

Title of article: Brassinosteroids can regulate cellulose biosynthesis by controlling the expression of *CESA* genes in *Arabidopsis*

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Fig. S1 BRs induce the hypocotyl elongation. Seedlings were 4 day old dark-grown on 1/2MS plates with (*left*) or without (*right*) 100nM epiBL.

Fig. S2 *CESA7*, *CESA8*, *CESA10* were expressed in the flowers or stems. (A) The flower of *CESA7 pro::GUS* transgenic line. (B) The flower of *CESA8 pro::GUS* transgenic line. c. The flower of *CESA10 pro::GUS* transgenic line. D, The stem of *CESA8 pro::GUS* transgenic line.

Fig. S3 The expression of these *CESAs* was increased in the seedling grown on the 1/2MS medium with BRs. qRT-PCR was performed using 9-day-old light-grown seedlings of the *BRI1-GFP* line and the wild type.

Fig. S4 BES1 can associate with the upstream elements of *CESA* genes. (A) The BES1 binding site prediction in -2000bp to 0bp region of each *CESA* promoter. (B) to (K), The positions of *CESA* promoters can be directly targeted by BES1. (I) The negative control *ACT2*. (J) The positive control at2g23770.

Fig. S5 The *CESA* mutants show an altered BR response. (A) The *CESA* mutants were grown on 1/2MS medium with (*left*) or without (*right*) 100nM epiBL in the light. (B) The *CESA* mutants were grown on 1/2MS medium with (*left*) or without (*right*) 100nM epiBL in the dark.

Fig. S6 Microarray data shows the regulation of the *CESA* expression by various plant hormones. (<https://www.genevestigator.com/gv/user/serveApplet.jsp>).

