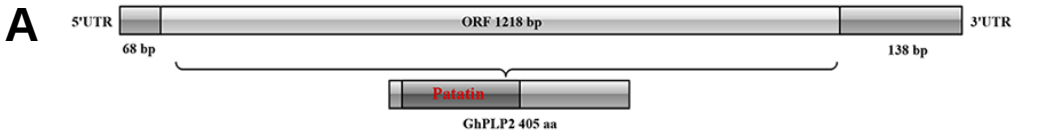

B

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61    CTCAGCATTGATGGAGGTGGAATTAGGGGAATCATTCCAGGAATAATTCTCAGCTTTTTA
       L  S  I  D  G  G  G  I  R  G  I  I  P  G  I  I  L  S  F  L  40
121   GAATCTGAGTTACAAAAACTGGACAGTGAAGAAGCAAGAATTGCTGATTATTTTGATGTG
       E  S  E  L  Q  K  L  D  S  E  E  A  R  I  A  D  Y  F  D  V  60
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241   AACCGACCCCTATTTGCTGCCAAAGACATCAAGGCCTTCTACTTCGAGCATGGCCCTAAA
       N  R  P  L  F  A  A  K  D  I  K  A  F  Y  F  E  H  G  P  K  100
301   ATATTCCCTCAAAGAAGGTTTCCATTTTCTGGTGTTACAAAAATTATTCAAAGTGTGATG
       I  F  P  Q  R  R  F  P  F  S  G  V  T  K  I  I  Q  S  V  M  120
361   GGACCAAAATATGATGGCAAGTATCTGCATGGTGTTCTTAAGGAAAGATTAGGAAACACA
       G  P  K  Y  D  G  K  Y  L  H  G  V  L  K  E  R  L  G  N  T  140
421   AGGCTGAACCAGACACTGACTAACGTTGTAATTCCAACTTTCGATATCAAGAAACTTCAG
       R  L  N  Q  T  L  T  N  V  V  I  P  T  F  D  I  K  K  L  Q  160
481   CCCATTATCTTTTCTAGCTATGAGGTGAAGAAATCTGCAGGCCTTAATGCCTTAATGTCA
       P  I  I  F  S  S  Y  E  V  K  K  S  A  G  L  N  A  L  M  S  180
541   GACATTTGCATTGGAACTTCAGCCGCTCCAACTTATCTGCCGGCCCATTATTTTGAAACC
       D  I  C  I  G  T  S  A  A  P  T  Y  L  P  A  H  Y  F  E  T  200
601   GAGGACACTGATGGAAAGGTTAAAAAGTTCAATCTTATCGATGGTGGGGTGGCTGCTAAT
       E  D  T  D  G  K  V  K  K  F  N  L  I  D  G  G  V  A  A  N  220
661   AATCCGGCTCTAATTGCCATGGGTGAAGTGACAAAACAGATTCACAAAGGCCATTCAGAT
       N  P  A  L  I  A  M  G  E  V  T  K  Q  I  H  K  G  H  S  D  240
721   TTTTCTTGCATTAAAGCAGCAAATCATTACAATAGATTCTTGGTGCTATCCGTTGGAACA
       F  S  C  I  K  A  A  N  H  Y  N  R  F  L  V  L  S  V  G  T  260
781   GGCTCAGAAAAACTAGCAGAGAAATACACTGCAAAGCAAGCGGCTCAATGGGGCGTACTT
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841   GGTTGGTTAACCTCTGGCAATTCAACCCCATTAATCAATGCCTTTTCCGAAGGCAGTGCT
       G  W  L  T  S  G  N  S  T  P  L  I  N  A  F  S  E  G  S  A  300
901   GATATGGTTGATTTCCACATTTCCGTGATTTTCAAATCTTTAAACTCCGAGCCGAATTAT
       D  M  V  D  F  H  I  S  V  I  F  K  S  L  N  S  E  P  N  Y  320
961   CTTCGCATCCAGGATGATAATCTGAAAGGGGAGGTTTCCTCTGTGGATGTTTCAACGGAG
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1021  GAAAATATGAAAATTTTAGCTAAAGTAGCAGAAAACTTACTGAATAAACCAGTTTCAAGG
       E  N  M  K  I  L  A  K  V  A  E  N  L  L  N  K  P  V  S  R  360
1081  GTGAATTTCGAGACGGGAAATTATGAACCTTCAGGAGACTTAGAAACCAATGCTCAAGCT
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1141  CTCATAAGGTACGCGAAGCTGCTGTCTGAGGAAAAACGCCGACGTCTAAAGACATCGTTG
       L  I  R  Y  A  K  L  L  S  E  E  K  R  R  R  L  K  T  S  L  400
1201  CACAAGCTTGGCCCATAA
       H  K  L  G  P  *                                            405
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Figure S1 (A) Diagrams of the nuclotide and deduced amino acid sequences of GhPLP2. Nuclotide sequence and deduced amino acid sequence of GhPLP2. (B) The red area is the patatin domain.

