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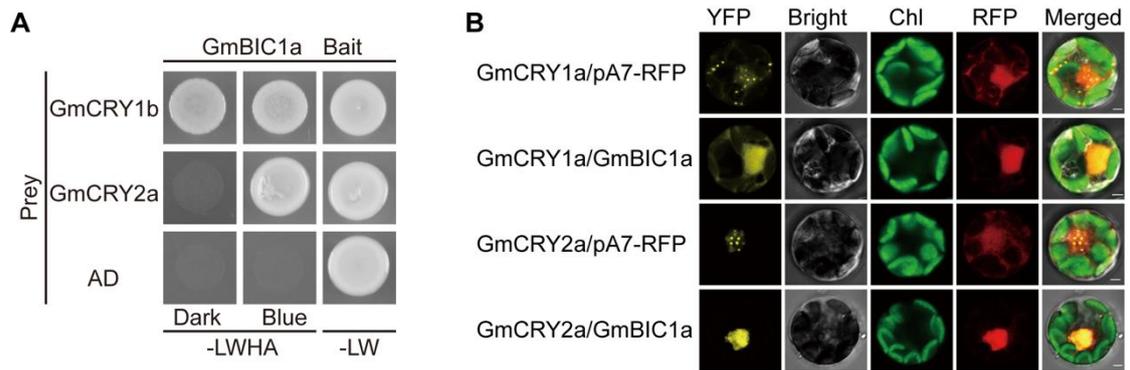
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GmBIC1b : -----MAHQYSSSNESDSHIIPP-QPLKLRKHQPKGKQMGQEENESQYLEEIVSDSRP-----RKYSGKDN : 72
GmBIC1c : -----MAHQSSSESDDRQIPSHHQPLDINSHPKSDIIFNNMELQQ-----EESNLNKHEYD-----EDIR---DKDK : 62
GmBIC1d : -----MAHQSSSESDD-HIPSHHPLDINSHPKSDIIFDNMELQQHQQEESNINNHEYD-----GDNNRDKDDKD : 68
AtBIC2 : -----MAHQSSSESDD-HIPSHHPLDINSHPKSDIIFDNMELQQHQQEESNINNHEYD-----GDNNRDKDDKD : 4
GmBIC2a : -----MEESKLSHNTITGSSRKIVTSQSPPSLSLE-----FNEK- : 34
GmBIC2b : -----MEGNNLPHNMTWSSRKIVTSQSPASFSLE-----FNEKQ : 35

