

**Extended Data Table 4. Primers used for cloning and qPCR analysis**

Name	Direction	Sequence	Gene ID	Purpose
pTMK1	Fw	GGGGACAACCTTTGTATAGAAAAGTTGCATCGTTTGGAACAGATCTTTCAGC	AT1G66150	for cloning TMK1 promoter
	Rv	GGGGACTGCTTTTTGTACAAAACCTGCAGCTTGAAGAAACAGAGATTGAAG		
gTMK1	Fw	GGGGACAAGTTTGTACAAAAAAGCAGGCTCAATGAAGAAAAAGAAGAACCTT	AT1G66150	for cloning genomic TMK1
	Rv	GGGGACCACTTTGTACAAGAAAGCTGGGTCTCGTCCATCTACTGAAGTGAAT		
cTMK1	Fw	caccATGAAGAAAAGAAGAACCTTTC	AT1G66150	for cloning cDNA of TMK1
	Rv	TCGTCCATCTACTGAAGTGAATG		
cTMK1-K616R	Fw	CGAAGATTGCGGTTAGGAGAATGGAGAATGG	AT1G66150	for cloning cDNA of TMK1-K616R
	Rv	CCATTCTCCATTCTCTAACC GCAATCTTCG		
cTMK1-K616E	Fw	CGAAGATTGCGGTTGAGAGAATGGAGAATG	AT1G66150	for cloning cDNA of TMK1-K616E
	Rv	CATTCTCCATTCTCTCAACCGCAATCTTCG		
TAS_AHA	Fw	CCTTTTTCTCCATGACCCTATGCATTTTACCAA	same gene ID as in qPCR	for cloning syn-tasiRNA target sequence targeting AHA1/2/7/11
	Rv	GTTCTTGGTAAAAATGCATAGGGTCATGGAGAAAAAGGAGAGTAAGAATGTGAAAAAGTTGCAGGAGAATGTGAAAAAGCTGCAGGAGA		
qEF1a	Fw	TGAGCACGCTCTTCTTGCTTCA	AT5G60390	for qrtPCR
	Rv	GGTGGTGGCATCCATCTTGTTACA		
qAHA1	Fw	GCCAGCTTGTTTGACAACAGGAC	AT2G18960	for qrtPCR
	Rv	TTTGGCTGCAGACCGTGCAATG		
qAHA2	Fw	ACATTGACGGCAGTGGTAACTGG	AT4G30190	for qrtPCR
	Rv	TTTGGCAAGTTCGAGGATCTGC		
qAHA7	Fw	TGCTCTAAGTGGCAAATCATGGG	AT3G60330	for qrtPCR
	Rv	TTCTTTCCTGTGAGTGCAATCCTC		
qAHA11	Fw	CATTGGCGGTATCCCAATTGCC	AT5G62670	for qrtPCR
	Rv	CCTCTGGTTATTGCTCCCTGCTG		