

**A SUMO ligase AtMMS21 regulates the stability of the chromatin remodeler
BRAHMA in root development**

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Supplemental Table 1. Primers used in this study.

Name	Sequence (5'-3')	Use
AtMMS21-N-BD-F	CCATGGAGATGGCGTCGGCGTCCTCG	Yeast two hybrid (<i>pGBKT7</i>)
AtMMS21-N-BD-R	GGATCCCTAACCAGGCATTGGTTACCTGC	Yeast two hybrid (<i>pGBKT7</i>)
AtMMS21-C-BD-F	CCGGAATTCGACATTGTTATGACCAGTACTCAG	Yeast two hybrid (<i>pGBKT7</i>)
AtMMS21-C-BD-R	CCGCTCGAGCTAATCTTCATCCACATCTTCTG	Yeast two hybrid (<i>pGBKT7</i>)
BRM-N-AD-F	ATAGGATCCAAATGCAATCTGGAGGCAGTGGCG	Yeast two hybrid (<i>pGADT7</i>)
BRM-N-AD-R	ATAGAGCTCGATTTTCTTTTGGCGCATTCAAT	Yeast two hybrid (<i>pGADT7</i>)
BRM-M-AD-F	ATAGAATTCATGTCATCTGTCAACAAGTACTATACTCTGG	Yeast two hybrid (<i>pGADT7</i>)
BRM-M-AD-R	ATAGAGCTCGAGTTGTCCTTTGGTCAAAACGACC	Yeast two hybrid (<i>pGADT7</i>)
BRM-C-AD-F	ATAGGATCCAAATGCATGAAGAGCGACGAATGAC	Yeast two hybrid (<i>pGADT7</i>)
BRM-C-AD-R	ATAGAGCTCGCTATAAATGGCTAGGCCGTC	Yeast two hybrid (<i>pGADT7</i>)
SUMO1-BD-F	ATAGGATCCGTATGTCTGCAAACCAGGAGGAAG	Yeast two hybrid (<i>pGBKT7</i>)
SUMO1-BD-R	ATACTGCAGCGCCACCAGTCTGATGGAG	Yeast two hybrid (<i>pGBKT7</i>)
SUMO3-BD-F	ATAGGATCCGTATGTCTAACCCTCAAGATGACAAGC	Yeast two hybrid (<i>pGBKT7</i>)
SUMO3-BD-R	ATACTGCAGCGTCAACCACCACTCATCGCC	Yeast two hybrid (<i>pGBKT7</i>)
GST-AtMMS21-F	ATAGGATCCATGGCGTCGGCGTCCTCG	Expression in <i>E. Coli</i> (<i>pGEX4T-1</i>)
GST-AtMMS21-R	ATACTCGAGCTAATCTTCATCCACATCTTCT	Expression in <i>E. Coli</i>

		(<i>pGEX4T-1</i>)
FLAG-BRM-N-F	AGTCCATGGGCCATCACCATCATCACCACGATTACAAGGA TGACGACGATAAG	Expression in <i>E. Coli</i> (<i>pCDFDuet-1</i>)
FLAG-BRM-N-R	GGACCCATGGCCGGATTCCGAG	Expression in <i>E. Coli</i> (<i>pCDFDuet-1</i>)
YFP-BRM-N-F	ATACCCGGGATGCAATCTGGAGGCAGTGGC	Transient expression (35S: <i>YFP</i> vector)
YFP-BRM-N-R	ATAACTAGTTCAATTTCTTTTGGCGCATTCAATTCC	Transient expression (35S: <i>YFP</i> vector)
MYC-AtMMS21-F	GGATCCATATGGCGTCGGCGTCCTCG	Transgenic plants (<i>pBA002-MYC</i>)
MYC-AtMMS21-R	ACTAGTCTAATCTTCATCCACATCTTCT	Transgenic plants (<i>pBA002-MYC</i>)
NLUC-BRM-N-F	ATAGGATCCAATGCAATCTGGAGGCAGTGGCG	LCI assay (<i>pCAMBIA-NLuc</i>)
NLUC-BRM-N-R	ATAGTCGACATTTCTTTTGGCGCATTCAATTCC	LCI assay (<i>pCAMBIA-NLuc</i>)
CLUC-AtMMS21-F	ATAGGATCCAATGGCGTCGGCGTCCTCGTCTGA	LCI assay (<i>pCAMBIA-CLuc</i>)
CLUC-AtMMS21-R	ATAGTCGACCTAATCTTCATCCACATCTTCTGT	LCI assay (<i>pCAMBIA-CLuc</i>)
SCE1-ACYC-F	AGTGAATTCGATGGCTAGTGGAAATCGCTCGTG	SUMOylation (<i>pACYCDuet-1</i>)
SCE1-ACYC-R	AGTGTCGACTTAGACAAGAGCAGGATACTGCTTG	SUMOylation (<i>pACYCDuet-1</i>)
SUMO1GG-ACYC-F	AGATCTCGAGCAAAAGCTCATTTCTGAAGAGGACTTGAT GTCTGCAAACCAGGAGGAAG	SUMOylation (<i>pACYCDuet-1</i>)
SUMO1GG-ACYC-R	AGTACTAGTCTCGAGTCAGCCACCAGTCTGATGGAGCAT C	SUMOylation (<i>pACYCDuet-1</i>)
SUMO3GG-ACYC-F	AGATCTCGAGCAAAAGCTCATTTCTGAAGAGGACTTGAT GTCTAACCCTCAAGATGACAAG	SUMOylation (<i>pACYCDuet-1</i>)
SUMO3GG-ACYC-R	CTCGAGTCAACCACCACTCATCGCCCGGCAC	SUMOylation (<i>pACYCDuet-1</i>)
OE-AtMMS21-F	ATAGGATCCTAATGGCGTCGGCGTCCTCGTCTG	Transgenic plants (<i>pCanGmyc</i>)
OE-AtMMS21-R	ATAGAGCTCTATCTTCATCCACATCTTCTGTG	Transgenic plants (<i>pCanGmyc</i>)
OE-BRM-F	AGTGGCGCGCCGTTTAACTTATGGATTACAAGGATGAC GACGATAAGCCCGGATGCAATCTGGAGGCAGTGGCGG	Transgenic plants (<i>pCanGmyc</i>)
OE-BRM-R	AGTGAGCTCCTATAAATGGCTAGGCCGTCTTTTAC	Transgenic plants (<i>pCanGmyc</i>)
AtMMS21-mut-F	GTTCGCAGTATGGATTCCAGGGCCGTCTATGAAAATCTG	Mutagenesis

AtMMS21-mut-R	TGGATCTGCTAATTCAGTGACAGGC	Mutagenesis
QRT-BRM-F	TGGCACACATCCTTCAGGCA	Realtime RT-PCR
QRT-BRM-R	GGCCTTCGCTGATCCTGACT	Realtime RT-PCR
QRT-GFP-F	AGGAGGACGGCAACATCCTG	Realtime RT-PCR
QRT-GFP-R	GATGGGGGTGTTCTGCTGGT	Realtime RT-PCR
RT-BRM-F	ATAGGATCCAAATGCAATCTGGAGGCAGTGGCG	RT PCR
RT-BRM-R	TAGTTGTCCGGTACCCACCTGCTG	RT-PCR
RT-GFP-F	ATGGTGAGCAAGGGCGAGGA	RT PCR
RT-GFP-R	TTACTTGTACAGCTCGTCCATGCCG	RT-PCR