

**Table S6. Primers used in vector constructs and RT-qPCR analysis**

name	sequence	
BnNapinAP1	CGAATTCTCTTCATCGGTGATTGATTC	pCAMBIAI1-1300-BnNapinA
BnNapinAP2	AGAGCTCAGTTGCCGAGACGAGGAAGAGC	-NOS
NOSup	TCTGCAGGATCGTTCAAACATTTGGC	pCAMBIAI1-1300-BnNapinA
NOSdown	GAAGCTTGATCTAGTAACATAGATGAC	-NOS
LEC153A1	ACCGATCGTGGGTGTGCACTTAGAGGTGAGTCA	Mutant S153 to A
LEC153A2	TGACTCACCTCTAAGTGCACACCCACGATCGGT	
LEC153D1	ACCGATCGTGGGTGTGACCTTAGAGGTGAGTCA	Mutant S153 to D
LEC153D2	TGACTCACCTCTAAGGTGCACACCCACGATCGGT	
LEC158A1	TCACTTAGAGGTGAGGCATCATTTAAACCGGTC	Mutant S158 to A
LEC158A2	GACCGGTTTAAATGATGCCTCACCTCTAAGTGA	
LEC158D1	TCACTTAGAGGTGAGGACTCATTTAAACCGGTC	Mutant S158 to D
LEC158D2	GACCGGTTTAAATGAGTCCTCACCTCTAAGTGA	
LEC153A158A1	GATCGTGGGTGTGCACTTAGAGGTGAGGCATCA TTTAAACCG	Mutant S153 and S158 to A
LEC153A158A2	CGGTTTAAATGATGCCTCACCTCTAAGTGCACA CCCACGATC	
LEC17A1	CAAATCTAACGCTGGACTGAACTTG	Mutant S17 to A
LEC17A2	CAAGTTCAGTCCAGCGTTAGATTG	
LEC17D1	CAAATCTAACGATGGACTGAACTTG	Mutant S17 to D
LEC17D2	CAAGTTCAGTCCATCGTTAGATTG	
LEC1RT1	GGTACCGTGAGTTCGAGACC	qRT-PCR
LEC1RT2	ACCACCACCCATGACCATAG	
LEC1UP	TGGATCCATGGAACGTG	pCAMBIA-2300-35S-N-Flag-
LEC1Down	GTCTAGATCACTTATACTG	OCS
LEC1UP2	TGGATCCATGGAACGTG	pCAMBIAI1-1300-BnNapinA
LEC1Down2	TGTCGACTCACTTATACTG	-NOS
		pCAMBIA-2300-35S-N-eGFP
		-OCS
LEC1Down3	TGTCGACCTTATACTGACC	PET32
LEC1up4	TGTCGACATGGAACGTGGAGCTC	pSAT1-nEYFP-C1
LEC1down4	AGGATCCTCACTTATACTGACCATAC	
BNPK7L177A1	ACCAAAGTCAGCTGTTGGTACTC	Mutant T177 to A
BNPK7L177A2	GAGTACCAACAGCTGACTTTGGT	
BNPK7L177D1	ACCAAAGTCAGATGTTGGTACTC	Mutant T177 to D
BNPK7L177D2	GAGTACCAACATCTGACTTTGGT	
BNPK7RT1	GTAGCCGATCCTGCAACAAG	qRT-PCR
BNPK7RT2	GATAGTGTCCAGGCTCTGCA	
BNPK7LUP	ATCTAGATCAAAGAGCATAAAC	pCAMBIAI1-1300-BnNapinA
BNPK7LDown	AGTCGACTCAAAGAGCATAAAC	-NOS
		pCAMBIA-2300-35S-N-eGFP
		-OCS
		pMAL-c2X
BNPK7LUP2	AGTCGACTCAAAGAGCATAAAC	pSAT1-cEYFP-C1-B
BNPK7LDown2	AGGTACC TCAAAGAGCATAAAC	
BnNF-YC1up1	AGAATTCATGGACAACAACAACCAGC	pMAL
BnNF-YC1down1	AGTCGACTTACACTTGGCCGTCAAG	
BnNF-YC1up2	CTCTAGAATGGACAACAACAACCAGC	pCAMBIAI-BnNapinA-NOS

