



Supplementary Figure S1. Schematic diagram and Sanger sequencing of *DHD3*-knockout mutants. Two mutants inserted an A and G respectively, and causing a frameshift mutation respectively.

Supplementary Table S1. Primers used in the study

Primers to amplify DHD5 CDS and clone onto pCAMBIA1390FLAG vector.	
1390-DHD3-F:	5'-TCTGCACTAGGTACCTGCAGATGGGCTCTAAGAAGCGGTCG-3'
1390-DHD3-R:	5'-ATGGATCCGTCGACCTGCAGAGCTTCGGTAATGACATCAGCATATTG-3'
Primers to amplify DHD5 CDS and clone onto pAN580 vector.	
pAN580-DHD3-F:	5'-GCCCAGATCAACTAGTATGGGCTCTAAGAAGCGGTC-3'
pAN580-DHD3-R:	5'-TCGAGACGTCTCTAGAAGCTTCGGTAATGACATCAG-3'
Primers to amplifying DHD5 CDS and clone onto pGBKT7 (BD) vector.	
BD-DHD3-F:	5'-CATGGAGGCCGAATTCATGGGCTCTAAGAAGCGGTC-3'
BD-DHD3-R:	5'-GCAGGTCGACGGATCCTCAAGCTTCGGTAATGACATCAG-3'
Primers to construct CRISPR/CAS9 vector	
DHD3-CR-F:	5'- TGTGTG AACGTTATCTCGTGGGCCGA-3'
DHD3-CR-R:	5'- AAAC TCGGCCACGAGATAACGTT CA -3'
Primers to amplify fragment include CRISPR target site for sequencing mutate	

DHD3-seq-F:	5'-AGAAGCGGTCGCCTCAGC-3'
DHD3-seq-R:	5'-TGGCAGATAATCCCTAATACACG-3'
Primers to amplify HygR fragment on pCAMBIA1390FLAG vector to identify transgenic plants	
Hyg-F:	5'-CTTCTGCGGGCGATTTG-3'
Hyg-R:	5'-CCGTGGTTGGCTTGTATG-3'
Primers for RT- qPCR	
qDHD3-F:	5'-CATACGCCAGCTCAACACCTATGG-3'
qDHD3-R:	5'-AACCTTCATTGGCCCACTCCCATC-3'
UBQ-F	5'-ACCACTTCGACCGCCACTACT-3'
UBQ-R	5'-ACGCCTAAGCCTGCTGGTT-3'
qHd1-F	5'-CGTTTCGCCAAGAGATCAG-3'
qHd1-R	5'-AGATAGAGCTGCAGTGGAGAAC-3'
qEhd1-F	5'-AACCCGGTCATCCTCCAT-3'
qEhd1-R	5'-TCATCTCTCACCTCATTTTCT-3'
qHd3a-F	5'-GCTAACGATGATCCCGAT-3'
qHd3a-R	5'-CCTGCAATGTATAGCATGC-3'
qMADS14-F	5'-CAACCTCAAACAAGTTCCTC-3'
qMADS14-R	5'-TGCTGCTACATCCTCTATCC-3'
qCOL4-F	5'-GTCCATGGACGGAATCAAGG-3'
qCOL4-R	5'-CTCCGACGACGACAAGCTGT-3'
qRFT1-F	5'-TGACCTAGATTCAAAGTCTAATCCTT-3'
qRFT1-R	5'-TGCCGGCCATGTCAAATTAATAAC-3'