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OPEN Author Correction: The interplay between membrane lipids and phospholipase A family members in grapevine resistance against Plasmopara viticola

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Correction to: Scientific Reports https://doi.org/10.1038/s41598-018-32559-z, published online 28 September 2018

This Article contains an error in the order of the Figures. Figures 6 and 7 were published as Figures 7 and 6 respectively. The Figure legends are correct and the correct Figures 6 and 7 appear below as Figures 1 and 2.

In addition, this Article contains a typographical error in the Results and Discussion section, under the subheading 'Lipid modulation during first hours of grapevine-P. viticola interaction' where,

"The proportions of PC and PG, the main phospholipid classes of leaf cell membranes, remain unchanged at 6 hpi (Fig. 3E; Supplementary Table S2)".

should read:

"The proportions of PC and PG, the main phospholipid classes of leaf cell membranes, remain unchanged at 6 hpi (Fig. 3D; Supplementary Table S2)".

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		1320 1	.330 1	340		
A)	VviPLA ₁ -Ia	GEELS ITLA <mark>GHS</mark> MO	SSLALLLAYD	DIAELGLNR		
)	Vv_1PLA_1 -I β I	DEPLSLTITGHSLO	AALAILTAYD	DIKTTF		
	VviPLA,-IB2	DEDISITIT		I ATTE		
	VviPLA ₁ -Iy1	NEELSITFTGHSLO	GALAVLSAYD	VAETGLNV		
	VviPLA ₁ -Iy2	DEE IS IT IT <mark>GHSLO</mark>	AALALLSAYD	DIAEMNLNV		
	VviPLA ₁ -IIγ1a	NEE IS ISLT <mark>GHSLO</mark>	A A V A T L N A V C	DIVANGLN -		
	Vv_1PLA_1 -II γ 1b	NEEISISLTGHSLO	AAVATL NAVE	DIVANGLN -		
	VviPLA,-IIδ	DEKVSIIVTGHSLO	AALGILCAAL	DIVANKENK DIVENEIV -		
	VviPLA ₁ -IIIa1	GEEVSLTVTGHSLO	GALALLNAYE	AASSL		
	VviPLA ₁ -IIIa2	GEEVSFTIT <mark>GHSLO</mark>	G A L A L L N A Y E	AAATL		
	$VviPLA_1$ -III β 1a	GEQVSLTITGHSLO	GALALLNAYE	AATSL		
	VVIPLA ₁ -IIIBID	GEQUSETITGHSLO	GALALLNAYE	AATSL		
		470	480			
B)	VviPA-PLA ₁ - α	GYDGKVSIYGHSLO	SVLSYDILCH	IQDNL SSPFP		
D)	VviPA-PLA ₁ -β	GYDGKVSIY <mark>GHSLO</mark>	SVLSYSILCH	QDNL SSPFP		
		GxSxG	ł			
-		50 60	70	80	90	100
C)	VvisPLA ₂	NCNSVGIRYGKFCG	VGWTGCPGEK	PCDDLDACCK	IHDECVEKKGL	ізіксн
		RYGKYC	GxxxxGC	LDACCx	xHDxCV	
		530 540	550	560	570	580
D	VvipPLA-Iα	LRILSMDGGG - MKC	LGTVQVLKEI	EKG-	TGKRIHELFDL	ICGTSTGGML
D)	VvipPLA-Iβ	LRILSMDGGG - MK	GLGTVQVLKEI	EKG-	TGKRIHELFDL	ICGTSTGGML
	VvipPLA-IIala	ITILSIDGGG - IRG	L IPGTVLGFL	ESELQKLDG -	EDARISDYFDV	IAGTSTGGLV
	VvipPLA-IIalb	IT ILS IDGGG - IRG	IL IPGTVLGFL	ESELQKLDG -	EDARISDYFDV	IAGTSTGGLV
	VvipPLA-IIa3	IT ILS IDGGG - IRG	SI IPGTVLGFL	ESELQKLDG -	EDARISDIFDV	IAGTSTGGLV
	VvipPLA-IIβ1a	VTILSIDGGG-IRG	IIPATILALL	ESQLQELDG -	DDARIADYFDV	IAGTSTGGLV