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BnNF-YC1down2	AGTCGACTTACACTTGGCCGT	pCAMBIA-2300-35S-N-eGFP -OCS
BnNF-YC1up3	CGTCGACATGGACAACAACAACCAGC	pSAT1-cEYFP-C1-B
BnNF-YC1down3	ATCTAGATTACACTTGGCCGT	
BnNF-YC1RT1	TGAGCGGCGTTCCCTTATTAC	qRT-PCR
BnNF-YC1RT2	TATCGAGATTCCCATGGCCG	
BnNF-YC4up1	GTCTAGAATGGACAACAACAACCAGC	pMAL
BnNF-YC4down1	AGTCGACTCAAAGCAAGCTCATTAC	
BnNF-YC4up2	CTCTAGAATGGACAACAACAACCAGC	pCAMBIAI-BnNapinA-NOS
BnNF-YC4down2	AGTCGACTCAAAGCAAGCTCATT	pCAMBIA-2300-35S-N-eGFP -OCS
BnNF-YC4up3	CGTCGACATGGACAACAACAACCAGC	pSAT1-cEYFP-C1-B
BnNF-YC4down3	ATCTAGATCAAAGCAAGCTCATTAC	
BnNF-YC4RT1	CGTGCCGTACTATTATCCGC	qRT-PCR
BnNF-YC4RT2	TTGGCCGTCAAGATTCCCT	
BnNF-YC9Aup1	GTCTAGA ATGGATCAGCAAGAGC	pMAL
BnNF-YC9Adown1	AGTCGACATTCTCCTGGTCAGGCTGATC	
BnNF-YC9Aup2	CTCTAGA ATGGATCAGCAAGAGC	pCAMBIAI-BnNapinA-NOS
BnNF-YC9Adown2	AGTCGACATTCTCCTGGTCAGGCTG	pCAMBIA-2300-35S-N-eGFP -OCS
BnNF-YC9Aup3	CGTCGACATGGATCAGCAAGAGC	pSAT1-cEYFP-C1-B
BnNF-YC9Adown3	ATCTAGAATTCTCCTGGTCAGGCTGATC	
BnNF-YC9ART1	CTGAGGGATGAGGTCTTGGG	qRT-PCR
BnNF-YC9ART2	TAAGGGTTAGGAGGGTACGC	
BnNF-YCBAup1	GTCTAGAATGGATCAACAAGAGCATGG	pMAL
BnNF-YC9Bdown1	AGTCGACCTAATTTTCCGGGTCAG	
BnNF-YC9Bup2	CTCTAGAATGGATCAACAAGAGCATGG	pCAMBIAI-BnNapinA-NOS
BnNF-YC9Bdown2	AGTCGACCTAATTTTCCGGGTC	pCAMBIA-2300-35S-N-eGFP -OCS
BnNF-YC9Bup3	CGTCGACATGGATCAACAAGAGCATGG	pSAT1-cEYFP-C1-B
BnNF-YC9Bdown3	ATCTAGCTAATTTTCCGGGTCAG	
BnSnRK2;2CM1	AGTGGTACTGGTAGTGATGAGGG	Mutant identification
BnSnRK2;2CM2	GATACAGATGATTAAGTAGTTAAAA	
BnSnRK2;2M1	AGGGTAGTAGTAGTAGTTGTAGT	Mutant identification
BnSnRK2;2M2	GTAGCAAAAATTGATTTAAGTAAAAA	
BnNF-YC9BRT1	AGGGATGAGGTCTTGGGAAG	qRT-PCR
BnNF-YC9BRT2	GTCAGTTTGGTCAGGTCCCT	
BnNCED9RT1	TTGCTTTAACCGAACCGTGG	qRT-PCR
BnNCED9RT2	ACTGTCTTCTGTGGCGTCA	
BnNCED5RT1	CGTGGCCTAAAGTATCCGGA	qRT-PCR
BnNCED5RT1	GTTGCTTCCAGTTCCAACGT	
BnNCED1RT1	GGAGAACGGGGATTGGATGA	qRT-PCR
BnNCED1RT2	AGAAAGCCACCAATCTCCCT	

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BnNCED2RT1	AGTGGCTCCTTTGACGGTAA	qRT-PCR
BnNCED2RT2	CCCGTACGGTACTCTAGACG	
BnNCED4RT1	TTGAAGTCGTAGCCGCAGT	qRT-PCR
BnNCED4RT2	ACATTCGACCACTACCAAAC	
BnNCED6RT1	AATTCAAATACGGACCGGGC	qRT-PCR
BnNCED6RT2	GCTTCATCTCCGATGCGTC	
BnNCED3RT1	CGACGGGCAGTTAGAATCCAC	qRT-PCR
BnNCED3RT2	CGGCGAGAAGCGGAAGTA	
BnDGAT1C-1RT1	ACCTGTTGTCATCATTCTTCATA	qRT-PCR
BnDGAT1C-1RT2	ACCAACTTCAGCCACACA	
BnDGATA2DRT1	ACGCCGTTTCTAAGGCAT	qRT-PCR
BnDGATA2DRT2	GGAAGACGTTCTCAACATCATT	
BnBCCPRT1	AACTTTATGGCTAAAGTTTCAGGTCTTC	qRT-PCR
BnBCCPRT2	GCTTAAGTTCAAGTTCCACTATATCTCTTG	
BnFPART1	TGAGTTGATCGCTAACGCCGCATA	qRT-PCR
BnFPART2	TTCTCGACGTTGATGCTGGCAAGA	
BnFAE1RT1	TCTCCGCGATGGTCGTTAACTT	qRT-PCR
BnFAE1RT2	TCCTTGGACAACTCACTCCGGTT	
BnFAD3RT1	TATAAGGGCGGCCATTCCTAAGCA	qRT-PCR
BnFAD3RT2	AGATAGCCCAGAACAGGGTTCCTT	
BnSUS3RT1	TTAAGCAGCTTCTCGGCAACCTCA	qRT-PCR
BnSUS3RT2	CGAACAAGCCGGATGTCAACCTTT	
BnSUS1RT1	TCTCCGTGTGCCTTTCAGAACAGA	qRT-PCR
BnSUS1RT2	AGAGGCAACGAGGTTTCCATCACT	
BnPGKRT1	AGGCACAAGGTCTGTCTGTTGGAT	qRT-PCR
BnPGKRT2	AGCGAACTTGTCAGCAACCACAAC	
BnMACTRT1	TCAAGCAGTAGGGATGGGCAAAGA	qRT-PCR
BnMACTRT2	ACGAACACGGAGCAATTCAACAGC	
<i>BnACT2RT1</i>	GACCGTATGAGCAAAGAGATCACA	qRT-PCR
<i>BnACT2RT2</i>	TCTCGGGAGGTGCAACGA	

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