

Additional file 3. Peptides identified in the Arabidopsis cyclic nucleotide binding protein candidates

Protein	MW (Da)	Experiment	Bait	Fract	Protein ID prob	# uniq peptide	# total spectra	% seq cover	Peptide sequence	Peptide ID prob						
AT3G13920	46,704.90	LEAF cAMP	2-[Biotin]-AHA-cAMP	bead	99.8%	2	2	7.77%	GLDVIQQAQSGTGK	95.0%						
									SRDHTVSATHGDMQNTNR	95.0%						
									LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	2	3	5.34%	ELAQQIEK
		CALLUS cAMP	2-AHA-cAMP-agarose	bead	100.0%	6	9	16.70%	GLDVIQQAQSGTGK	95.0%						
									cGMP antibody	bead	100.0%	3	4	10.40%	DHTVSATHGDMQNTNR	95.0%
									GLDVIQQAQSGTGK	95.0%						
		CALLUS cAMP	2-AHA-cAMP-agarose	bead	100.0%	6	9	16.70%	MFVLDEADEMSLR	95.0%						
									ALGDYLVGK	95.0%						
									ELAQQIEK	95.0%						
		CALLUS cAMP	2-AHA-cAMP-agarose	bead	100.0%	6	9	16.70%	FYNVVVEELPSNVADLL	95.0%						
									GLDVIQQAQSGTGK	95.0%						
									KVDWLTDK	95.0%						
		CALLUS cAMP	2-AHA-cAMP-agarose	bead	100.0%	6	9	16.70%	MFVLDEADEMSLR	95.0%						
									ELAQQIEK	95.0%						
									8-AEA-cAMP-agarose	bead	100.0%	3	5	7.77%	GLDVIQQAQSGTGK	95.0%
		CALLUS cAMP	2-[Biotin]-AHA-cAMP	bead	100.0%	3	5	8.98%	VLIITDLLAR	95.0%						
									GLDVIQQAQSGTGK	95.0%						
									MFVLDEADEMSLR	95.0%						
		CALLUS cAMP	2-AH-cGMP-agarose	bead	100.0%	2	4	6.55%	VLIITDLLAR	95.0%						
									GLDVIQQAQSGTGK	95.0%						
									MFVLDEADEMSLR	95.0%						
		CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	MFVLDEADEMSLR	95.0%						
									SRDHTVSATHGDMQNTNR	95.0%						
									8-AET-cGMP-agarose	bead	100.0%	5	6	12.90%	ELAQQIEK	95.0%
		CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	GLDVIQQAQSGTGK	95.0%						
									KVDWLTDK	95.0%						
									MFVLDEADEMSLR	95.0%						
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	VLIITDLLAR	95.0%								
							2-[Biotin]-AH-cGMP	bead	100.0%	5	9	15.30%	ELAQQIEK	94.7%		
							GLDVIQQAQSGTGK	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	MFVLDEADEMSLR	95.0%								
							SRDHTVSATHGDMQNTNR	95.0%								
							VLIITDLLAR	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	DHTVSATHGDMQNTNR	95.0%								
							ELAQQIEK	95.0%								
							GLDVIQQAQSGTGK	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	MFVLDEADEMSLR	95.0%								
							ELDYLVGAVSNPK	95.0%								
							FSLAPLVPR	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	LASLADLYVNDAFGTAHR	95.0%								
							ELDYLVGAVSNPK	95.0%								
							FLKPSVAGFLLQK	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	FSLAPLVPR	95.0%								
							GVTTIIGGGDSVAAVEK	95.0%								
							2-[Biotin]-AHA-cAMP	bead	100.0%	5	8	14.30%	ELDYLVGAVSNPK	95.0%		
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	FAAGTEAIANK	95.0%								
							FSLAPLVPR	95.0%								
							GVTTIIGGGDSVAAVEK	95.0%								
CALLUS cGMP	2-AH-cGMP-agarose	bead	100.0%	2	5	7.52%	KLASLADLYVNDAFGTAHR	95.0%								
							cAMP antibody	bead	100.0%	9	12	22.50%	AAIPTIK	95.0%		

