G18740									0,2						'	i I
Tubulin beta-7 chain							1			1						†	
(TUB7)	AT2G29550						1			В						'	
Ribosomal protein L12-A	AT3G27830						1		i –	1						т	\Box
(RPL12-A)	AT3G27850	3,B	1		3											'	
Ribosomal protein L13	;i						1									\Box	
family protein	AT3G24830						1			1						'	
acetyl-CoA carboxylase												1					П
1 (ACC1)	AT1G36160						1			1		В				В	
Ribosomal L29 family	 I					ĺ				1.5						П	
protein	AT3G09500									1,B						'	
Ribosomal protein	ı	l i														П	
L7Ae/L30e/S12e/Gadd45	i									1	1					'	
family protein	AT1G15930	<u> </u>			<u> </u>		<u> </u>	<u> </u>		<u> </u>						\perp	
ramita broceill	MIIGIJ930			<u> </u>	L	l	1	l	<u> </u>	1		1		l	l		ш

Ribosomal protein S6 (RPS6A)	AT4G31700								1						
60S acidic ribosomal	A14G31/00								-						_
protein family	3,000,007,710								1,2,3,6	1,2					
	AT2G27710	ļ									-				
Catalase 2 (CAT2)	AT4G35090					2,B									\vdash
Glutamine synthase									1						
clone F11 (ATGSR2)	AT1G66200														\perp
Chloroplast stem-loop															
binding protein of 41				1,B			В								
kDa (CSP41A)	AT3G63140														
Ribosomal protein L19e															
family protein									1,2	1					
(emb2386)	AT1G02780														
Ribosomal protein									1,B						
L30/L7 family protein	AT2G44120								1,5						
Secretion-associated	AT1G56330														
RAS 1B (SAR1B)	AT3G62560			1				1	В				В		В
KAS IB (SAKIB)	AT4G02080			<u> </u>				L	<u> </u>					L	
Ribosomal protein															
L16p/L10e family				1				1	1	1					
protein (RPL10A)	AT1G14320														
Protochlorophyllide			_		_	_									
oxidoreductase B (PORB)	AT4G27440		В		В	В									
Ribosomal protein S24e															
family protein	AT3G04920								1						
Ribosomal protein L35Ae	AT1G41880								t						
family protein	AT3G55750								6						
Zinc-binding ribosomal	AT2G45710	1													
protein family protein	AT3G61110								В	1					
Alanine:glyoxylate	1113001110														
aminotransferase (SGAT)	AT2G13360					В									
Ribosomal protein S25	A12G13300	ļ									-			1	\vdash
family protein	AT4G39200								1						
Ribosomal L28e protein	A14G39Z00														
	3,000,000,000								1						
family	AT2G19730														
Ribosomal protein L3		4,B													
family protein	AT2G43030														
Ribosomal protein															
S5/Elongation factor									В						
G/III/V family protein									_						
(LOS1)	AT1G56070														
Chloroplastic															
acetylcoenzyme A				В							В			В	
carboxylase 1 (CAC1A)	AT5G16390														
60S acidic ribosomal								l	1						
protein family	AT5G57290														
Serine															
hydroxymethyltransferas					В			В	1						
e 4 (SHM4)	AT4G13930	L		L			<u></u>	<u> </u>	<u> </u>						<u> </u>
ATP synthase delta-				В		В	В	В							
subunit gene (ATPD)	AT4G09650			Þ		B	Þ	D D	1						
Ribosomal protein S28										1					
(RPS28)	AT5G64140			1				1	1	1					
Ribosomal protein L15		3,4													
(RPL15)	AT3G25920	, B		1				1	1						
Ribosomal protein L4/L1															
family	AT5G02870							l	1						