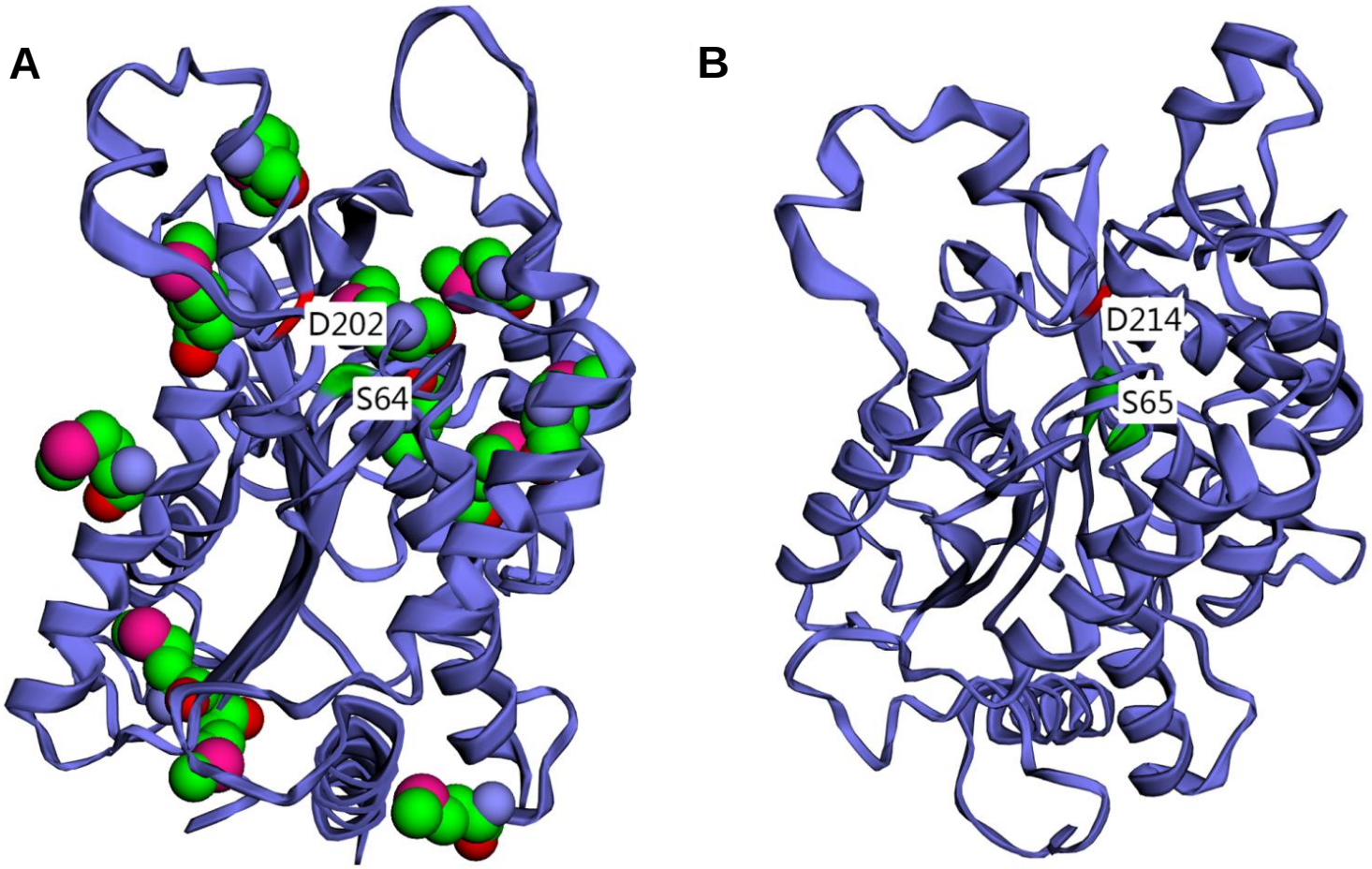

Figure S2 Structure predictions of GhPLP2 and SeMet Patatin (40.22% similarity). (A) The crystal structure of SeMet Patatin (PDB number:1oxw.1.B) . Amino acids Ser (S64) and Asp (D202) are highlighted. (B) Modelings of GhPLP2 protein. Amino acids Ser (S65) and Asp (D214) are highlighted. The active sites composed of Ser-Asp catalytic dyad responsible for its LAH activity.