									AQGLSVGSSLVEEDKLELATELLAK	95.0%
									ELDYLVGAVSNPK	95.0%
									FAAGTEAIANK	95.0%
									FSLAPLVPR	95.0%
									GVTTIIGGGDSVAAVEK	95.0%
									KLASLADLYVNDAFGTAHR	95.0%
									LAELSEK	95.0%
									LASLADLYVNDAFGTAHR	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	3	5	9.36%	AAIPTIK	95.0%
									AQGLSVGSSLVEEDKLELATELLAK	95.0%
									ELDYLVGAVSNPK	95.0%
			8-AET-cGMP-agarose	bead	100.0%	2	5	4.57%	ELDYLVGAVSNPK	95.0%
									FSLAPLVPR	95.0%
			2-[Biotin]-AH-cGMP	bead	100.0%	8	12	18.10%	AAIPTIK	95.0%
									ELDYLVGAVSNPK	95.0%
									FAAGTEAIANK	95.0%
									FSLAPLVPR	95.0%
									GVTTIIGGGDSVAAVEK	95.0%
									KLASLADLYVNDAFGTAHR	95.0%
									LASLADLYVNDAFGTAHR	95.0%
									SVGDLTSADLK	95.0%
			cGMP antibody	bead	100.0%	8	9	18.50%	AAIPTIK	95.0%
									ELDYLVGAVSNPK	95.0%
									FLKPSVAGFLLQK	95.0%
									FSLAPLVPR	95.0%
									GVTTIIGGGDSVAAVEK	95.0%
									KLASLADLYVNDAFGTAHR	95.0%
									LASLADLYVNDAFGTAHR	95.0%
									SVGDLTSADLK	95.0%
AT1G42970	47,659.30	LEAF cAMP	2-AHA-cAMP-agarose	bead	100.0%	4	4	20.40%	AVSLVLPQLK	95.0%
									DSPLEVVLNDSSGGVK	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
			8-AEA-cAMP-agarose	bead	100.0%	6	6	20.10%	AVSLVLPQLK	95.0%
									GLTAEDVNEAFR	95.0%
									GLTAEDVNEAFRK	94.9%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
									VLDEEFGIVK	95.0%
			2-[Biotin]-AHA-cAMP	bead	100.0%	6	9	20.60%	AVSLVLPQLK	95.0%
									GLTAEDVNEAFR	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
									VLDEEFGIVK	95.0%
									VVDLAHLVASK	95.0%
			cAMP antibody	AMP	99.9%	2	3	12.80%	IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
				10 cGMP	99.8%	2	2	6.94%	VIIITAPAK	95.0%
									YDSMLGTFK	95.0%
				bead	100.0%	10	18	32.20%	AVSLVLPQLK	95.0%
									DSPLEVVLNDSSGGVK	95.0%
									GLTAEDVNEAFR	95.0%
									GLTAEDVNEAFRK	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%

									VLDEEFGIVK	95.0%
									VPTPNVSVVDLVINVEKK	95.0%
									VVDLAHLVASK	95.0%
									YDSMLGTFK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	6	11	23.30%	AVSLVLPQLK	95.0%
									DSPLEVVVLNDSGGVK	95.0%
									GLTAEDVNEAFR	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
			8-AET-cGMP-agarose	bead	100.0%	5	9	21.50%	VLDEEFGIVK	95.0%
									AVSLVLPQLK	95.0%
									DSPLEVVVLNDSGGVK	95.0%
									IVDNETISVDGK	95.0%
									VLDEEFGIVK	95.0%
									VVDLAHLVASK	95.0%
			2-[Biotin]-AH-cGMP	bead	100.0%	8	10	28.20%	AVSLVLPQLK	95.0%
									DSPLEVVVLNDSGGVK	95.0%
									GLTAEDVNEAFR	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
									VLDEEFGIVK	95.0%
									VPTPNVSVVDLVINVEKK	95.0%
									VVDLAHLVASK	95.0%
			cGMP antibody	bead	100.0%	7	12	23.70%	AVSLVLPQLK	95.0%
									GLTAEDVNEAFR	95.0%
									IVDNETISVDGK	95.0%
									VIIITAPAK	95.0%
									VLDEEFGIVK	95.0%
									VVAWYDNEWGYSQR	95.0%
									VVDLAHLVASK	95.0%
AT4G20360	51,630.70	LEAF cAMP	2-AHA-cAMP-agarose	bead	100.0%	4	4	12.40%	ILDEALAGDNVGLLLR	95.0%
									SYTVTGVEVFQK	95.0%
									TTLTAALTMALASIGSSVAK	95.0%
									VGETVDLVGLR	95.0%
			8-AEA-cAMP-agarose	bead	100.0%	3	4	7.35%	KYDEIDAAPEER	95.0%
									SYTVTGVEVFQK	95.0%
									VGETVDLVGLR	95.0%
			2-[Biotin]-AHA-cAMP	bead	100.0%	4	7	12.20%	ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									QTELPFLLAEDVFSITGR	95.0%
									VGETVDLVGLR	95.0%
			cAMP antibody	AMP	100.0%	3	3	8.19%	GITINTATVEYETENR	95.0%
									SYTVTGVEVFQK	95.0%
									VGETVDLVGLR	95.0%
				10 cGMP	100.0%	3	3	8.19%	GITINTATVEYETENR	95.0%
									SYTVTGVEVFQK	95.0%
									VGETVDLVGLR	95.0%
				bead	100.0%	7	9	21.40%	BHILLAK	95.0%
									GITINTATVEYETENR	95.0%
									ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									QTELPFLLAEDVFSITGR	95.0%
									SYTVTGVEVFQK	95.0%
									TTLTAALTMALASIGSSVAK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	4	9	11.60%	GITINTATVEYETENR	95.0%

									ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									VGETVDLVGLR	95.0%
			8-AET-cGMP-agarose	bead	100.0%	4	5	12.40%	ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									TTLTAALTMALASIGSSVAK	95.0%
									VGETVDLVGLR	95.0%
			2-[Biotin]-AH-cGMP	bead	100.0%	3	6	8.19%	ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									VGETVDLVGLR	95.0%
			cGMP antibody	bead	100.0%	4	5	10.70%	ILDEALAGDNVGLLLR	95.0%
									KYDEIDAAPEER	95.0%
									SYVTGVEMFQK	95.0%
									VGETVDLVGLR	95.0%
AT3G60750	79,970.10	LEAF cAMP	8-AEA-cAMP-agarose	bead	100.0%	7	7	9.99%	FLAIDAVEK	95.0%
									HTPEGATLESWDSAK	95.0%
									KYPEEASELK	95.0%
									NLSQQCLNALAK	95.0%
									NPYWFNR	95.0%
									TPSILALSR	95.0%
									VTTTIGYGSPNK	95.0%
			2-[Biotin]-AHA-cAMP	bead	100.0%	3	3	5.40%	ALPTYTPESPGDATR	94.5%
									SIITGELPAGWEK	95.0%
									VTTTIGYGSPNK	95.0%
			cAMP antibody	bead	100.0%	3	3	5.80%	AMPNTLMFRPADGNETAGAYK	95.0%
									KYPEEASELK	95.0%
									NLSQQCLNALAK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	7	7	11.30%	AMPNTLMFRPADGNETAGAYK	95.0%
									ANSYSVHGAALGEK	95.0%
									ANSYSVHGAALGEKEVEATR	95.0%
									FLAIDAVEK	95.0%
									NLSQQCLNALAK	95.0%
									SIITGELPAGWEK	95.0%
									TPSILALSR	95.0%
			8-AET-cGMP-agarose	bead	100.0%	3	3	5.53%	KYPEEASELK	95.0%
									SIGINSFGASAPAPLLYK	95.0%
									SIITGELPAGWEK	95.0%
			2-[Biotin]-AH-cGMP	bead	100.0%	8	9	12.00%	ANSYSVHGAALGEK	95.0%
									ANSYSVHGAALGEKEVEATR	95.0%
									FLAIDAVEK	95.0%
									NLSQQCLNALAK	95.0%
									SIGINSFGASAPAPLLYK	95.0%
									TPSILALSR	95.0%
									VTTTIGYGSPNK	95.0%
									YPEEASELK	94.9%
			cGMP antibody	bead	100.0%	3	3	4.99%	NLSQQCLNALAK	95.0%
									SIITGELPAGWEK	95.0%
									VTTTIGYGSPNK	95.0%
AT5G50920	103455.6	LEAF cAMP	2-AHA-cAMP-agarose	bead	99.8%	2	2	2.48%	HIERDPALER	95.0%
									VLENLGADPSNIR	95.0%
			8-AEA-cAMP-agarose	bead	100.0%	4	4	4.63%	AEVSAIQAK	95.0%
									AIDLIDEAGSR	95.0%
									TAIAEGLAQR	95.0%
									VLENLGADPSNIR	95.0%
			2-[Biotin]-AHA-cAMP	bead	100.0%	3	3	3.55%	AIDLIDEAGSR	95.0%

