gene	Primer names	Sequence5'-3'	usage
AdPDC2	AF1	GGATCC ATGGCAACCGCCACCCA	cDNA cloning and construction of
	AR1	GGTACC CTATTGAGGATTAGGAG	plant Binary expression vector for transformation
	AF2	TCATAATGGTGAAGGCAAATGCTG	Expression of AdPDC2 in kiwifruit
	AR2	GCTCGTGTCGTCCTTGTGAAC	
AdActin	Act-F	TGCATGAGCGATCAAGTTTCAAG	Actinidia deliciosa housekeeping
	Act-R	TGTCCCATGTCTGGTTGATGACT	gene
AtUBQ10	AtUBQ10-F	GGACCAGCAGCGTCTCATCTTCGCT	Anglidancia havealeaning sona
	AtUBQ10-R	CTTATTCATCAGGGATTATACAAG	Arabidopsis housekeeping gene

Table S1 - Sequence of primers used in this paper

Notes: Italics base pairs indicated the restriction point;

Add DCJ ATGGACAGTAAGATCGGAGCACTTGACGTAGGCAAGCCACCGTGCAACGACGTGGGCAGCATCCCGCACAACGACGTCGTTTCGACGCTCCAGAGC 197 197

 AdP DC1
 CCCCGGTCGACCTTCAACCTGACGCTCCTTGACCACCTCATCGCCGAGCCGGGGGCTCAACCTCATCGGCTGTTGCAACGAGCTTAACGCCGGCTACGGCGCC
 294

 AdP DC2
 ...G.
 ...G.<

 Ad# DC1
 ACCTCCCCCCTCATATGCATCGTTGGCGGCCCGAATTCCAACGATACGGCACTAACAGAATCCTCCACCACACCATCGGACTGCCTGATTTTAGTCAAGA

 Ad# DC2
 .T.G., GG, G..., T.T., T.A., T..., G.T., C.T., G..., TC, G..., TC, G..., T.G., T.G
 AdPDC1
 CACTTCATCGGGACCTATTGGGGGTGCTGTGAGCACCGGCTTCTGCGGGGAAATTGTTGAATCTGCAGATGCATACTTGTTGCTGGGCCTATTTTCAATG
 994

 AdPDC2
 T
 G
 C
 A
 7
 G
 C
 94

 AdPDC2
 T
 T
 G
 C
 C
 94

 AdPDC2
 T
 T
 G
 C
 C
 94

 AdPDC2
 T
 T
 G
 T
 C
 97

 AdPDC2
 T
 T
 G
 T
 C
 C
 91

 AdPDC2
 T
 T
 G
 T
 C
 C
 91

 AdPDC2
 T
 T
 A.
 C
 C
 93
 7

 AdPDC1
 ACTACAGTTCAGTTGGGTACTCACTACTATTAAAGAGAGAATAAGGCAATTATAGTGCAGCCCGATCGTGTGATGATGCGAACGGCCCTGCATTTGGGTG

 AdPDC2
 T.
 C.
 G.
 A.
 T.
 T.
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 T.
 T.
 G.
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 A.
 A.
 C.
 C.
 T.
 G.
 A.
 A.
 A.
 A.
 C.
 C.
 T.
 A.
 A.