Paymont Paym																	
Inducation Properties Pro	Polynucleotidyl																
### ### ### #### #####################	transferase,										6				2		
TCP-1/CPR06 chaperonin Tamily protein AT301830 1 2 2 2 3 3 3 3 3 3 3	ribonuclease H-like										O				2		
Teasily protein	superfamily protein	AT3G11770															
Teasily protein	TCP-1/cpn60 chaperonin												_				
Coatomer gamma-2 cost protein, putative / gamma-2 cost protein, putative / gamma-2 cost protein / gamma-2 cost pro		AT3G11830											1			2	
### STATES																	
Putative / gamma-2 COP, Putative Gamma											1						
Pathologomal protein AT4034450 Ribosomal protein AT600900 3.8 B Ribosomal protein AT600900											_						
Ribosomal protein STP/SSE family protein ATCG00900 3,B B		AT4G34450															
STP/SSS family protein		111 103 1 130															
REFG.11		7 mcc00000	2 0			В											
Ribosomal protein ATIGH880			٥,٥			ь											
### ATTOM		AICGUIZ40				-				ļ							
ATPEARS, FI complex, gamma submit protein (ATPCI) ATRONOMO ARCHITECTURE (ATPCI) ATRONOMO ARCHITECTURE (ATPCI) ATRONOMO ARCHITECTURE (ATRONOMO ATTOCKER) ATRONOMO ARCHITECTURE (ATRONOMO ATTOCKER) ATRONOMO ARCHITECTURE (ATRONOMO ATTOCKER) ATRONOMO ARCHITECTURE (ATRONOMO ATTOCKER) ATRONOMO ATTOCKER (ATRONOMO ATTOCKER) ATROCKER (ATROCKER) ATROCKER (ATROC		1-40000									1						
Agent Subunit Protein Ar4604640 B Ar460889 Ar3617820 B B Ar3617820 B B Ar4608890 Ar3617820 B B Ar4608890 B Ar4608890 B B Ar4608890 B Ar36078910 B B Ar36078910 B B Ar36078910 B B Ar36078910 B Ar36078910 B Ar36078910 B Ar36078910 B Ar36078910 Ar36078910 B Ar36078910		AT1G48830			ļ												
Artender			_						1								
Adenyicasuccinates synthese (ADSS)			В														l
Synthese (ADS)		AT4G04640								<u> </u>							
Synthase (ADSS)							B										
1.3 (ATGSKR6) A73G17820		AT3G57610	L	<u> </u>	L			<u> </u>	L	<u> </u>	<u> </u>	<u> </u>					<u> </u>
1.3 (ATGSKB) AP3G17820	Glutamine synthetase										1						
ATAGRAC3	1.3 (ATGSKB6)	AT3G17820									1						
ATAGRAC3	ADP/ATP carrier 3																
Carbonic anhydrase 1		AT4G28390											В				
AT3601500	Carbonic anhydrase 1																
Chlorophyll A/B binding		AT3G01500			В		В										
Chlorophyll A/B binding protein 3 (CAB3)	(CIII)																
### Protein 3 (CAB3)	Chlorophyll A/B binding																
AT2G34420						В		5									
Methylesterase PCR A (ATPMEPCRA) (ATPMEPCRA) (ATPMEPCRA) ATIG11580 ATIG11580 ATIG11580 1 ATIG11580 1 ATIG11580 ATIG11580 1 ATIG11580 ATIG11580 ATIG11580 ATIG11580 ATIG11580 B B B B B B B B B B B B B	protein 3 (CAB3)																
ATSC1580	Maria Parata Popular	A12G3442U															
Xyloglucan		1011500									6						
## AT4G10790 ### AT4G10790 ### AT3G06450 ### AT3G04890 #### AT3G04890 ### AT3G04890 #### AT3G06490 #### AT3G06490		ATIGI1580															
AT2G06850 B B B B B B B B B																	
Unknown protein				1													
Single hybrid motif superfamily protein TSocitrate dehydrogenase 1 (IDH1) AT4G35260 Histone superfamily protein (H2B) Ras-related small GTP- binding family protein UBX domain-containing protein B B B B B B B B B B B B B B B B B B B																	
Superfamily protein		AT2G15860												В			В
superfamily protein AT1652670					D												
dehydrogenase 1 (IDH1) AT4G35260 B Histone superfamily protein (H2B) AT3G45980 3 Ras-related small GTP-binding family protein AT5G59840 B UBX domain-containing protein AT4G10790 B Regulatory particle triple-A ATPase 5A (RPT5A) AT3G05530 B Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 B Ribosomal protein L9 (RPL9) AT3G44890 B		AT1G52670			Б												
dehydrogenase 1 (1DH) AT4G35260 B B B B B B B B B B B B B B B B B B B	Isocitrate													1			
protein (H2B) AT3G45980 3 B B B B B B B B B B B B B B B B B B	dehydrogenase 1 (IDH1)	AT4G35260												В			
Protein (HZB) AT3G45980 B Ras-related small GTP-binding family protein AT5G59840 B UBX domain-containing protein AT4G10790 B Regulatory particle triple-A ATPase 5A (RPT5A) AT3G05530 B Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B	Histone superfamily		_														
Ras-related small GTP- binding family protein B B B B B B B B B B B B B	protein (H2B)	AT3G45980	3														
binding family protein AT5G59840 UBX domain-containing protein AT4G10790 Regulatory particle triple-A ATPase 5A (RPT5A) Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B B B B B B B B B B B B B								İ		 							
UBX domain-containing protein AT4G10790 B Regulatory particle triple-A ATPase 5A (RPT5A) AT3G05530 B Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B		AT5G59840												В			В
protein AT4G10790 B Regulatory particle triple-A ATPase 5A (RPT5A) AT3G05530 B Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B								1		<u> </u>	1						
Regulatory particle triple-A ATPase 5A (RPT5A) AT3G05530 Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B B B B B B B B B B B B B		AT4G10790							1								В
triple-A ATPase 5A (RPT5A) Polynucleotidyl transferase, ribonuclease H-like superfamily protein Ribosomal protein L9 (RPL9) AT3G44890 B B B B B B B C B C C C C		111 1010/30	-		 			<u> </u>	-	†	<u> </u>		-				-
(RPT5A) AT3G05530 B G T T T T T T T T T T T T T T T T T T									1								B
Polynucleotidyl transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B		ATT3C05530							1								ם
transferase, ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B		WINGONNO.	 	-	 	-		1	 	 	1	-	 			 	\vdash
ribonuclease H-like superfamily protein AT5G06450 Ribosomal protein L9 (RPL9) AT3G44890 B									1								
Superfamily protein AT5G06450 B B B AT3G44890											6	1					
Ribosomal protein L9 (RPL9) AT3G44890 B		3.0000000															l
(RPL9) AT3G44890 B		AT5GU6450								<u> </u>							
(RPL9) AT3G44890			В						1								1
Ribosomal protein L6 ATIGO5190 4										<u> </u>							
	Ribosomal protein L6	AT1G05190	4														