*      100     *      120     *      140     *      160
s      a      GRerLkrhR Evag V IP WGqE LkdW D
AtBIC1 : DPPSLPQEAASVS---ADKKDILLEE---KPKQSQEEEDRVDTGRERLKRHRRETAG-FVWIEETWQCEELLKDWID : 98
GmBIC1a : NNILGQIPSAKIH---NKVEITLDHN-ATKEGITSVEGDHQDSGREKLRHRHEVEVAG-FVWIEDIWCQEEILLKDWID : 142
GmBIC1b : N-THGQTPSAKVH---NKVEITLDYN-ATTEG-TSVEG--EDSGRERLKRHRHEVEVAG-FVWIEDIWCQEEILLKDWID : 141
GmBIC1c : DVVTTQNPSSAASETLLCCNEENMALQEEETSIVAAAKEEEEEEDSGRERLNRRHEVEVAG-FVWIEDIWCQEEILLKDWID : 141
GmBIC1d : DVTTTQNPSSAASET---NEEKIALQEEASDDVVVEAEKKEE-DSGRERLNRRHEVEVAG-FVWIEETWQCEELLKDWID : 141
AtBIC2 : NLPEETKEPICPGS-----SHRKQNKGTGKTCFPETIVLSGRDRLKRHRHEVEVAG-FVPIEDSWKCGELIMGWMD : 72
GmBIC2a : -LKNSQECKSFNTN-----DKAKDPEKGHSENIGKVDVVEETGRERLKRHRHEVEVIMDKVNIENWCQEPKLDWMD : 106
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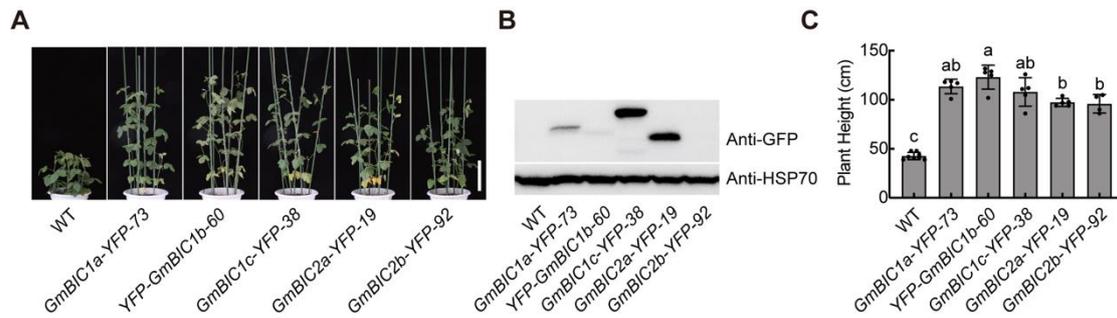
*      180     *      200     *      220     *
FDa s I AR AL a s l
AtBIC1 : CSTFDTCIVEAGTSSARVALVEEARFAASGGLHNRCILIR----- : 140
GmBIC1a : CTAFDAPLIVSRIVMARGALVEEGRFATSGGRIENRC : 180
GmBIC1b : CTAFDAPLIVSRIVMARGALVEEGRFATSGGRIENRC : 179
GmBIC1c : CTAFDAPLIVSRISTARVALVEECTFRANAGRIENREKIVTYNSD : 187
GmBIC1d : CSAFDAPLIVSRISTARVALVEECTFRANAAGI IENSVFSGKRQFRIVRIKRCIVFCGTWISMYIWIYPLITIAQM : 217
AtBIC2 : FSTFDAAFTSQCIVSARVALMADSGDDAGARGSRPQRLVVESSC : 116
GmBIC2a : YTMFDAPFPHTLIVTARVALIANTRKAKPRY : 139
GmBIC2b : YTMFDAPFPHTLIVTARVALIANTRKAKPRY : 141

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SUPPLEMENTARY FIGURE S1 | Sequence alignment of BIC proteins in *Arabidopsis* and soybean. The letter with a blue underline indicates the CRY-Interacting Domains (CID).