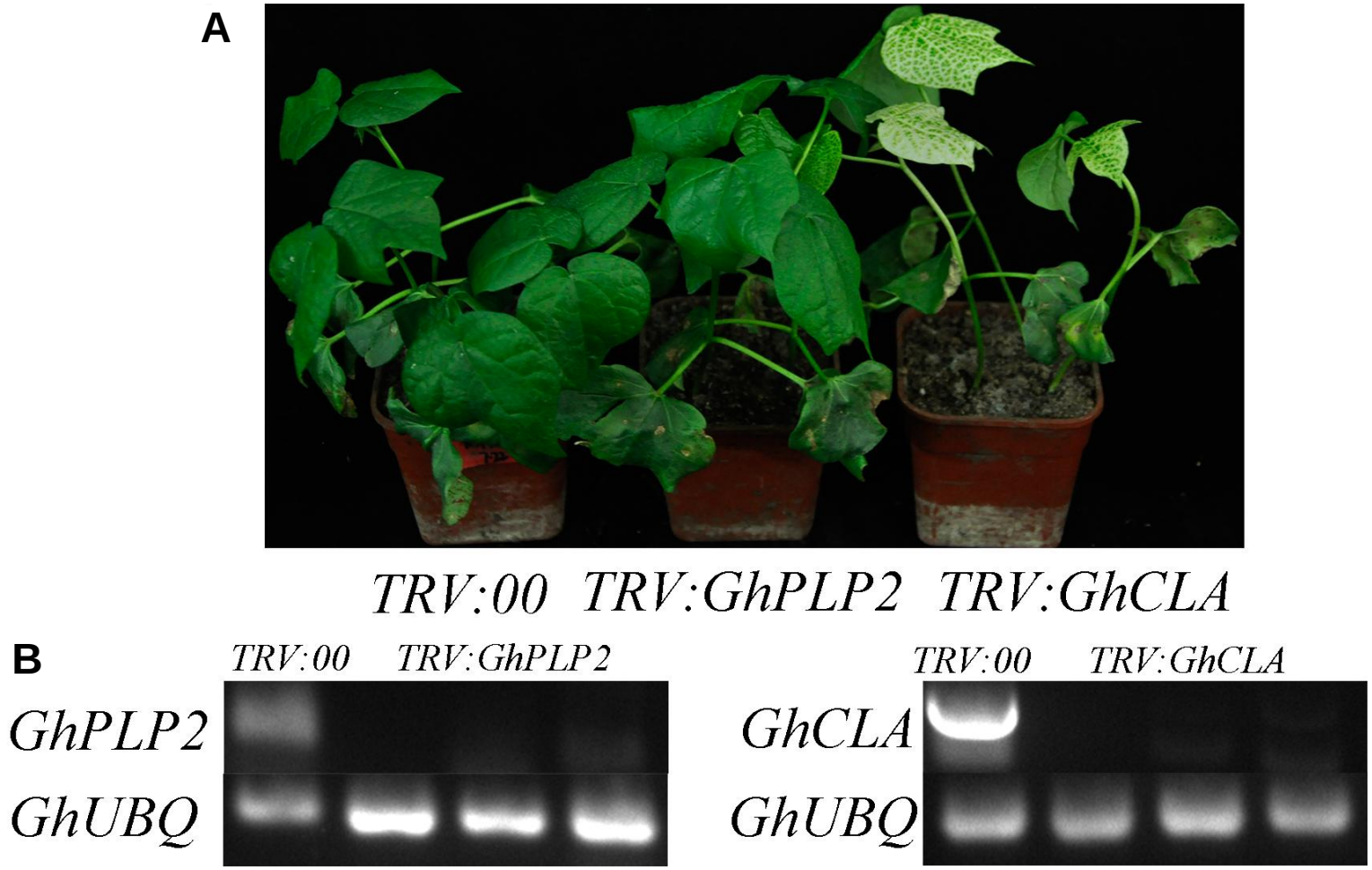

Figure S3 Gene silencing in cotton plants by VIGS. (A) The phenotypes of *TRV:00*, *TRV:GhAPLP2*, *TRV:GhCLA* cotton plants. (B) The expression of *GhPLP2* and *GhCLA* in the control and silenced cotton were analyzed by semi-quantitative RT-PCR. *GhUBQ* was used as a reference gene. The experiments were performed with three repeats and showed similar results.