 AdPDC1
 TGTTCTGATGAGGGATTTCTTGGGAGCTTGGTGAAGCGGCTGAAGCAGAAAACACGACGGCCTACGAGAATTACCACAGGATCTATGTTCCTGAGGGGGCAC
 119

 AdPDC2
 G...
 T.C.
 GCA...
 C...
 AACT...
 C...
 A.G.
 GC...
 TCTT...
 C...
 GC...
 C...
 C...<

 AdPDC1
 CCTCTCAAGTGTGAGCCTAAAGAGGCCTTGAGGGTCAATGTTCTGTTCCAGCACATTCAGAAGATGCTGTGCGAGTGAGACTGCGGTGATTGCTGAGACAG
 124

 AdPDC2
 G.
 G.
 AC.
 A.
 A.
 124

 AdPDC2
 G.
 G.
 AC.
 A.
 A.
 124

 AdPDC2
 G.
 G.
 AC.
 A.
 C.
 A.
 G.
 GGTG.
 A.
 A.
 121

 AdPDC2
 G.
 G.
 AC.
 A.
 C.
 A.
 T.
 GGTG.
 A.
 A.
 121

 AdPDC2
 G.
 G.
 G.
 G.
 A.
 A.
 C.
 121

 AdPDC2
 G.
 G.
 G.
 A.
 A.
 C.
 121

 AdPDC2
 G.
 G.
 G.
 A.
 A.
 C.
 121

 AdPDC2
 G.
 G.
 G.
 A.
 A.
 C.
 124

 AdPDC2
 G.
 G.
 G.
 A.
 C.
 124
 124

 AdPDC2
 G.
 G.
 G.
 G.
 G.
 G.
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 124

 Ad
 Add DCJ
 GGGACTCTTGGTTCAATTGTCAGAAACTGAAATTGCCCCCGGGATGTGGGTACGAGTTCCAGATGCAGTAGGGTCAATTGGTCAGTAGGTGGAAC
 1394

 Add DCZ
 ...
 A...
 C...
 C...
 C...
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 Add DCZ
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 A...
 C...
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 C...
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 C...
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 Add DCZ
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 Add DCZ
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 <t
 Add DCJ
 ACACCGGATTGGTCGACGCCATCCACAATGGCGAAGGCAAGGCGAAGGCTGCTGGGACTACTAAGGTGCACCGGAGGAAGAGCTCATTGAAGCAATTGGCACAGCAAC
 1619

 Add DC2
 ...
 ...
 A.
 G.
 C.
 GTACG
 ...
 AGCA
 ...
 1619

 Add DC2
 ...
 ...
 A.
 ...
 G.
 C.
 GTACG
 ...
 AGCA
 ...
 ...
 1619

 Add DC2
 ...
 ...
 A.
 A.
 G.
 C.
 ...
 AGCA
 ...
 A.
 ...
 1619

 Add DC2
 ...
 ...
 A.
 ...
 G.
 C.
 ...
 AGCA
 ...
 CA
 ...
 1619

 Add DC2
 ...
 ...
 A.
 A.
 G.
 C.
 GAGA
 ...
 G.
 AGCA
 ...
 C.
 AGCA
 ...
 C.
 AGCA
 ...
 AGCA
 ...
 AGCA
 ...
 C.
 AGCA
 ...
 C.
 AGCA
 ...
 AGCA
 ...
 AGCA
 AGCA
 ...
 AdPDC1 AGGGGCCAAGAAAGACTGCTTGTGCTTCATAGAAGTGATAGTTCACAAGGATGACACTAGCAAAGAGCTGCTTGAATGGGGCTCACGGGTCGCTGCCGCT 1794
 AdP DC1
 AACGGTCGCCCACCGAACCCCCAGTAA
 1821

 AdP DC2
 .A.C.G.T.T.T.T.T.A.G
 1746

 AtPDC1
 .TA...T.C.A.T.G.G.
 1821

 AtP DC2
 .A.C.G.T.T.T.T.T.G.G.
 1824

 AtP DC2
 .A.C.G.T.T.T.G.G.G.
 1824

Figure S1 Nucleotide sequence alignment of *A. deliciosa AdPDC1* and *AdPDC2* with *A. thaliana AtPDC1* and *AtPDC2*. *AtPDC1*: *A. thaliana PDC1* (GenBank accession no. NM_124878); *AtPDC2*: *A. thaliana PDC2* (GenBank accession no. NM_119461). *AdPDC1*: *A. deliciosa AdPDC1* (GenBank accession no. KU095879). Dots indicate that the amino acid residues were conserved in each group, and transverse lines suggest gaps in nucleotide sequences.