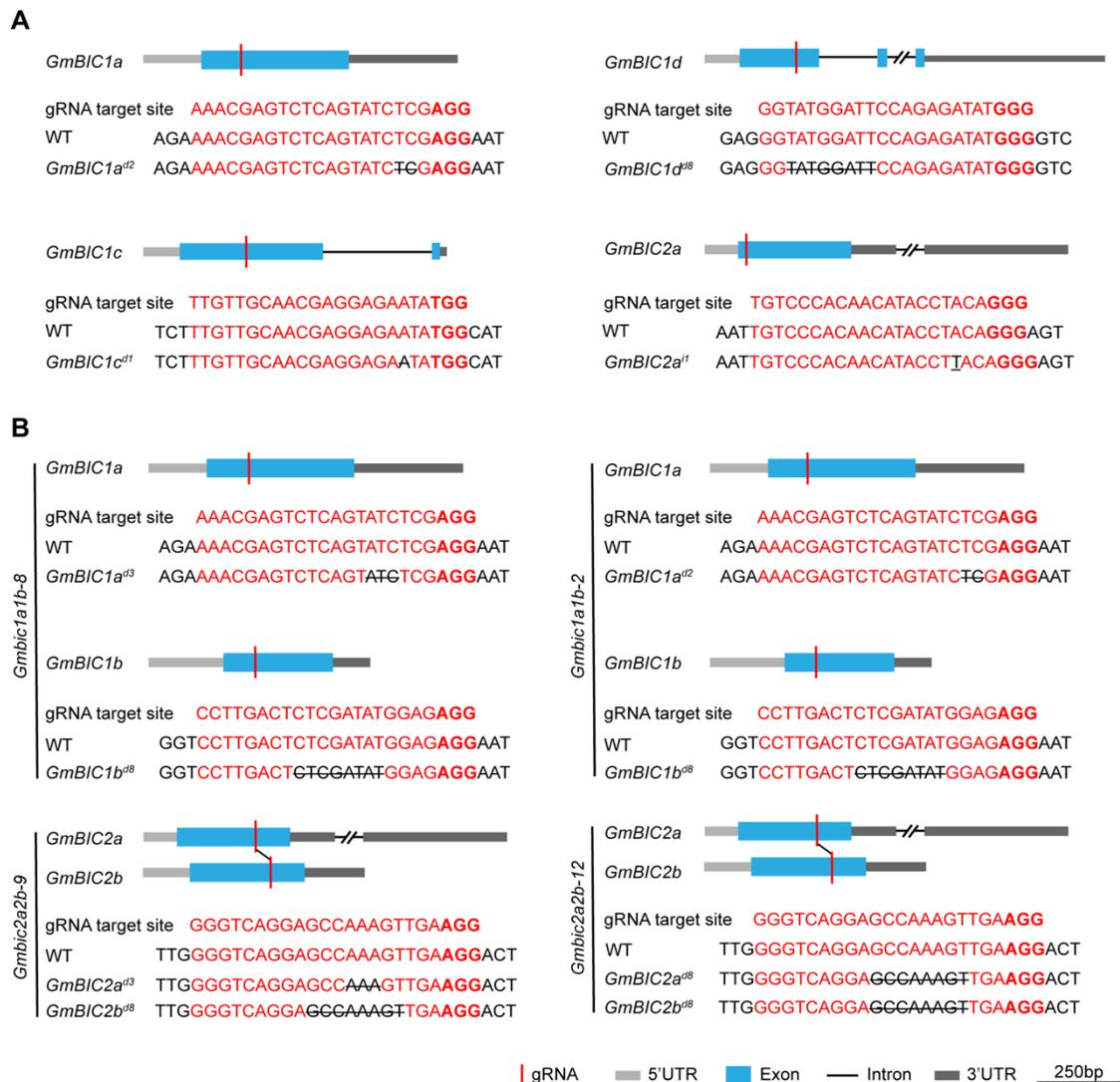


SUPPLEMENTARY FIGURE S2 | GmBIC1a interacts with GmCRYs and inhibits the formation of GmCRY photobodies. (A) Interaction of GmBIC1a with GmCRY1b and GmCRY2a in yeast. **(B)** GmBIC1a inhibition of GmCRY1a-YFP and GmCRY2a-YFP photobodies in soybean mesophyll protoplasts. The protoplasts were exposed to blue light ($25 \mu\text{mol m}^{-2}\text{s}^{-1}$) for 5 min and examined under a fluorescence microscope. The *pA7-RFP* empty vector was used as a control. Scale bars = 2 μm .



SUPPLEMENTARY FIGURE S3 | Phenotypes of the *GmBIC* overexpression lines.

(A) Representative images of indicated lines grown under short-day conditions (8 h light/16 h dark). Scale bars = 25 cm. **(B)** Immunoblots of the GmBIC-YFP or YFP-GmBIC fusion proteins of each line as in **(A)** probed with the anti-GFP antibodies. HSP70 proteins were used as the loading control. **(C)** Statistical analysis of the plant height of each line as in **(A)**. Data are means \pm SD ($n \geq 4$). Lowercase letters indicate significant differences ($p < 0.01$, One-way ANOVA with Tukey's multiple comparisons test).



SUPPLEMENTARY FIGURE S4 | Schematic diagram of the *Gmbic* mutations generated by CRISPR/Cas9. **(A and B)** Schematic diagram showing the genomic structures, the gRNA-targeting sites and the detailed editing sequence of *GmBIC* genes in the *Gmbic1a*, *Gmbic1c*, *Gmbic1d*, and *Gmbic2a* single mutants **(A)**, and the *Gmbic1a1b* and *Gmbic2a2b* double mutants **(B)**. The underlined and strikethrough letters indicated the inserted and deleted nucleotides, respectively. The gRNA-targeting sites are indicated in red.