

Table S1. Primers used in this study

No.	Name	Forward (5'-sequence-3')	Reverse (5'-sequence-3')	Note
1	<i>big1-1</i>	GGATTAGGATGCGA GGAGATC	CGGTGATAAAATTG TTGGACG	wild-type identify
2	<i>big1-1</i>	GGATTAGGATGCGA GGAGATC	TGGTTCACGTAGTG GGCCATCG	T-DNA insertion identify
3	<i>big2-1</i>	TTTCCCACTTTTTTC CACTGTG	TTGAGGGGTTTCATA TGACAGC	wild-type identify
4	<i>big2-1</i>	TTTCCCACTTTTTTC CACTGTG	TGGTTCACGTAGTG GGCCATCG	T-DNA insertion identify
5	<i>big3-1</i>	AAACTCTCCACTGG CTAAGCC	GCAAGTTTTCTTGC GCAATAC	wild-type identify
6	<i>big3-1</i>	AAACTCTCCACTGG CTAAGCC	TGGTTCACGTAGTG GGCCATCG	T-DNA insertion identify
7	<i>big4-1</i>	AAACCCACAATAAT CTATGGCC	AATCGGTTCTTCGG CTATAGC	wild-type identify
8	<i>big4-1</i>	AAACCCACAATAAT CTATGGCC	TGGTTCACGTAGTG GGCCATCG	T-DNA insertion identify
9	<i>big5-1</i>	CCGTCGTATCTCCG ACGATCTT	CCCCGAAGATGAC AAGTTCAA	wild-type identify
10	<i>big5-1</i>	CCGTCGTATCTCCG ACGATCTT	GGGCTACACTGAAT TGGTAGCTC	T-DNA insertion identify
11	<i>BIG1</i>	TCATTGATAACGGC GGCCCA	ACAGCGACAAGCA GAGCAACT	For BIG1 expression level test
12	<i>BIG2</i>	CTAAGTGCCGAGC CGCTGTT	CCGTGCAATGCATC TACGAGGA	For BIG2 expression level test, N terminal
13	<i>BIG2</i>	TCGGCAGATCCGC AGTCGAT	AGCACTGTTCTTCA ACAACGACA	For BIG2 expression level test, C terminal
14	<i>BIG3</i>	TGCTGTCGTCACA GATGCCA	ATGCCGTGCATAGC GTCGAA	For BIG3 expression level test, N terminal
15	<i>BIG3</i>	TGAGAATGCCGGT GCTGTCT	GCCTTCAGCCCAG CACGAAA	For BIG3 expression level test, C terminal
16	<i>BIG4</i>	ACATACTTGAAAGG ATTGTCAACGG	ATCTTGCGCTGGAG ACAACG	For BIG4 expression level test
17	<i>BIG5</i>	CTGCATGGAGGGA TTTAAAGCTGGA	TCTGAGTCACACAA CCCCAGT	For BIG5 expression level test

18	<i>BIG3</i>	ATGGCTTCTACGGA AGTCGATTT	GCAGCAAGAGCGG AGGAGAACA	For amplification BIG3 coding sequence
19	<i>BIG5</i>	ATGGCGGCTGGTG GATTTTTGA	CTGTTGCAAAAGTG GCTTC	For amplification BIG5 coding sequence
20	<i>BIG5</i> <sup>M731L</sup>	AGCCTATGCAGTTA TCTTATTAAATACA	GATTATGCGCATCT GTATTTAATAAGAT	For introducing an ATG (M) to CTG (L) mutate in BIG5 SEC7 domain
21	<i>pBIG1</i>	TTACCTTCTTGTTG ATTTTGGCA	CTAACGCATATTCG ACTTCTCAC	For amplification BIG1 promoter rejoin
22	<i>pBIG2</i>	CACACATCTCGTTA TGCATACCC	TCCCAATTTTCACG GCGAGCTCA	For amplification BIG2 promoter rejoin
23	<i>pBIG3</i>	GGCCGTATGATTTT ACATGAACC	TCCAGATTGGTAGC CGTGACTTC	For amplification BIG3 promoter rejoin
24	<i>pBIG4</i>	CGACTCCCATTGTA AATGATCCG	CGCCGAAAATCAA AAGTTTTGA	For amplification BIG4 promoter rejoin
25	<i>pBIG5</i>	GAAAAGCTTTGAAC TGTCCAC	CTTTAATCCTTCCTA TTTCGACT	For amplification BIG5 promoter rejoin

Table S2. Detail of the key reagent and source information

REAGENT or RESOURCE	SOURCE	IDENTIFIER
<b>Antibodies</b>		
anti-CFP monoclonal antibody	pierce	CAT#PA526939
HRP-conjugated anti-mouse antibody	Abcam	CAT#ab19195
<b>Chemicals, Peptides, and Recombinant Proteins</b>		
BFA	Sigma-Aldrich	CAT#87022601
eBL	Sigma-Aldrich	CAT#E1641-2MG
RNase-free DNase	Takara	CAT#2270A
protease inhibitor cocktails	Roche	CAT#4693116001
FM4-64	Invitrogen	CAT#F34653
Bikinin	MCE	CAT#HY-12524
InStab <sup>TM</sup> Phosphatase Inhibitor Cocktail	Yeasen	CAT#20109ES05
<b>Critical Commercial Assays</b>		
Plant Total RNA isolation kit	Magen	CAT#MD5215-01
iScript cDNA synthesis kit	Promega	CAT#A6001
Super Signal West Dura chemiluminescence reagent Kit	Pierce	CAT#34075
<b>Experimental Models: Organisms/Strains</b>		
BRI1-GFP	Friedrichsen et al., 2000; Wang et al., 2001	N/A
BZR1-CFP	Wang et al., 2002	N/A
BZR1-D-CFP	Wang et al., 2002	N/A
PIN1-GFP	Friml et al., 2002; Benkova' et al., 2003	N/A
PIN2-GFP	Xu and Scheres, 2005 ; Blilou et al., 2005	N/A
ST-RFP	Naramoto, 2014	N/A
VHA-α1-RFP	Naramoto, 2014	N/A
BIG5-GFP	This paper	N/A
BIG5 <sup>M731L</sup> -GFP	This paper	N/A
pBIG1:GUS	This paper	N/A
pBIG2:GUS	This paper	N/A
pBIG3:GUS	This paper	N/A
pBIG4:GUS	This paper	N/A
pBIG5:GUS	This paper	N/A
<b>Recombinant DNA</b>		
pEasy-Blunt vector	Transgene	N/A
pSuper1300-221 vector		
pCAMBIA1300-221 vector		
<b>Software</b>		
ImageJ	<a href="http://rsbweb.nih.gov/ij/">http://rsbweb.nih.gov/ij/</a>	<a href="http://rsbweb.nih.gov/ij/">http://rsbweb.nih.gov/ij/</a>