AdPDC1 AdPDC2 AtPDC1 AtPDC2	MDSKIGALDVGKPPCNDVGSIPHNDVVSTLQSSP-ASTALNSAESTLGRHLARRLVQIGA WATAT, IGTASPAPFPGGTWVV TSI.DCTNGC.PTNGT.ATIHN.V.SSAITI.YCDAAV TSI.ACN.TNH.I.GP.NGG.STVQNTLHTVSPCDAYE.V	59 35 60 60
AdPDC1 AdPDC2 AtPDC1 AtPDC2	TDVFSVPVDFNLTLLDHLIAEPGLNLIGCCNELNAGYAADGFARSRGVGACVVTFTVGGL GAS.VY.AY.A GM.DY.AY.A GN.KY.A	119 95 120 120
AdPDC1 AdPDC2 AtPDC1 AtPDC2	SVLNA I AGAC SENLPL I C I VGGPN SNDYGTNR I LHHT I GLPDF SQELRC FQTVTC FQAVV	179 155 180 180
AdPDC1 AdPDC2 AtPDC1 AtPDC2	NNLEDAHEL IDTA I STALKECKPVY I S I SCNLPGLPHPTFRREPVPFV I SPRLSNHMGLE DQ.KS.AS.AI.A. DQ.KS.AS. DQ.KS. DQ.K. DQ.K. DQ.K. DQ.K. DQ.K. DQ.K. DQ.K. DQ.K.	239 215 240 240
AdPDC1 AdPDC2 AtPDC1 AtPDC2	AAVEAAAEFLNKAVKPVMVGGPKLRVANASEAFVELADACGYPLAVMPSAKGLVPENHPH TLL	299 274 300 300
AdPDC1 AdPDC2 AtPDC1 AtPDC2	FIGTYWGAVSTGFCAEIVESADAYLFAGPIFNDYSSVGYSLLLKRDKAIIVQPDRVMIAN	359 334 360 360
AdPDC1 AdPDC2 AtPDC1 AtPDC2	GPAFGCVLMRDFLGALVKRLKQNTTAYENYHRIYVPEGHPLKCEPKEALRVNVLFQHIQK SL.W.F.ATA.K.K.S.LR.F.P.IA.R.ND.PI.K.E I.SL.W.F.AT.A.K.K.S.LR.F.P.IA.R.ND.PI.K.E I.S.FRE.S.V.R.E. K.SE.A.I.H.N.S. K.RDN.N.S.	419 394 420 420
AdPDC1 AdPDC2 AtPDC1 AtPDC2	MLSSETAVIAETGDSWFNCQKLKLPPGCGYEFQMQYGSIGWSVGATLGYAQAAKNKRVIA GGD	479 454 480 480
AdPDC1 AdPDC2 AtPDC1 AtPDC2	CIGDGSFQVTAQDVSTMLRCGQKTIIFLINNGGYTIEVEIHDGPYNVIKNWNYTGLVDAI 	539 514 540 540
AdPDC1 AdPDC2 AtPDC1 AtPDC2	HNGEGKCWTTKVHCEEELIEAIGTATGAKKDCLCFIEVIVHKDDTSKELLEWGSRVAAAN ART.Q.AAEVH.SI N.A.RY.V.T.TES. A.RY.VK.N.NEE.ESFS.	599 574 600 600
AdPDC1 AdPDC2 AtPDC1 AtPDC2	GRPPNPQ 606 S 581 S 607 S 607	

Figure S2. Amino acid sequence identity of *A. deliciosa* AdPDC1 and AdPDC2 with A. thaliana *AtPDC1* and AtPDC2. AtPDC1: *A. thaliana* PDC1 (GenBank accession no. NP_200307); AtPDC2: *A. thaliana* PDC2 (GenBank accession no. NP_195033). AdPDC1: *A. deliciosa* AdPDC1 (GenBank accession no. ALX37952). Dots indicate that the amino acid residues were conserved in each group, and transverse lines suggest gaps in amino acid sequences.

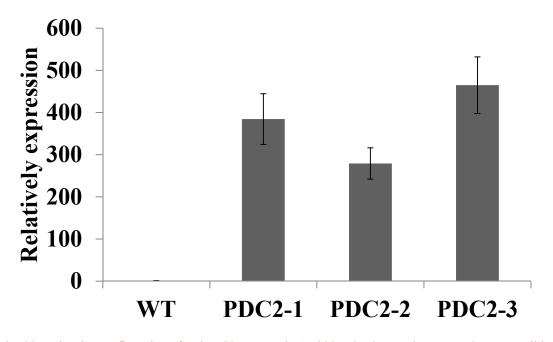


Fig. S3 Molecular confirmation of MdPDC2 transgenic Arabidopsis plants using qRT-PCR WT: Wild type; PDC2-1, PDC2-2 PDC2-3: transgenic lines. The data presented are the mean ± SD.