									HAQVPEEAR	95.0%
									VLENLGADPSNIR	95.0%
			cAMP antibody	bead	100.0%	3	3	3.66%	AIDLIDEAGSR	95.0%
									TAIAEGLAQR	95.0%
									VLENLGADPSNIR	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	3	3	3.23%	LLEDMAEK	94.8%
									SLVTEELK	95.0%
									VLENLGADPSNIR	95.0%
			8-AET-cGMP-agarose	bead	100.0%	4	4	5.06%	GSGFVAVEIPFTR	95.0%
									HIEKDPALER	95.0%
									TAIAEGLAQR	95.0%
									VLENLGADPSNIR	94.6%
			2-[Biotin]-AH-cGMP	bead	100.0%	4	4	5.60%	LDMSEFMER	95.0%
									MVGENNEVTANVGGSSSNK	95.0%
									TAIAEGLAQR	95.0%
									VLENLGADPSNIR	95.0%
AT4G37930	57,401.70	LEAF cAMP	2-AHA-cAMP-agarose	AMP	99.8%	2	2	3.68%	FAQTLMER	95.0%
									LIVAGASAYAR	95.0%
				bead	100.0%	3	3	6.96%	LIVAGASAYAR	95.0%
									NTVPGDVSAMVPGGIR	95.0%
									YSEGYPGAR	95.0%
			8-AEA-cAMP-agarose	bead	100.0%	5	6	9.48%	AYQEQLVLSNSAK	95.0%
									FAQTLMER	95.0%
									MGTPALTSR	95.0%
									VLEAVHIASNK	95.0%
									YSEGYPGAR	95.0%
			2-[Biotin]-AHA-cAMP	GDP	100.0%	8	17	12.80%	AYQEQLVLSNSAK	95.0%
									FAQTLMER	95.0%
									GAMIFFR	95.0%
									HEVEEFAK	95.0%
									LRHEVEEFAK	95.0%
									MGTPALTSR	95.0%
									VLEAVHIASNK	95.0%
									YSEGYPGAR	95.0%
				bead	100.0%	6	6	15.70%	GYELVSGGTDNHLVLVNLKPK	95.0%
									LRHEVEEFAK	95.0%
									MGTPALTSR	95.0%
									QLNAPLEEVDP EIADIEHEK	95.0%
									VLEAVHIASNK	95.0%
									YSEGYPGAR	95.0%
			cAMP antibody	bead	100.0%	3	3	6.00%	AYQEQLVLSNSAK	95.0%
									LRHEVEEFAK	95.0%
									YSEGYPGAR	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	4	4	12.00%	LKDFVSAMESSTIQSEIAK	95.0%
									LRHEVEEFAK	95.0%
									QLNAPLEEVDP EIADIEHEK	95.0%
									VLEAVHIASNK	95.0%
			8-AET-cGMP-agarose	bead	100.0%	3	3	6.96%	AYQEQLVLSNSAK	95.0%
									FAQTLMER	95.0%
									NTVPGDVSAMVPGGIR	94.9%
			2-[Biotin]-AH-cGMP	GMP	100.0%	6	9	12.20%	AYQEQLVLSNSAK	95.0%
									FAQTLMER	95.0%
									MGTPALTSR	95.0%
									NTVPGDVSAMVPGGIR	95.0%
									QFPTIGFEK	95.0%

