

10.1071/BT14215\_AC

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Supplementary Material: *Australian Journal of Botany* **62**, 698–704

## Supplementary Material

### **Molecular cloning, expression and sequence analysis of a phenylalanine ammonia-lyase gene from *Poncirus trifoliata* under iron deficiency**

*Jian-Fu Li*<sup>A</sup>, *Wen-Jun Zheng*<sup>A</sup>, *Li Zeng*<sup>A</sup>, *Jian-Fu Liu*<sup>A</sup> and *Ming-Yuan Wang*<sup>A,B,C</sup>

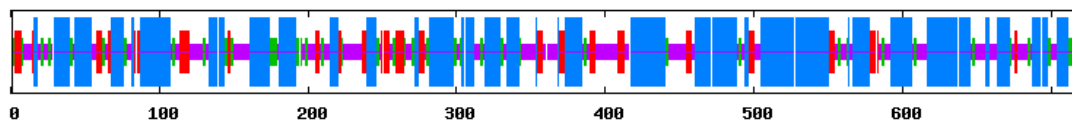
<sup>A</sup>Department of Horticulture, Huaqiao University, Xiamen, 361021, PR China.

<sup>B</sup>Engineering Research Center for Biomass Resource Utilization and Modification of Sichuan Province, 621010, PR China.