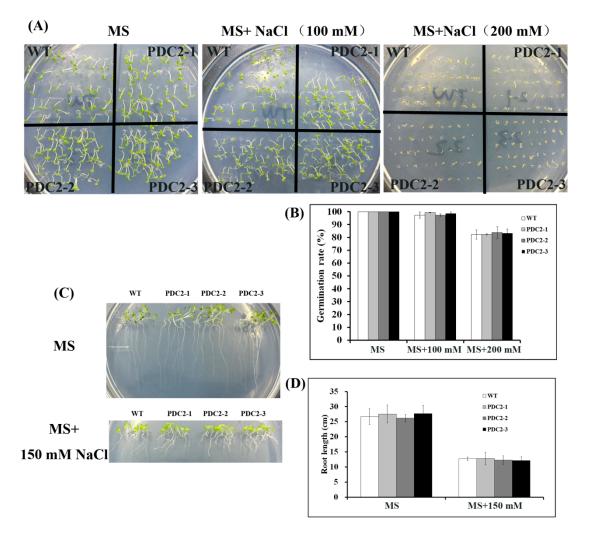


Figure S4 Transgenic *Arabidopsis* overexpression of *AdPDC2* (PDC2-1, PDC2-2 and PDC2-3) and wild-type (WT) were used to detect the salinity tolerance. A: Photographs were taken 10 days after seed germination of WT and transgenic *Arabidopsis* plants in MS medium containing various concentrations of NaCl (0, 100 mM and 200 mM). B: Germination rates in WT and transgenic plants grown in MS (control) or MS supplemented with various concentrations of NaCl (100 mM and 200 mM) for 7 days. 50 seeds of each line were grown for each experiment. C: Comparison of root length between transgenic and WT lines under NaCl stress. Four day-old seedlings of WT and transgenic seedlings which were germinated just from MS agar medium were transferred to MS medium containing NaCl (150 mM). The phenotype (C) and root length (D) were measured after 7 days. The experiments were carried out on three replicates of 30 seedlings. The results from one set of experiments are shown. Results are presented as mean \pm SD from three independent experiments.

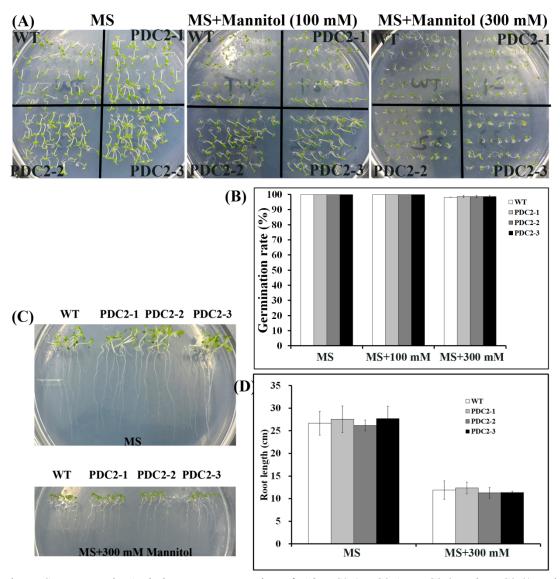


Figure S5 Transgenic *Arabidopsis* overexpression of *AdPDC2* (PDC2-1, PDC2-2 and PDC2-3) and wild-type (WT) were used to detect the mannitol tolerance. Photographs were taken 10 days after seed germination of WT and transgenic *Arabidopsis* plants in MS medium, MS medium containing 100 mM mannitol and 300 mM mannitol (A). B: Germination rates in WT and transgenic plants grown in MS (control) or MS supplemented with various concentrations of mannitol (100 mM and 300 mM) for 7 days. 50 seeds of each line were grown for each experiment.C: Comparison of root length between transgenic and WT lines under mannitol stress. Four day-old seedlings of WT and transgenic seedlings which were germinated just from MS agar medium were transferred to MS medium containing mannitol (300 mM). The phenotype (C) and root length (D) were measured after 7 days. The experiments were carried out on three replicates of 30 seedlings. The results from one set of experiments are shown. Results are presented as mean \pm SD from three independent experiments