



**Supplemental Figure 1. BBX19 as a negative regulator of photomorphogenesis.**

(A-B) Hypocotyl phenotypes of 5-d old Col, OE44 (OE44 and OE56), and RNAi (Ri323 and Ri513) seedlings grown under short day conditions and measurements of their hypocotyl lengths respectively. Data are the mean  $\pm$  SD,  $n \geq 50$ .

(C-D) Hypocotyl phenotypes of 5-d old aforementioned genotypes grown under continuous exposure to white (Wc), blue (Bc), red (Rc) and far red (FRc) light, and measurements of their hypocotyl length respectively. Data are the mean  $\pm$  SD,  $n \geq 90$ . Letters above bars indicate significant differences as determined by Tukey's HSD method ( $p < 0.05$ ).

Asterisks in panel C denote a significant difference of hypocotyl length versus wild type control (Col) ( $p < 0.05$ ).

**Supplemental Table 1. List of primers used.**

Gene	Primers	Note
BBX19 (At4g38960.1)	F-CACCATGCGGATTTTGTGCGATGCTTG R-CTTCTC AGACTCTCGTTTAAAGGGTC	F+R CDS for overexpression
BBX19 (At4g38960.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCATGCGGATTTTGTGCGATG CT TG R-GGGGACAACCTTTATTATACAAAGTTGTCTTCTCAGACTCTCGTTTAAAGGGTC	For amplify B4r-B3r fragment of BBX19,
ELF3 (At2g25930.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCATGAAGAGAGGGAAAGATG AGGAG R-GGGGACAACCTTTATTATACAAAGTTGTAGGCTTAGAGGAGTCATAGCGTTTA	For amplify B4r-B3r fragment of ELF4
HY5 (At5g11260.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCAGAGATCTGACGGCGGTA GCC R-GGGGACAACCTTTATTATACAAAGTTGTAAGGCTTGCATCAGCATTAGAAC	For amplify B4r-B3r fragment of HY5
COP1 (At2g32950.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCATGGAAGAGATTTTCGACGG ATCCG R-GGGGACAACCTTTATTATACAAAGTTGTCGCAGCGAGTACCAGAACTTTGATG	For amplify B4r-B3r fragment of COP1
PIF4 (At2g43010.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCATGGAACACCAAGTTGGA GTTTTGA R-GGGGACAACCTTTATTATACAAAGTTGTGTGGTCCAAACGAGAACCCTCG	For amplify B4r-B3r fragment of PIF4
PIF5 (At3g59060.1)	F-GGGGACAACCTTTTCTATACAAAGTTGCCATGGAACAAGTGTGCTGA TTGGAA R-GGGGACAACCTTTATTATACAAAGTTGTGCCTATTTTACCCATATGAAGACTGTGCG	For amplify B4r-B3r fragment of PIF5
Firefly luciferase-N	F-GGGGACAACCTTTGTATAATAAAGTTGCCATGGAAGACGCCAAAAACA TAAAGAAAG	For amplify B3-B2 fragment of NLuc

	R-GGGGACCACTTTGTACAAGAAAGCTGGGTATCAATCAAGGCGTTGG TCGCTTCC	
Firefly luciferase-C	F-GGGGACAACCTTTGTATAATAAAGTTGCCATGTCCGGTTATGTAAACAA TCCG R-GGGGACCACTTTGTACAAGAAAGCTGGGTATTACACGGCGATCTTTC CGCC	For amplify B3-B2 fragment of NLuc
p35S	F-GGGGACAAGTTTGTACAAAAAAGCAGGCTCCATTTAGGTGACACTAT AGAATACTC R-GGGGACAACCTTTGTATAGAAAAGTTGGGTGTGATATCACTAGTGCG GCCGCT	For amplify B1-B4 fragment of p35SS
BBX19 (At4g38960.1)	F-ACGAGGGACAATTTGCAGAACC R-TTCCCATTGGCTTCACCATTTC	q-PCR
PIF4 (At2g43010.1)	F-TCAGATGCAGCCGATGGAGATG R-CGACGGTTGTTGACTTTGCTGTC	q-PCR
PIF5 (At3g59060.1)	F-ACTCATACTCACTGCAGCAGAAC R-CCACTTCCCATCCACATCACTTGG	q-PCR
ELF3 (At2g25930.1)	F-TTCATCCTGGACCATCTAGTCAGC R-GTTGCTTGGTTTGC GGCTGAAG	q-PCR
At4g34270	F-GTGAAAACCTGTTGGAGAGAAGCAA R-TCAACTAAATACCCTTTTCGCA	q-PCR
At4g26410	F-GAGCTGAAGTGGCTTCCATGAC R-GGTCCGACATACCCATGATCC	q-PCR
<i>pif1-1</i>	F-CGAGATAACCGGTACATCGTCATC R1-CATGTGAGTTTGTGTAGGCAAAGGTC R2-TAGCATCTGAATTCATAACCAATCTCGATACAC	Genotyping F+R1 for wild type F+R2 for mutant
<i>pif3-3</i>	F1-AGAAGCAATTTGGTCACCATGCTC R1-TGCATACAAATAGTCGATCGTATG F2-GGTGTGTATGTGAGAAGGTACATCCATCG R2-AAGCTTAGCTTTGGTGAGCCTGAAAAGCTC	Genotyping F1+R1 for wild type F2+R2 for mutant
<i>pif4-2</i>	F1-ACCTCCTCAAGTCATGGTTAAGCCTAAGGC R1-TCCAAACGAGAACCGTCGGT R2-TAGCATCTGAATTCATAACCAATCTCGATACAC	Genotyping F+R1 for wild type F+R2 for mutant

<i>pif5-3</i>	F-GCTTTATTAAATCATTTCCTCCTAGATTGTTG R-TGTATACCTTTCTGAGAGATTATGAACTT	F+R for wild type F+LBa1 for mutant
<i>pELF3</i>	F- GCCATGAATATAAACACAACAACTAATC R- AGAAGGAGAGGATCTCTCTGGAGAT	Clone promoter of ELF3