									YSEGYPGAR	95.0%
				10 cAMP	100.0%	2	2	3.48%	MGTPALTSR	95.0%
									YSEGYPGAR	95.0%
				beads	100.0%	7	9	16.60%	AYQEQVLSNSAK	95.0%
									FAQTLMER	95.0%
									LKDFVSAMESSTIQSEIAK	95.0%
									LRHEVEEFAK	95.0%
									NTVPGDVSAMVPGGIR	95.0%
									VLEAVHIASNK	95.0%
									YSEGYPGAR	95.0%
AT3G14420	39,463.60	LEAF cAMP	8-AEA-cAMP-agarose	bead	100.0%	3	3	8.33%	FFQLYVYK	95.0%
									FTLPPNLTLK	95.0%
									MAHPDGEYATAR	95.0%
			cAMP antibody	bead	100.0%	7	7	26.90%	AASAAGTIMTLSSWATSSVEEVASTGPGIR	95.0%
									AIALTVDTPR	95.0%
									GVLGTEDAR	95.0%
									IPVFLDGGVR	95.0%
									MAHPDGEYATAR	95.0%
									NFEGLDL GK	95.0%
									QLDYVPATISALEEVVK	95.0%
		LEAF cGMP	2-[Biotin]-AH-cGMP	bead	100.0%	2	2	6.11%	AIALTVDTPR	95.0%
									MAHPDGEYATAR	95.0%
			cGMP antibody	bead	100.0%	3	3	10.00%	AIALTVDTPR	95.0%
									GVLGTEDAR	95.0%
									QLDYVPATISALEEVVK	95.0%
AT4G09650	25,669.10	LEAF cAMP	2-[Biotin]-AHA-cAMP	bead	99.9%	2	2	9.83%	QVIDDIVK	95.0%
									SVVKLEAPQLAQIAK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	100.0%	2	2	8.97%	LEAPQLAQIAK	95.0%
									LTDTQLAEVR	95.0%
			8-AET-cGMP-agarose	bead	100.0%	4	4	22.60%	LTDTQLAEVR	95.0%
									QVIDDIVK	95.0%
									SSSLQSHTSNFLNVLVDANR	95.0%
									SVVKLEAPQLAQIAK	95.0%
			2-[Biotin]-AH-cGMP	bead	99.8%	2	2	7.69%	LTDTQLAEVR	95.0%
									QVIDDIVK	95.0%
AT1G09340	42,621.40	LEAF cAMP	2-[Biotin]-AHA-cAMP	GDP	100.0%	7	10	22.50%	DLATAFLNVLGNEK	95.0%
									EADFTTDDMILSK	95.0%
									EAEVEPILEALPK	95.0%
									EIFNISGEK	95.0%
									LETESLLQSK	95.0%
									QLPGESDQDFADFSSK	95.0%
									YVTFDGLAK	95.0%
			cAMP antibody	bead	100.0%	2	3	7.94%	DLATAFLNVLGNEK	95.0%
									QLPGESDQDFADFSSK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	99.8%	2	4	7.41%	DLATAFLNVLGNEK	95.0%
									EAEVEPILEALPK	95.0%
			2-[Biotin]-AH-cGMP	GMP	100.0%	2	3	7.14%	EADFTTDDMILSK	95.0%
									EAEVEPILEALPK	95.0%
				bead	100.0%	3	5	9.79%	DLATAFLNVLGNEK	95.0%
									EAEVEPILEALPK	95.0%
									EIFNISGEK	95.0%
AT1G56330 AT3G62560 AT4G02080	21,987.60	CALLUS cAMP	2-AHA-cAMP-agarose	bead	100.0%	3	3	14.50%	IDIPYAASEDELK	95.0%
									VDAVVYLVDAIDK	95.0%

									VDAVVYLVDAVDKER	95.0%
		CALLUS cGMP	8-AET-cGMP-agarose	bead	100.0%	2	3	9.84%	AFDLGGHQIAR	95.0%
									MGYGEGFK	95.0%
			cGMP antibody	bead	100.0%	3	3	20.20%	IDIPYAASEDELK	95.0%
									ILFLGLDNAGK	95.0%
									VDAVVYLVDAVDKER	95.0%
AT4G27440	43,360.50	LEAF cAMP	8-AEA-cAMP-agarose	bead	99.8%	2	2	7.73%	KGNVVVTGASSGLGLATAK	95.0%
									LAQVVSDPSLTK	95.0%
			cAMP antibody	bead	99.9%	2	2	7.98%	GYVSETESGKR	95.0%
									RTETPLDVLVCNAAVYFPTAK	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	99.8%	2	2	4.74%	ANLGLDK	95.0%
									LAQVVSDPSLTK	95.0%
AT3G01500	37,450.70	LEAF cAMP	2-[Biotin]-AHA-cAMP	bead	100.0%	3	3	20.70%	AFDPVETIK	95.0%
									VCPSHVLDVDFQPGDAFVVR	95.0%
									VISELGDSAFEDQCGR	95.0%
		LEAF cGMP	2-AH-cGMP-agarose	bead	99.8%	2	2	14.80%	AFDPVETIK	95.0%
									VISELGDSAFEDQCGR	95.0%

Peptide sequences identified in each of the Arabidopsis CNBP candidates. The molecular weight (MW) is given in Dalton (Da). The fraction (Fract) in which the protein was identified is indicated with the number showing the millimolar concentration of the nucleotide in the elution series. Probability (Prob) of protein identification (ID) and peptide ID was calculated using Scaffold. The number (#) of unique (uniq) peptides and the # of total spectra is shown. Percentage (%) sequence (seq) coverage (cover) reveals the proportion of the protein identified.