	VvipPLA-IIβ1b	VTILSIDGGG - IRG	I I PAT I LALL	ESQLQAVDG -	DDAR IADYFDV	IAGTSTGGLV
	VvipPLA-II ^β 2a	VTIFSIDGGG-IRG	IIPATILARL	ETRLQELDG -	DDARIADYFDV	IAGTSTGGIV
	VvipPLA-IIp2b	VTILSIDGGG-IRG	I I PATILARL	ETRLQELDG -	DDARIADYFDV	IAGTSTGGIV
	VvipPLA-IIB4a	VTILSIDGRG-IRG	TIPATILACI	ESOLOFIDG -	DDARIADYFDV	IAGTSTGGLV
	VvipPLA-IIβ4b	VTILSIDGGG-IRG	IIPATILACL	ESQLQELDG -	DDARIADYFDV	IAGTSTGGLV
	VvipPLA-IIγ1a	ITILSIDGGG - VRG	GIIPAVILSAL	EAQLQRLDG -	PDARIADYFDL	IAGTSTGSIV
	VvipPLA-IIy1b	IT ILS IDGGG - VRG	SIIPAVILSAL	EAELQRLDG -	PDARIADYFDL	IAGTSTGSIV
	VVIPPLA-IIY2			EAQLQRIDG -	PNAR IADYFDV	IAGINIGSIV
	VvipPLA-II δ 2	ITVLSIDGGG - IKC	IIPGIILDFL	ESELOKLDG -	EDARLADYFDV	VSGTSTGGL I
	VvipPLA-II83	ITILSIDGGG - VRG	I I PG I I L A F L	ESELQKLDG -	EDARLADYFDV	IAGTSTGGLI
	VvipPLA-IIɛ1	VTVLSIDGGG - VRG	GIIPGTLLAFL	ESKFQELDG -	DDAR IADYFDV	IAGTSTGGLV
	$V_{VipPLA-IIE2}$	ITVLSMDGGG - IRC	ILPGT ILSFL	ESKLQELDG -	ADAR IADYFDV	IAGTSTGGLI
	VvipPLA-IIIß	ICUSIDGGG - MRG	TI SGRALAYI	FOALKTKSGN	POARIADYFDV	AAGAGVGGIE
	VvipPLA-IIΙδ	TRVLSIDGGG - TTA	VVATAALVHL	EDQIQLKTGD	SHSRIVDFFDV	VVGTGIGAVF
		DGGGxRG	1			GTSTG
		800 81	0 82	0 830	840	1
	VvipPLA-Ia	AIRASSAAPYYLDI	DFS DDM -	NRW QD	GAIVANNPTVF	SMREA
	VvipPLA-Ip VvipPLA-IIala	AIRASSAAPYYLDI) F S D D M -	ORWQD	GAIVANNPTVF:	SMREA
	VvipPLA-IIa1b	ICIGTSAAPTYLPA	AHYFETKDPA ·	GRVREFNLID	GGVAANNPTLV	AIGEV
	VvipPLA-IIa2	ICIGTSAAPTYLPA	AHYFETKDPA ·	GRVREFNLID	GGVAANNPTLV	AIGEV
	VvipPLA-IIa3	ICIGTSAAPTYLPA	AHYFETKDPT ·	GRVREFNLID	GG V A A N N P A L V.	AIGEV
	VvipPLA-IIBIa	ICIGSSAAPTYFPO	SHYFKNQDKE ·	GKTQEFNLID	GGVAANNPALV.	AISQV
	VvipPLA-IIB2a	ICIGSSAAPTYFPO	AYFEKNODKE ·	GKTQEFNLID	GGVAANNPALV.	AITOV
	VvipPLA-II62b	ICIGSSAAPTYFPA	AYFFKNQDKE ·	GKTQEFDLID	GGVAANNPALV	AITQV
	VvipPLA-IIβ3	ICIGSSAAPTYFPA	AYYFKNQDKE -	GKTQEFDLID	G G V A A N N P A L V	AITQV
	VvipPLA-IIβ4a	ICIGSSAAPTYFPA	YFFKNQDKE ·	GKARELNLID	GGVAANNPALV	AISQV
	VVIPPLA-IIB4b		AYFFKNQDKE -		GGVAANNPALV.	AISQV
	vviprLA-IIyla VvipPLA-IIyla	VVMSSAAAPVFPS	SHNFK AD -	G RMYNLVD	GGVAANNPTLL	AIOEA
	VvipPLA-II ₂	AVLGSAAAPISFRO	CHHFE AD	G KIYNLVD	GGMGANNPTLL	AIREA
	VvipPLA-IΙδ1	ICIGTSAAPTYLPA	YCFVNQDDQ ·	GSTREFNLID	G G L A A S N P T L V	AISEV
	VvipPLA-II ₀₂	ICISTSAAPTFLPA	AYYFENPDEKG	GKMREFNLTD	GGVAANNPTLL	AISEV
	VVIPPLA-II03	ICIGISAAPTYLPA	AHYFENQDDQ ·	CKTRSENLID	GGVAANNPCLV.	AISEV
	VvipPLA-IIe2	ICISTSSAPTYLPA	AYNFRTHDSD -	GNEREFHLVD	GGVAANNPALL	AMKPT
	VvipPLA-IIIα	VCVATSSDPTVAGO	GVELRSVDRG	TRIMAVD	GRIAMNNPTAA	AITHV
	VvipPLA-IIIβ	VCRATSAEPAIFE	VSMRSVDGQ ·	TRCVAID	G G L A M <mark>S</mark> N P T A A	AITHV
	vvipPLA-IIIð	VCRATTATPSMFK	FSLTSVDGK	· TSCSAVD	GGLVMNNPTAA.	AVTHV
		SAAPTY		D	GGXXANN	