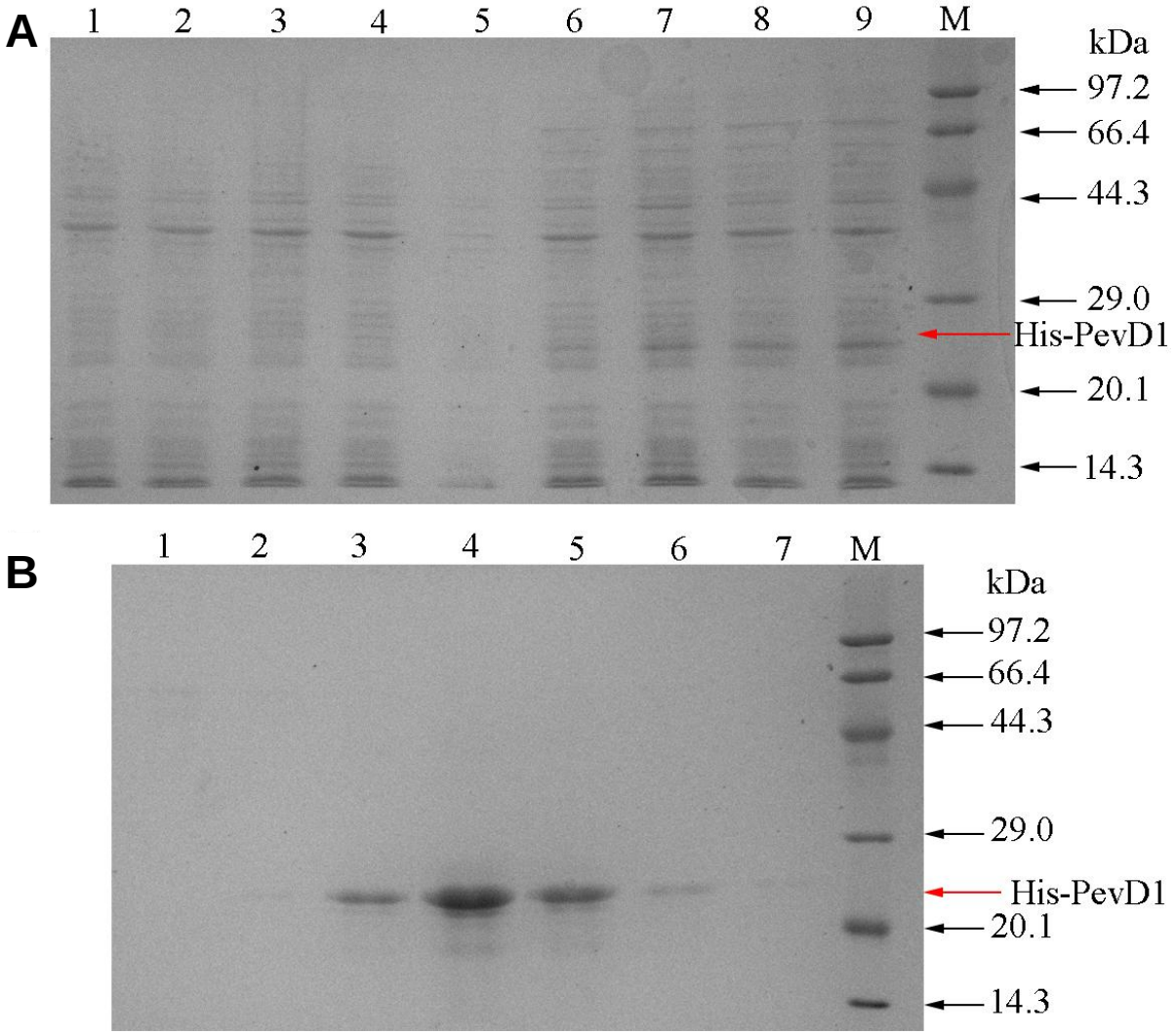

Figure S4 Purification of recombinant PevD1 protein. (A) Induced proteins were analyzed by SDS-PAGE.1-4, pET-28a empty vector was induced at 5,10,15,20h. 5-9, pET-28a-PevD1 was induced at 0,5h,10h,15h,20h. 0.1 mM IPTG, 22 ℃,200 rpm. M molecular mass markers (kDa) (B) Purification of recombinant PevD1. M protein molecular weight marker. 1-7, different elution proteins.

