



# Corrigendum to: Proton and calcium pumping P-type ATPases and their regulation of plant responses to the environment

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In the published article, there were errors in Figures 1 and 3. The versions of Figures 1 and 3 in the accepted manuscript submitted to production were missing columns of residue numbers as described in the text. These columns have been restored in the versions below.

Figure 1:  
Previous version

AHA1_ARATH	SGKAWASLFDNR	TAFTT	KKDYG	IGEREA	QWAQAQR	TLHGL	QPKEDVNI	FPEK
AHA2_ARATH	SGKAWLNL	FENKTAFT	MKKDYG	KEEREA	QWALAQR	TLHGL	QPKAVNI	FPEK
AHA3_ARATH	AGTAWKNI	IDNR	TAFTT	KQNYG	IEEREA	QWAHAQR	TLHGL	QNTETANV
AHA4_ARATH	SGRAWDLV	IEQRVAFT	RQKDFG	KEQRE	LQWAHAQR	TLHGL	QAPDT	KMFTDR
AHA11_ARATH	SGRAWDLV	IEQRVAFT	RQKDFG	KEQRE	LQWAHAQR	TLHGL	QAPDA	KMFFER
AHA5_ARATH	SGKAWLNL	LLENKTAFT	TKKDYG	KEEREA	QWAAAQR	TLHGL	QPAEKNNI	FNEK
AHA6_ARATH	SGKAWN	NMIENRTAFT	TKKDYG	RGEREA	QWALAQR	TLHGL	KPPE	--SMFEDT
AHA8_ARATH	TGKAWD	NMINQKTAFT	TKKDYG	KGEREA	QWALAQR	TLHGL	PPPE	--AMFNDN
AHA9_ARATH	SGKAWD	NVIENKTAFT	SKKDYG	KGEREA	QWAQAQR	TLHGL	QPAQTS	DMFNDK
AHA7_ARATH	SGKSWDR	MVEGR	TALTG	KKNFQ	QEERMAAW	ATEKRT	QHGLE	LETGQK-PVYERN
AHA10_ARATH	SGEAWN	LVLD	RKTAFT	TYKKDYG	KDDGSP	NVTISQ	RSRS	-----AEELR

## Region I

AHA1_ARATH	GSYREL	SEIAEQ	AKRRAE	IARLREL	HTLKGHVES	SVAKLKGLDID	TAG-HH	YTV
AHA2_ARATH	GSYREL	SEIAEQ	AKRRAE	IARLREL	HTLKGHVES	SVVVKLGLDIE	TP--	SHYTV
AHA3_ARATH	GGYREL	SEIANQ	AKRRAE	IARLREL	HTLKGHVES	SVVVKLGLDIETA	--	GHYTV
AHA4_ARATH	THVSEL	NQMAEE	AKRRAE	IARLREL	HTLKGHVES	SVVRLKGLDIETIQ	-	QAYTV
AHA11_ARATH	THFNEL	SQMAEE	AKRRAE	IARLREL	HTLKGHVES	SVVRLKGLDIETIQ	-	QAYTV
AHA5_ARATH	NSYSEL	SQIAEQ	AKRRAE	VVRLRE	INTLKGHVES	SVVVKLGLDIDTIQ	-	QHYTV
AHA6_ARATH	ATYTEL	SEIAEQ	AKRRAE	VARLRE	VHHTLKGHVES	SVVVKLGLDIDNLN	-	QHYTV
AHA8_ARATH	K--	NELSEIAEQ	AKRRAE	VARLREL	HTLKGHVES	SVVVKLGLDIDTIQ	-	QHYTV
AHA9_ARATH	STYREL	SEIADQ	AKRRAE	VARLRE	RHTLKGHVES	SVVKQKGLDIEAIQ	-	QHYTV
AHA7_ARATH	S-AT	ELNNMAEE	AKRRAE	IARMREL	LQTLKGKVES	SAAKLGKGYDLED	PN	SNNYTI
AHA10_ARATH	GSRSRAS	SWIAEQ	TRRAE	IARLLE	VHVS	SRHLES	SVIKLKQID	QRMIR-AAHTV

