

SUPPLEMENTARY MATERIAL

corresponding to:

Functional analysis of *Arabidopsis* and maize transgenic lines overexpressing the ADP-ribose/NADH pyrophosphohydrolase, *AtNUDX7*

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<input checked="" type="checkbox"/>	ACG43116	1	MSSSINSTVATELLVAEKSR--GIEP	-----L	PFINDKHGGV	IIEMTT--PMD	PGAFSASL	KAA	LVKW	59
<input checked="" type="checkbox"/>	ACG41054	1	[55]MLSGVRSAAARKLFRSDPAE11GVAN[14]WWTALENNFVLEATDDEYGGVVVDADR1PADRAAFARSLAASLSYW							141
<input checked="" type="checkbox"/>	AEE83169	1	-----							45
<input checked="" type="checkbox"/>	ACG43116	60	REQGIRGVWIKLPITLSNLIPPVVEEGFWYHHAETYLMLAYWLPNTHTLPVNATHRVSVGAFIMNDK-REVLAVQEKS							138
<input checked="" type="checkbox"/>	ACG41054	142	KSVGKKGWVWKLKLPVDLAEFVPLAVKEGFKYHHAEEAYLMMTYWIPDEPNMLPANASHQVGVGGFVINDQ-MEVLVVQEKY							220
<input checked="" type="checkbox"/>	AEE83169	46	REEGKKGIVIKLPLGLANLVEAAVSEGFYHHAEPYLMVSWISETPDTIPANASHVVGAGALVINKNtKEVLVVQERS							125
<input checked="" type="checkbox"/>	ACG43116	139	GVLRLGVWVKFP	IGVVEPGEDIN	VGAVREVKEETG	IDA	EFVEVLA	FRQSHKSF-FDK	SDLFFVCLLRPLSYDITKQDSEI	217
<input checked="" type="checkbox"/>	ACG41054	221	RGSSLDGVWVKLP	IGFILASEE	IYTGASREVKEETG	VDE	FVDVVA	FRHANVA-FHK	SDLFFICMLRPVSSEIKIDETEI	299
<input checked="" type="checkbox"/>	AEE83169	126	GFFKDKVWVKLP	IGVINEGED	IWTGVAREVEETG	IID	FVEVLA	FRQSHKAI1KKTDM	FFLCLVLSRSPSYDITEQKSEI	205
<input checked="" type="checkbox"/>	ACG43116	218	EACQW	MFVEEFAAQ	PFVQKHEL	VKYILEVGLAKVDKEY	AGFSPISIKSAFTDKLSLFYMN	---RRDLDRAG		286
<input checked="" type="checkbox"/>	ACG41054	300	QAARKWMALEE	FVKQ	FFIQEDHIFQKIMDICIQLRKC	YCG	LTPHHVVS	KFDDRTSTLYYNVAEPEDVNC	SAA	371
<input checked="" type="checkbox"/>	AEE83169	206	LQAKW	PIQEYVDQ	FWNKKNEMFKFMANICQK	KCEEEY	LGFAIVPTTTS-SGKESFIYCNADHAKRLK	VSRD[6]		282

Suppl. Fig. S1. Amino acid sequence alignment of AtNUDX7 (AEE83169) and its two maize homologs, ACG43116 and ACG41054, using the COBALT software in the National Center for Biotechnology Information (NCBI). The red square marks the conserved NUDX motif GX5EX7REVX-EEXGU, in which U is Ile, Leu, or Val, and X is any amino acid.

```

macro "Seed parameters"
{
  //working Directory
  dir = getDirectory( "string" );
  fileList = getFileList( dir );
  setBatchMode(true);
  for (i = 0; i < fileList.length; i = i+1)
  {

    path = dir + fileList[i];
    if (endsWith(fileList[i], ".JPG"))
    {

      open(path);
      title = getTitle();

      makeOval(1301, 558, 2220, 2148);
      run("Clear Outside");
      run("Select All");
      run("Duplicate...", "title=1.JPG");

      //run("Brightness/Contrast...");
      setMinAndMax(0, 72);

      //remove extension
      saveAs("jpg", path+"_a.JPG");
      run("Set Measurements...", "area bounding display redirect=None decimal=3");
      run("Make Binary");
      run("Analyze Particles...", "size=0.02-Infinity circularity=0.00-1.00 show=Nothi:
      close();
      close();
    }
  }
}

```

Suppl. Fig. S2. Macro used in the ImageJ software to measure seed size and seed number parameters.

SUPPL. TABLE S1

LIST OF PRIMERS

Primer	Sequence (5'->3')	Use	
AtNUDX7_F	GGGGACAAGTTTGTACAAAAAGCAGGCTTAGAAGGAGATAGAACCATGGGTACTAGAGCTCAGCAG	Gene cloning	
AtNUDX7_R	GGGGACCACTTTGTACAAGAAAGCTGGGTTTCAGAGAGAAGCAGAGGCTTG		
qpcrAtNUDX7b_F	CTTGGGATTCGCCATTGTG	<i>AtNUDX7</i> gene expression analysis	
qpcrAtNUDX7b_R	CATGATCCGCATTGCAGTAGAT		
SAND_F	AACTCTATGCAGCATTGATCCACT	<i>Arabidopsis</i> housekeeping genes	
SAND_R	TGATTGCATATCTTTATCGCCATC		
PP2A_F	TAACGTGGCCAAAATGATGC		
PP2A_R	GTTCTCCACAACCGCTTGGT		
YLS8_F	TTACTGTTTCGGTTGTTCTCCATT		
YLS8_R	CACTGAATCATGTTTGAAGCAAGT		
SALK_046441_Right	TTCGTTTCATCAAGATTGCCTC	SALK mutant lines genotyping	
SALK_046441_Left	TTTTGGTTTTTGGTTTTTCCC		
LBb1.3	ATTTTGCCGATTTCGGAAC		
18SrRNA_F	ACCTTACCAGCCCTTGACATATG	Maize housekeeping genes	
18SrRNA_R	GACTTGACCAAAACATCTCACGAC		
EF1A_F	AGTCCGTTGAGATGCACCATG		
EF1A_R	CACATACCACGCTTCAGATCC		
pBdEF1a_F	GATGCTGTCTGTGACTG		OE <i>AtNUDX7</i> maize lines genotyping
pZmUbiL_F	TGGTACTGTTTCTTTGTCTG		
T35S_R	ACCCTAATCCCTTATCTGG		

SUPPL. TABLE S2

P VALUES OF THE SEED YIELD AND FLOWERING TIME PARAMETERS

Parameter	AtNUDX7_OE-A11	AtNUDX7_OE-A12	AtNUDX7_OE-A13	AtNUDX7_OE-A15	SALK-046441_1
Total seed weight	0.1059	0.0026	0.1546	1.97E-06	0.1842
Seed number	0.0960	0.0036	0.0050	0.1922	0.0004
Seed size	0.0542	0.0219	0.0013	0.1235	0.0314
Mass per seed	0.1699	0.0523	0.0013	0.1545	0.1583
Flowering time	0.0013	4.74E-05	0.0005	0.1042	0.0876
Leaf number at bolting	0.0094	0.0004	0.0001	0.0352	0.3527
Inflorescence height	0.0005	0.0001	0.0004	0.0008	9.54E-10

Obtained with the Student's *t*-test and corrected for multiple testing with the Bonferroni correction ($P < 0.01$). Yellow and green indicate a significant increase and decrease, respectively.