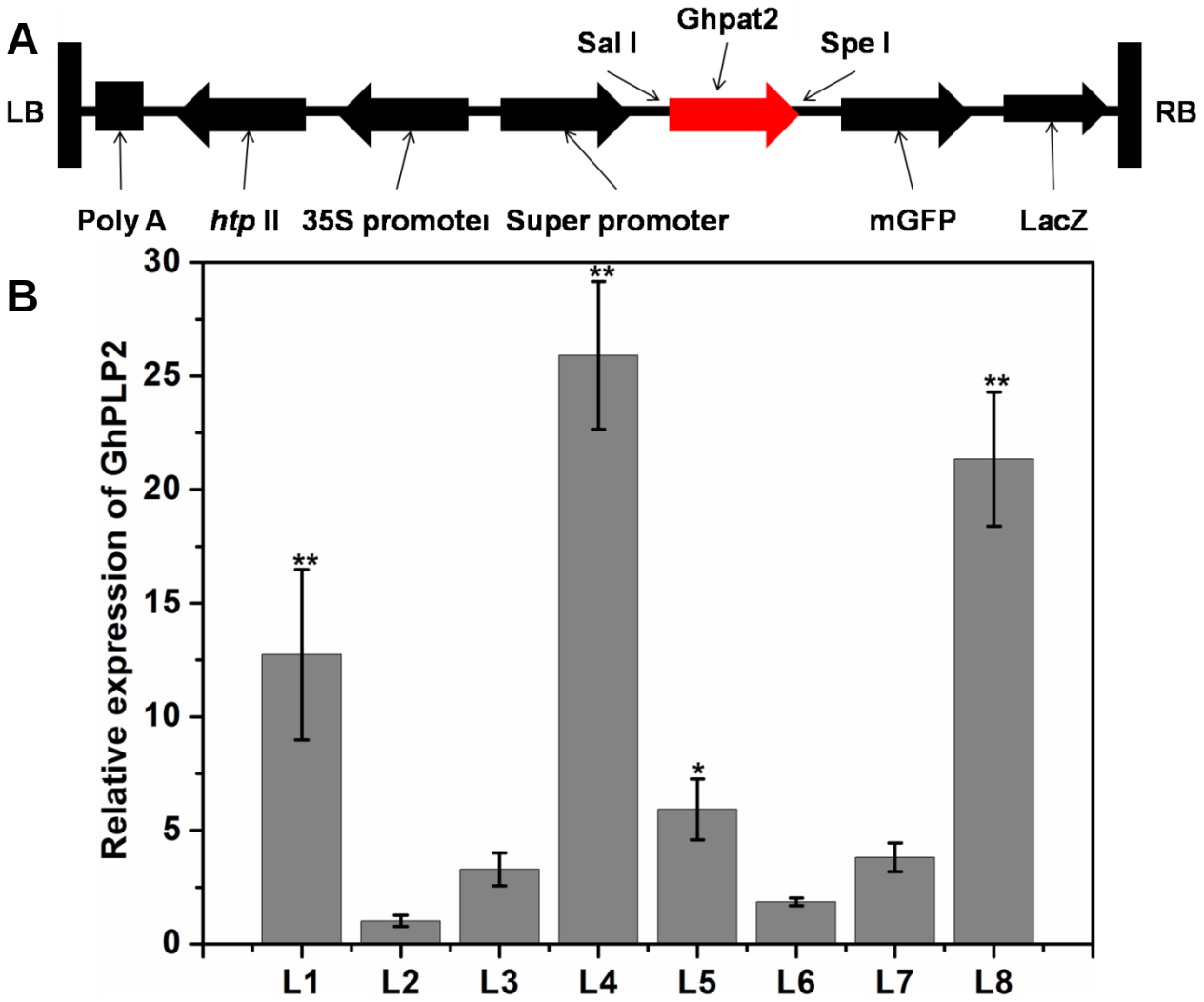

Figure S5 Genetic transformation of *Arabidposis* with *GhPLP2* and quantitation of transgenic lines. (A) Outline of the super-pCAMBIA1300 transformation vector with *GhPLP2* under the control of CaMV 35S promoter. (B) Transcript levels of *GhPLP2* was analysised by RT-qPCR in transgenic *Arabidopsis* lines relative to the line with the lowest expression (L2). *AtEF1α* was employed as a internal standards. Datas were collected from three independent biological samples . Error bars represent standard error. Asterisks indicate a significant difference(*P < 0.05, **P <0.01, Student's t-test).