<sup>C</sup>Corresponding author. Email: w\_mingyuan@163.com

1 ATGGACAGAGGTGCTGTTATTGAGAATGGTCACCAGAACGGTTGCTTGGAGGGTTTGTGC  
1 M D R G A V I E N G H Q N G C L E G L C  
61 AAGAACAACAATTACAGTTCTGGGGATGCGTTGAACTGGGGAGTGATGGCGGAGACGTTG  
21 K N N N Y S S G D A L N W G V M A E T L  
121 AAGGGGAGCCATTTGGAGGAAGTGAAGCGAATGGTGGCGGAGTACAGGAAGCCGGTGGTC  
41 K G S H L E E V K R M V A E Y R K P V V  
181 AATTCGGTGGTGAGACATTGACTGTAGCACAAGTGGCTGCCATTGCGACAGCTGGCGAC  
61 N L G G E T L T V A Q V A A I A T A G D  
241 GTCAACGCCCAAGTCAAAGTGGAGCTCTCAGAATCCGCCAGGAAGGTGTCAAGGCCAGC  
81 V N A Q V K V E L S E S A R E G V K A S  
301 AGTGATTGGGTGATGGAGAGCATGAATAAGGGCACCGACAGTTACGGCGTTACCACTGGC  
101 S D W V M E S M N K G T D S Y G V T T G  
361 TTTGGTGCCACTTCTCATCGGAGAACCAAGAACGGCGGTGCTCTTCAGAAAGAGCTCATT  
121 F G A T S H R R T K N G G A L Q K E L I  
421 AGATTTTTGAACGCTGGAATCTTTGAAACCGAACAGAGTCATCTCACATGCTGCCTCAC  
141 R F L N A G I F G N G T E S S H M L P H  
481 TCAGCAACAAGGGCAGCCATGCTTGTGAGGGTCAACACTCTTCTCAGGGCTACTCTGGC  
161 S A T R A A M L V R V N T L L Q G Y S G  
541 ATCCGATTTGAAATCCTGGAAGCGATTACAAAGTGTCTCAATCACAGCATCACTCCATGC  
181 I R F E I L E A I T K L L N H S I T P C  
601 CTGCCTCTTCGCGGCACAATCACTGCTTCAGGGGATCTGGTTCTCTGTCTCATTGGCC  
201 L P L R G T I T A S G D L V P L S Y I A  
661 GGACTGCTCACCGGCCGGCCCAATTCTAAGGCCACCGGGCCTAATGGAGAGATCATTGAT  
221 G L L T G R P N S K A T G P N G E I I D  
721 GCTCAGGAAGCCTCTAAACAAGCGGGTTTCGGGTTCTTTGAGTTGCAGCCTAAGGAGGGT  
241 A Q E A S K Q A G F G F F E L Q P K E G  
781 CTCGCTCTTGTCAATGGCACTGCTGTTGGTTCTGGCCTGGCTTCTATGGTTCTGTTCCGAC  
261 L A L V N G T A V G S G L A S M V L F D  
841 GCTAACAACTTGTCTGTTATCAGAAATTTTGTAGCTATTTTGTGAAGTCATGCAA  
281 A N N L A L L S E I L S A I F A E V M A L  
901 GGAAAACCTGAATTCAGTCACTGACCACTTGACACACAACTGAAGCATCATCCTGCAAAAT  
301 G K P E F T D H L T H K L K H H P G Q I  
961 GAGGCTGCTGCTATAATGGAACATATTCTCGACGGCAGCTCTTATGTCAAGCGCGTAAG  
321 E A A A I M E H I L D G S S Y V K A A K  
1021 AAGTTGCATGAGATTGATCCTCTGCAGAAGCCGAAACAGGATCGTTATGCTCTGAGA  
341 K L H E I D P L Q K P K Q D R Y A L R T  
1081 TCTCCACAATGGCTCGGCCCTCAGATCGAAGTATTGCGTTTGAACCAAGTCTATTGAA  
361 S P Q W L G P Q I E V I R F A T K S I E  
1141 CGGGAGATCAACTCGGTGAATGACAATCCCCTGATCGACGTTTCAAGGAACAAGGCCTTA  
381 R E I N S V N D N P L I D V S R N K A L  
1201 CATGGTGGCAATTTCCAGGGGACTCCAATTGGTGTCTCAATGGACAATACCCGTTTGGCT  
401 H G G N F Q G T P I G V S M D N T R L A  
1261 ATTGGCGCAATAGGAAAGCTCATGTTTGCCTCAATTTCCGAACTTGTCAACGATTTTAC  
421 I A A I G K L M F A Q F S E L V N D F Y  
1321 AACAAATGGATTGCCGTCAAATCTTCCGGTGGCAGGAATCCTAGCCTGGATTATGGTTT  
441 N N G L P S N L S G G R N P S L D Y G F  
1381 AAGGGCGCTGAAATGCTATGGCTTCTATTGTTCCGAGCTCCAATTTCTTGCCAATCCT  
461 K G A E I A M A S Y C S E L Q F L A N P  
1441 GTTACTAACACCGTCCAAAGTGTGAACAGCACACCAAGATGTAACCTCCTTGGGACTG  
481 V T N H V Q S A E Q H N Q D V N S L G L  
1501 ATCTCTCCAGGAAGACTGCTGAAGCTGTGACATCCTGAAGCTCATGTCTTCCACATTC  
501 I S S R K T A E A V D I L K L M S S T F  
1561 TTGGTAGCGCTTTGCCAGGCTATTGATTTGAGGCATTTGGAGGAGAATTTGAAGCATA  
521 L V A L C Q A I D L R H L E E N L K H T  
1621 GTCAAGAATACTGTGAGCCAAGTAGCGAAGAAAGTCTTACTGTGCGGTGCTAGTGGAGAG  
541 V K N T V S Q V A K K V L T V G A S S E  
1681 CTTTATCCATCAAGATTCTGCGAGAAGGATCTGCTCAAAGCGGCTGATCGCGAACACGTC  
561 L H P S R F C E K D L L K A A D R E H V  
1741 TTTGCATACATTGATGACCCCTGCAGCGTACCTATCCATTGATGCAAAAAGCTAAGGCAA  
581 F A Y I D D P C S A T Y P L M Q K L R Q  
1801 GTACTTGTGATCATGCATTGAACAACGGAGAGAACGAGAAGAAATGCCAACTCTTCAATC  
601 V L V D H A L N N G E N E K N A N S S I  
1861 TTCCAGAAGATTGCAGCCTTTGAGGAGGAATTGAAAACCGTTTTGCCAAAAGAAGTTGAG  
621 F Q K I A A F E E E L K T V L P K E V E  
1921 AATGCCAGGCAGACTGTTGAGAATGGAAGTCCAACAATTTCCCAACAGGATCAAAGAATGC  
641 N A R Q T V E N G S P T I P N R I K E C  
1981 AGGTCTTACCCTTTGTACAGTTAGTGAGGGAGGAGCTCGGGACTAATTTTCTGACTGGG  
661 R S Y P L Y R L V R E E L G T N F L T G  
2041 GAAAAAGTTACATCGCCCGGAGGAATTTGACAAAGTGTTTACAGCAATGTGCCAGGGC  
681 E K V T S P G E E F D K V F T A M C Q G  
2101 AAGATCATTGATCCAATGCTGGAATGTCTCAGGAATGGAACGGTGCCTCTTCCAATA  
701 K I I D P M L E C L R E W N G A P L P I  
2161 TGCTAG  
721 C \*

**Fig. S1.** The full-length cDNA sequence and translated amino acid sequence of *Pt-PAL1* in *Poncirus trifoliata*. The start codon (ATG) and stop codon (TAG) are indicated with a black background.



**Fig. S2.** The secondary structure of the deduced *Pt-PAL1* protein of *Poncirus trifoliata*. Alpha helix, extended strand, beta turn, random coil are denoted by the blue, red, green and yellow bars respectively.

**Table S1. Amino acid of composition of *Pt-PAL1* of *Poncirus trifoliata***

Name	Number	Percentage	Name	Number	Percentage
Ala(A)	66	9.2	Arg(R)	30	4.2
Asn(N)	46	6.4	Asp(D)	27	3.7
Cys(C)	11	1.5	Gln(Q)	27	3.7
Glu(E)	54	7.5	Gly(G)	58	8.0
His(H)	20	2.8	Ile(I)	38	5.3
Leu(L)	76	10.5	Lys(K)	42	5.8
Mer(M)	17	2.4	Phe(F)	25	3.5
Thr(T)	39	5.4	Ser(S)	51	7.1
Tyr(Y)	14	1.9	Trp(W)	4	0.6
Pro(P)	30	4.2	Val(V)	46	6.4