## Region II

## 14-3-3 protein binding

Revised version

AHA1\_ARATH 846 SGKAWASLFDNRTAFTT**KKDYGIGEREAWQAQR**TLHGLQPKEDVNI FPEK  
 AHA2\_ARATH 846 SGKAWLNLNFENKTAFT**MKKDYGKEEREAWALAQ**RTLHGLQPKAVNI FPEK  
 AHA3\_ARATH 847 AGTAWKNIIDNRTAFT**TKKONYGIEEREAWAHAQR**TLHGLQNTETANV VPER  
 AHA4\_ARATH 858 SGRAWDLVIEQRVAF**TTRQKDFGKEQRELOWAHAQR**TLHGLQAPDT-KMF TDR  
 AHA11\_ARATH 854 SGRAWDLVIEQRVAF**TTRQKDFGKEQRELOWAHAQR**TLHGLQAPDA-KMFPER  
 AHA5\_ARATH 846 SGKAWLNLLENKTAFTT**KKDYGKEEREAWAAQR**TLHGLQPAEKNNI FNEK  
 AHA6\_ARATH 848 SGKAWNNMIENRTAFTT**KKDYGRGEREAWALAQ**RTLHGLKPPPE--SMFEDT  
 AHA8\_ARATH 849 TGKAWDNMINQKTAFTT**KKDYGKGEREAWALAQ**RTLHGLPPPE--AMFNDN  
 AHA9\_ARATH 851 SGRAWDNVIENKTAFT**TSKKDYGKGEREAWQAQR**TLHGLQPAQTS DMFNDK  
 AHA7\_ARATH 859 SGKSWDRMVEGR**TALGKKNFGQEERMAAWATEKR**TQHGL**ETGQK**-PVYERN  
 AHA10\_ARATH 853 SGEAWNLVLD**RKTAFTYKKDYGKDDGSPNVTISQ**R**SRS**-----AEELR

## Region I

AHA1\_ARATH 898 G**SYRELS**E**IAEQAKRRAEIAR**L**RELH**T**LKGHVES**VAKLKGLDID**TAG**-HHYTV  
 AHA2\_ARATH 898 G**SYRELS**E**IAEQAKRRAEIAR**L**RELH**T**LKGHVES**SVVKLKGLDIE**TP**--SHYTV  
 AHA3\_ARATH 899 GGYRELS**EIANQAKRRAEIAR**L**RELH**T**LKGHVES**SVVKLKGLDI**ETA**--GHYTV  
 AHA4\_ARATH 909 THVSEL**NQMAEEAKRRAEIAR**L**RELH**T**LKGHVES**SVVRLKGLDI**ETIQ**-QAYTV  
 AHA11\_ARATH 905 THFNEL**SQMAEEAKRRAEIAR**L**RELH**T**LKGHVES**SVVRLKGLDI**ETIQ**-QAYTV  
 AHA5\_ARATH 898 NSYSEL**SQIAEQAKRRAEVVR**L**REINT**LKGHVES**SVVKLKGLDID**TIQ-QHYTV  
 AHA6\_ARATH 898 ATYTEL**SEIAEQAKRRAEV**AR**LRE**VHT**LKGHVES**SVVKLKGLDID**NLN**-QHYTV  
 AHA8\_ARATH 899 K--**NELSEIAEQAKRRAEV**AR**LRE**LH**TLKGHVES**SVVKLKGLDID**TIQ**-QHYTV  
 AHA9\_ARATH 903 STYRELS**EIADQAKRRAEV**AR**LRE**RHT**LKGHVES**SVVK**QKGLDIE**AIQ-QHYTV  
 AHA7\_ARATH 910 S-**ATELNMAEEAKRRAEIAR**M**RELQ**T**LKGKVES**SAAK**LKGYD**LEDPN**SNNYTI**  
 AHA10\_ARATH 896 GSRSRAS**WIAEQTRRAE**I**ARLLE**VHVS**SRHLES**VI**IKLKQID**QRMIR-AAHTV

## Region II

## 14-3-3 protein binding

Figure 3:

Previous version

ACA8\_ARATH -----MT**SLLK**S**SPGRRRGGDVE**S**SGKSEHAD**S**SDT**FYIPS-KNAS**IERLQWRKA-ALV**L**NASRRR**FRY**TLDL**K  
 ACA10\_ARATH -----MSGQFN**S**PRGEDK**DVEAGTSS**F**TEY**EDSP**FDIA**ST**KNAP**VE**RLRRWRQA-ALV**L**NASRRR**FRY**TLDL**K  
 ACA4\_ARATH -----MSNLLR**DFEVEA-KNPS**L**EARQRWRSSV**S**VIKNRTRR**FR**NI**RDL  
 ACA11\_ARATH -----MSNLL**KDFE**VAS-K**NP**S**L**EAR**QRWRSSVGLVKNRARR**FR**MI**SNL  
 ACA5\_ARATH -----MESASS**L**ATS**GRRRSSSGGGG**SWG**SIG**SAAD**FDI**PA-KGAP**VESLKKWRQA-ALV**L**NASRRR**FRY**TLDL**K  
 ACA9\_ARATH MSTSS**SNGL**LL**TSM**GR**HDDMEAG**SA**KTEEH**S**D**HEEL**QHPDD**FD**INDT**KNAS**VESLRRWRQA-ALV**L**NASRRR**FRY**TLDL**N  
 ACA1\_ARATH -----MESYLN**EN**FGDV**KPKNS**SD**EALQRWRKLC**W**IVKNPKRR**FR**FTAN**IS  
 ACA2\_ARATH -----MESYLN**EN**FD**VKA-KH**SS**EVLEKWRN**L**CGVVK**NP**KRR**FR**FTAN**IS  
 ACA7\_ARATH -----MEC**ADY**FIG**SGRRC**SP**STST**ST**SREAWR**PE**KQWR**KAT**NVIRG**CH**RL**LL**LG**VLSA  
 ACA12\_ARATH -----MRDL**KEYD**YS**ALLN**LT**SSLN**KA**QRRWR**FA-YAA**YSM**R**AML**SL**VKEI**  
 ACA13\_ARATH -----MRR**NSD**H**A**E**KDK**V**GEV**L**LELP**KT**LSK**SN**KK**W**L**A-LIK**LYC**S**RT**LL**NC**A**KA**H

## CaMBS1

ACA8\_ARATH KEQ**ET**---**REMRQ**K**IR**SHAH**ALLANR**F**MD**MG**RES**GV**EKT**T**GPAT**P**AGD**--**FGIT**PE**Q**L**VIM**SK**DHNS**G**ALEQ**Y**GGT**Q**GL**A  
 ACA10\_ARATH REED**K**---**KQMLR**K**MR**A**HAQ**A**IRA**A**HLF**K**AA**AS**RV**T**IGIA**S**PLP**T**PGG**D--**FGIG**Q**EQ**IV**S**SR**DQ**N**IGAL**Q**EL**GG**V**R**GL**S  
 ACA4\_ARATH KLAD**YEN**KK**HQIQEK**I**RV**AF**FVQ**K**AALH**F**IDAA**AR**PEY**KL**TDEV**KK-**AG**---**F**S**IEA**DE**L**AS**MVR**N**HD**T**KS**L**AQ**KG**G**V**E**EL**A**  
 ACA11\_ARATH KLA**EN**E**KKRCQIQEK**I**RV**V**FV**Q**KAA**F**Q**F**IDAG**AR**PEY**KL**TDEV**KK-**AG**---**F**Y**VEA**DE**L**AS**MVR**N**HD**T**KS**L**TKI**GG**PE**G**IA**  
 ACA5\_ARATH REE**Q**R---**E**EV**ISK**I**RAQ**A**H**V**VRAA**F**R**KE**AG**Q**VH**V**Q**KE**VA**AP**PVD**G**AL**GF**G**IK**ED**Q**L**T**AL**TR**DH**NY**SAL**Q**QY**GG**IS**G**V**A  
 ACA9\_ARATH KEE**H**Y---**D**NR**RM**T**RA**HA**Q**V**IRA**LL**F**KL**AG**EQ**Q**IA**FG**S**ST**PA**AST**GN--**F**D**IDL**E**K**L**V**SM**TR**N**Q**N**MS**N**L**Q**QY**GG**V**K**G**V**A**  
 ACA1\_ARATH KR**SE**A**E**AI**RR**SN**QEK**FR**V**AV**LVSQA**L**Q**F**IN**SL**KS**SE**Y**TL**P**EE**VR**K**AG**---**F**E**IC**PD**EL**GS**IV**EG**H**DL**KL**K**IKH**GG**TE**GL**T**  
 ACA2\_ARATH KRY**E**AA**AM**RR**TN**Q**E**K**L**RI**AV**L**VSKAA**F**Q**F**IS**GV**SP**SD**Y**TV**PE**D**VKA**-**AG**---**F**E**IC**AD**EL**GS**IV**ES**H**D**V**KK**L**FK**H**GG**V**D**GL**A  
 ACA7\_ARATH AAG**IM**RR**N**PS-----**Y**VE**IK**V**H**DE**GE**LD**VSS**GG**D**GE**AP**V**A**FT**V**AA**DD**ES**F**KG**L**V**KN**K**RE**DC**F**RL**GG**G**AG**V**A**  
 ACA12\_ARATH V**PAR**ID**PK**TS-----**D**AS**L**SL**S**Y**TAL**ES**G**E**GAK**IN**SM**PL**S**V**Y**PA**ID**Q**E**Q**L**VE**IM**KG**K**D**L**PG**I**Q**AL**GG**VE**G**V**A  
 ACA13\_ARATH IR**K**PL**F**PR**S**-----**L**SY**TA**IDL**D**HH**H**GG**DD**H**F**K**ID**TE**L**ND**L**V**KN**KN**Q**E**K**LE**S**L**GG**P**N**GL**V**