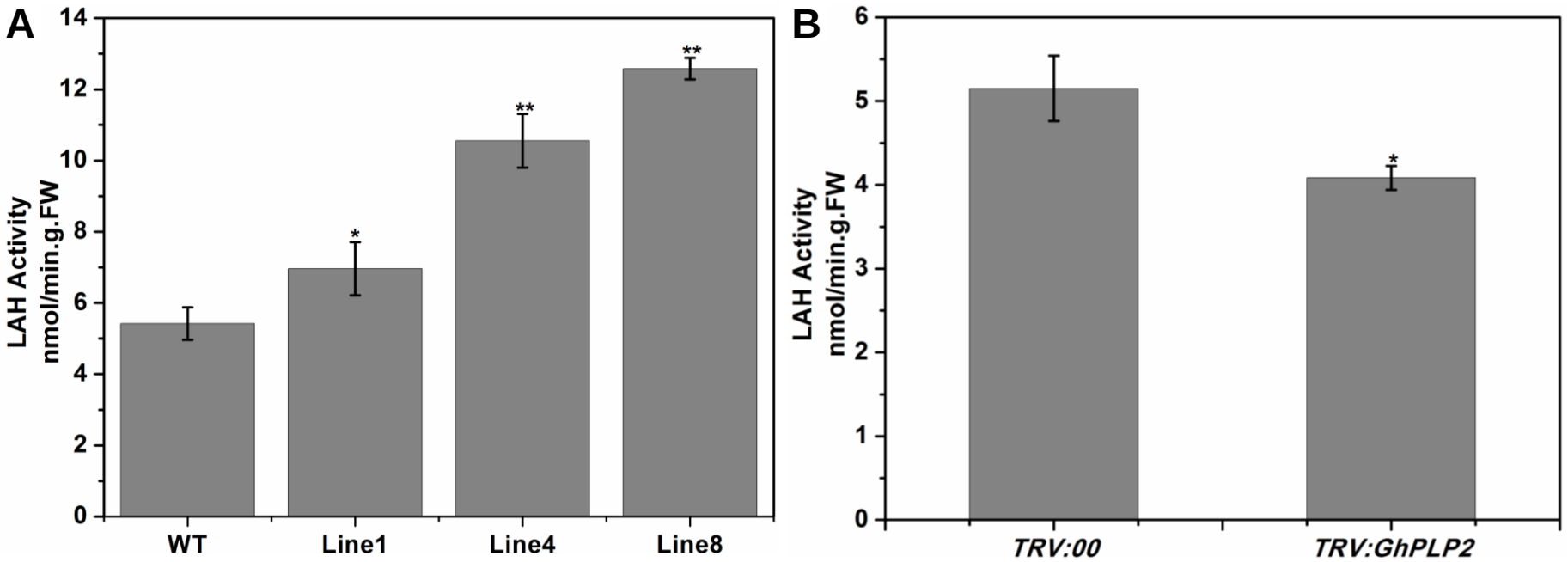

Figure 6 The endogenous LAH activity of crude proteins from different genotypes plants were detected useing p-nitrophenyl palmitate (pNPP). (A) The endogenous LAH activity of crude proteins from *GhPLP2*-transgenic Arabidopsis. (B) The endogenous LAH activity of crude proteins from *TRV:00* and *TRV:GhPLP2* cotton plants. Datas were collected from three independent biological replicates. Error bars represent standard error. Asterisks indicate a significant difference (*P < 0.05 and **P <0.01, Student's t-test).