family (emb2394)		1	I		1	I		I	1	I			I	ı		
	AT2G37620	 		-				-							\vdash	\vdash
Actin 1 (ACT1)	AT3G53750															В
Tubulin beta-5 chain (TUB5)	AT1G20010				В											
Ribosomal L5P family																
protein	AT4G01310	В														
Guanylate-binding						_										
family protein	AT5G46070					2,B										
3-deoxy-D-arabino-																
heptulosonate 7-																
phosphate synthase 1												В				
(DHS1)	AT4G39980															
Plastid-lipid	111 1000000				-											
associated protein PAP																
/ fibrillin family																В
protein	AT2G35490															
TCP-1/cpn60 chaperonin	1112000100	-		-			 	 							—	\vdash
family protein	AT3G03960										1					
Photosystem II subunit	1110000000							-							-	\vdash
Q-2 (PSBQ-2)	AT4G05180						В									
Biotin/lipoyl																
attachment domain-											В					
containing protein	AT3G56130															
Ribosomal protein S9 (RPS9)	AT1G74970	3														
GAST1 protein homolog 1	111110711770															
(GASA1)	AT1G75750														В	
ARM repeat superfamily					В											
protein	AT3G62530															
Ribosomal protein L17		В														
family protein	AT3G54210															
Tubulin beta-9 chain																В
(TUB9)	AT4G20890															
Adenine nucleotide																
alpha hydrolases-like																В
superfamily protein	AT3G53990															
Ribosomal protein S19e									1							
family protein	AT5G61170								-							
Eukaryotic aspartyl							1									
protease family protein	AT3G54400															
Coatomer epsilon									В							
subunit	AT1G30630															
Fibrillin (FIB)	AT4G04020							В				В				
RAB GTPase homolog G3E												В				
(ATRABG3E)	AT1G49300											יי				
Aluminium induced												_				
protein with YGL and									В							
LRDR motifs	AT4G27450															
NAD(P)-binding												_				
Rossmann-fold		4														
superfamily protein	AT1G24360															
Chloroplast 30S												_]
ribosomal protein S20,		3														
putative	AT3G15190															
RAB GTPase homolog 1C	AT4G17530															В
(ATRAB1C)	AT5G47200							L								ь

SHK1 binding protein 1 (SKB1)	AT4G31120							2		
Glycosyl hydrolase superfamily protein (BGLU22)	AT1G66280							2		
Ribosomal protein S13/S18 family	AT5G14320	В								
Ribosomal protein S18 (RPS18)	ATCG00650	В								

The fraction in which the protein was identified is indicated with numbers 1-6 being the elution fractions (1 denotes the first and least stringent elution and 6 the final and most stringent elution) while B indicates that the protein was retained on the bead. For the cAMP baits the elutions were 1) 100 mM GDP; 2) 100 mM AMP; 3) 10 mM cGMP; 4) 100 mM cGMP; 5) 10 mM cAMP and 6) 100 mM cAMP. For the cGMP baits the elutions were 1) 100 mM ADP; 2) 100 mM GMP; 3) 10 mM cAMP; 4) 100 mM cAMP; 5) 10 mM cGMP and 6) 100 mM cGMP.