## CaMBS2

## Revised version

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ACA8_ARATH -----MTSLLKSSPGRRRGGDVESGKSEHADSDSDTFYIPS-KNASIERLQQRKA-ALVLNASRRFRYTLDLK 67
ACA10_ARATH -----MSGQFNNSPRGEDKDVEAGTSSFTBYEDSPFDIASTKNAPVERLRRWRQA-ALVLNASRRFRYTLDLK 67
ACA4_ARATH -----MSNLLRDFEVEA-KNPSLEARQRWRSSVSIVKNRTRRRFRNIRDLD 45
ACA11_ARATH -----MSNLLKDFEVAS-KNPSLEARQRWRSSVGLVKNRARRFRMISNLD 45
ACA5_ARATH -----MESASSSLATSGRRRSSGGGGGWSGISGAADPFDI PA-KGAPVESLKKWRQA-ALVLNASRRFRYTLDLK 70
ACA9_ARATH MSTSSSNGLLLTSMGRHDDMEAGSAKTEEHSDHEELQHDPDDPFDIDNTKNASVESLRRWRQA-ALVLNASRRFRYTLDLN 81
ACA1_ARATH -----MESYLNENFGDVKPKNSSDEALQRWRKLCWIVKNPKRRFRFTANLS 46
ACA2_ARATH -----MESYLNENFDVKA-KHSSEEVLEKWRNLCGVVKNPKRRFRFTANLS 45
ACA7_ARATH -----MECADYFIGSGRRCSPTSTSTSREAWRPEKQWRKATNVIRGCHRLRLGLVLSA 54
ACA12_ARATH -----MRDLKEYDYSALLNLTSSLNKAQRRWRFA-YAAIYSMRAMLSLVKEI 48
ACA13_ARATH -----MRRNVSDHAEKKDKVGEVLELPKTLSKSNKKWQLA-LIKLYCSRTLLNCAKHA 54

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## CaMBS1

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ACA8_ARATH KEQET----REMROKIRSHAHALLAANRFMDMGRESGVEKTTGPATPAGD--FGITPEQLVIMSKDHNSGALEQYGGTQGLA 143
ACA10_ARATH REEDK----KQMLRKMRAHAQAIRAAHLFKAAASRVTGIASPLPTPGGGD--FGIGQEQIVSISRDNIGALQELGGVRLS 143
ACA4_ARATH KLADYENKKHQIQEKIRVAVFFVQKAALHFIDAAARPEYKLTDEVKK-AG--FSIEADELASMVRKNDTKSLAQKGGVEELA 122
ACA11_ARATH KLAENEKKRCQIQEKIRVVFYVQKAAFQFIDAGARPEYKLTDEVKK-AG--FYVEADELASMVRNHDTKSLTKIGGPEGIA 122
ACA5_ARATH REEQR----EEVISKIRAQAHVRAAFRFKEAGQVHVQKEVAAPPVDGALGFGIKEDQLTALTRDHNYSALQQYGGISGVA 148
ACA9_ARATH KEEHY----DNRRRMIRAHAQVIRAALFLKLAGEQQIAFGSSTPAASTGN--FDIDLEKLVSMTRNQNMSNLQQYGGVKGVA 157
ACA1_ARATH KRSEAEAIRRSNQEKFRVAVLVSQAALQFINSLKLSSEYTLPEVRKAG--FEICPDELGSIVESHDLKKLKIHGGTEGLT 125
ACA2_ARATH KRYEAAAMRRTNQEKLRIAVLVSQAALQFISGVSPSDYTPEDVKA-AG--FEICADELGSIVESHVDKLKFHGGVDGLA 123
ACA7_ARATH AAGIMRRNPS-----YVEIKVHDEGELDVSSGGGEAPVFTVAADDESFKGLVKNKREDCFRLLGGGAGVA 121
ACA12_ARATH VPARIDPKTS-----DASLSLSYTALESGEGAKINSMPLSYVPAIDQEQLVEIMKGDLPGIQALGGVEGVA 115
ACA13_ARATH IRKPLGFPRS-----LSYTAIDLDHHHGDHFKIDTETLNDLVKNKNQEKLESLGPNGLV 110

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## CaMBS2

These errors have now been corrected in the article online.