Fig. S1



Fig. S2

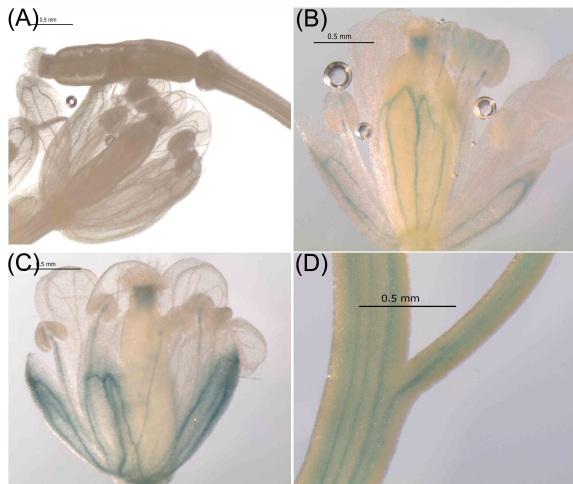


Fig. S3

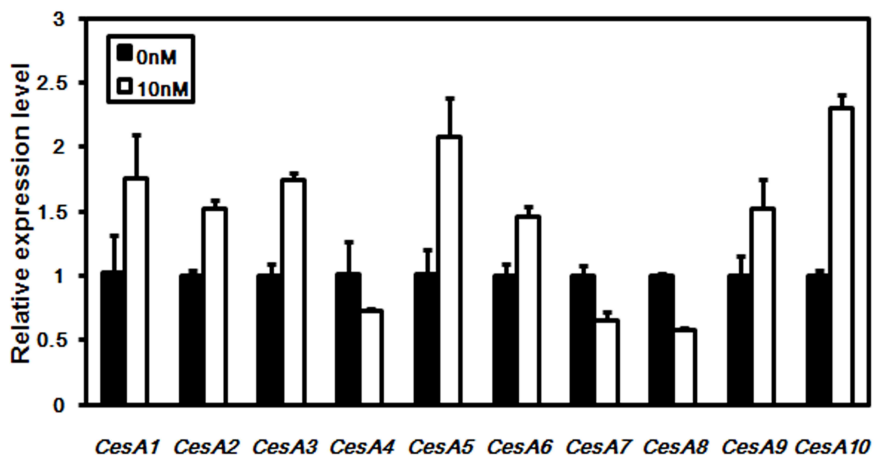


Fig. S4

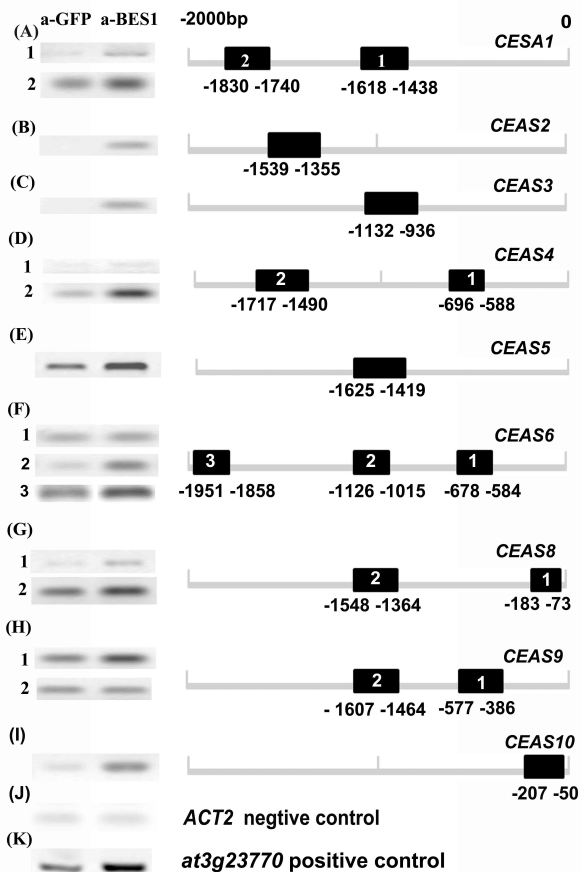
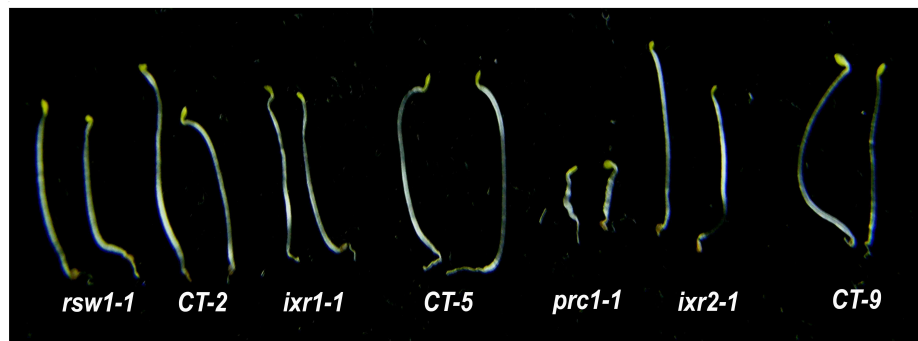


Fig. S5

(A)



(B)

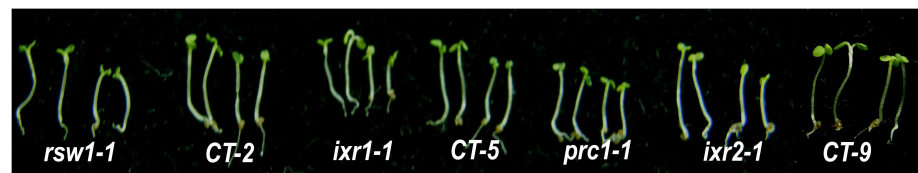


Fig. S6

gene No.	BL (+)	BL / H3BO3 (+)	brz220 (+)	GA3 (+)	zeatin (+)	IAA_1	IAA_2	IAA_3	ABA (+)	ACC (+)	ethylene (+)	MJ (+)	salicylic acid (+)
AT4G32410	1.28	0.92	0.85	1.06	1.04	0.99	0.97	1.12	1.22	0.96	0.83	0.99	0.7
AT4G39350	1.3	2.36	1.11	0.99	0.99	0.87	0.66	1.08	0.69	1	0.96	0.97	0.83
AT5G05170	1.08	1.04	1.02	0.98	1	1.06	0.91	1.08	0.88	0.87	0.92	0.82	0.92
AT5G44030	1.24	31.64	0.81	0.98	0.95	0.88	0.84	1.07	0.93	1.02	0.92	0.97	1.05
AT5G09870	1.32	1.28	0.79	0.97	1.11	0.83	0.69	1.17	0.88	0.81	0.6	0.89	0.8
AT5G64740	1.15	1.07	0.86	0.96	1.05	0.93	0.89	1.27	0.82	0.81	0.71	1.01	0.76
AT5G17420	1.38	44.45	0.84	1.14	1.05	1.32	0.72	0.97	1.37	1.24	0.89	1.18	1.12
AT4G18780	1.24	167.95	0.77	1	1.03	1.02	0.83	0.99	1.21	1.04	0.86	0.92	0.85
AT2G21770	1.23	1.43	0.8	0.84	0.79	0.68	0.64	1.14	0.91	1.08	0.82	0.95	1.68
AT2G25540	1.33	0.66	1.04	0.89	0.88	0.83	0.76	1	1.27	1.2	1.06	1.11	0.97