Figure 1. Multiple alignments of four grapevine PLA families representing the consensus and conserved motifs. Protein sequences were aligned for each PLA family, separately, applying MAFFT tool. The consensus motifs have been shown in shadow boxes according BLOSUM62. (A) VviPLA1; (B) VviPA-PLA1; (C) VvisPLA2; (D) VvipPLA.

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27.96±19.90 *	114.87±42.36 *	18.43±5.56 *	VviPLA ₁ -Iβ1
2.79±1.73	18.57±3.16 *	29.28±0.69 *	VviPLA ₁ -Iy1
4.27±0.15 *	0.71±0.58	1.01 ± 0.14	VviPLA ₁ -Πδ
3.11±0.36 *	0.62±0.32	0.76±0.06	VvisPLA2
2.37±0.59 *	1.89±0.43	3.13±0.45 *	VvipPLA-I
9.21±7.13	69.73±19.97 *	157.03±7.85 *	VvipPLA-IIβ
3.90±1.08 *	4.97±1.52 *	2.13±0.82 *	VvipPLA-II82
0.87±0.12 *	0.47±0.26	1.33±0.26	VvipPLA-IIIβ
6 hpi	12 hpi	24 hpi	1

Figure 2. Gene expression profiles in Regent inoculated leaves. For each time point (6, 12 and 24 hpi) gene transcripts fold-change relative to controls are represented for *VviPLA*₁-*I* β 1; *VviPLA*₁-*I* γ 1; *VviPLA*₁-*II* δ ; *VvisPLA*₂; *VvipPLA*-*I*; *VvipPLA*-*II* β ; *VvipPLA*-*II* β . Fold-change values are relative to expression in mock inoculated leaves. Asterisks indicate significant differences (p < 0.05).

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