

**Ectopic overexpression of bol-miR171b increases chlorophyll content and results
in sterility in broccoli (*Brassica oleracea* L var. *italica*)**

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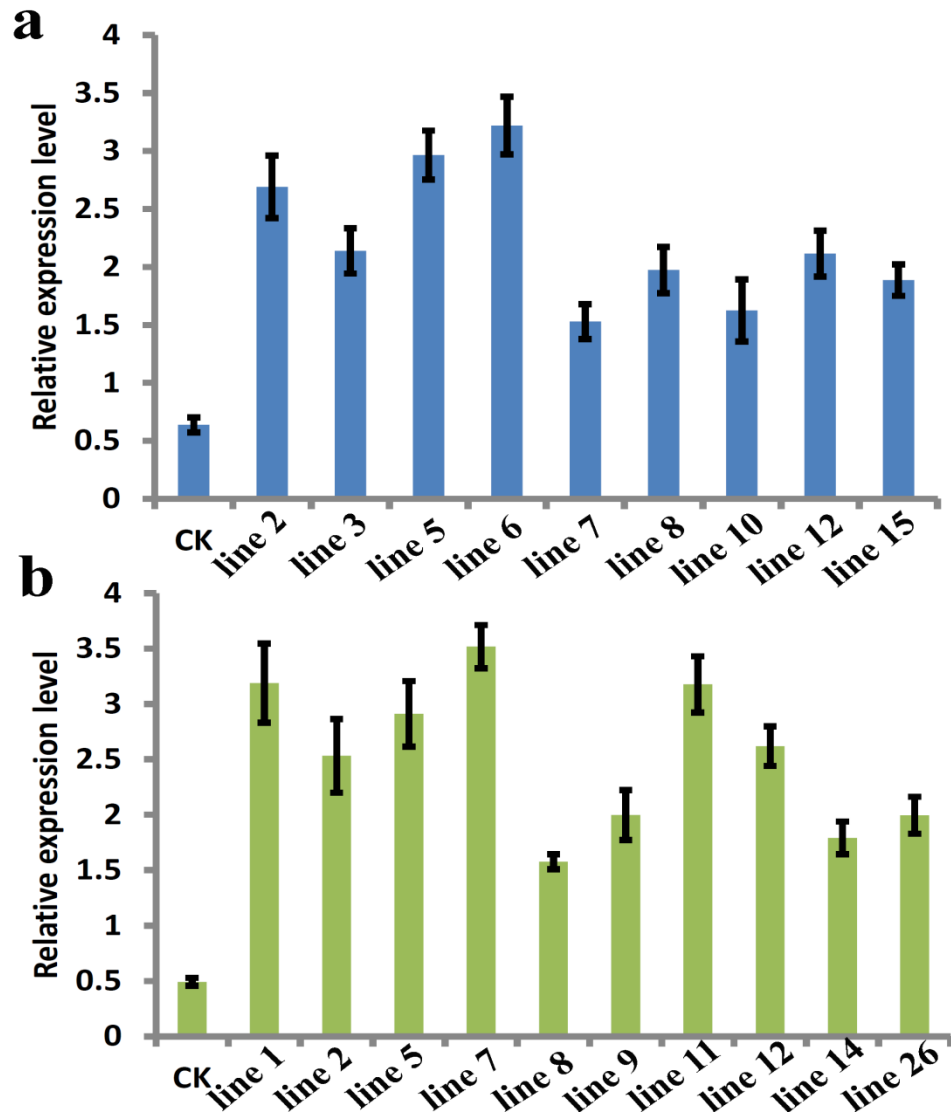


Figure S1 Expression levels of the *bol-miR171b* precursor in the independent *35S::bol-miR171b* transgenic *Arabidopsis* lines (a) and the *35S::bol-miR171b* transgenic broccoli (b) detected by qRT-PCR. CK (vector controls). “line + numbers” indicated the different transgenic lines in *Arabidopsis* or broccoli.

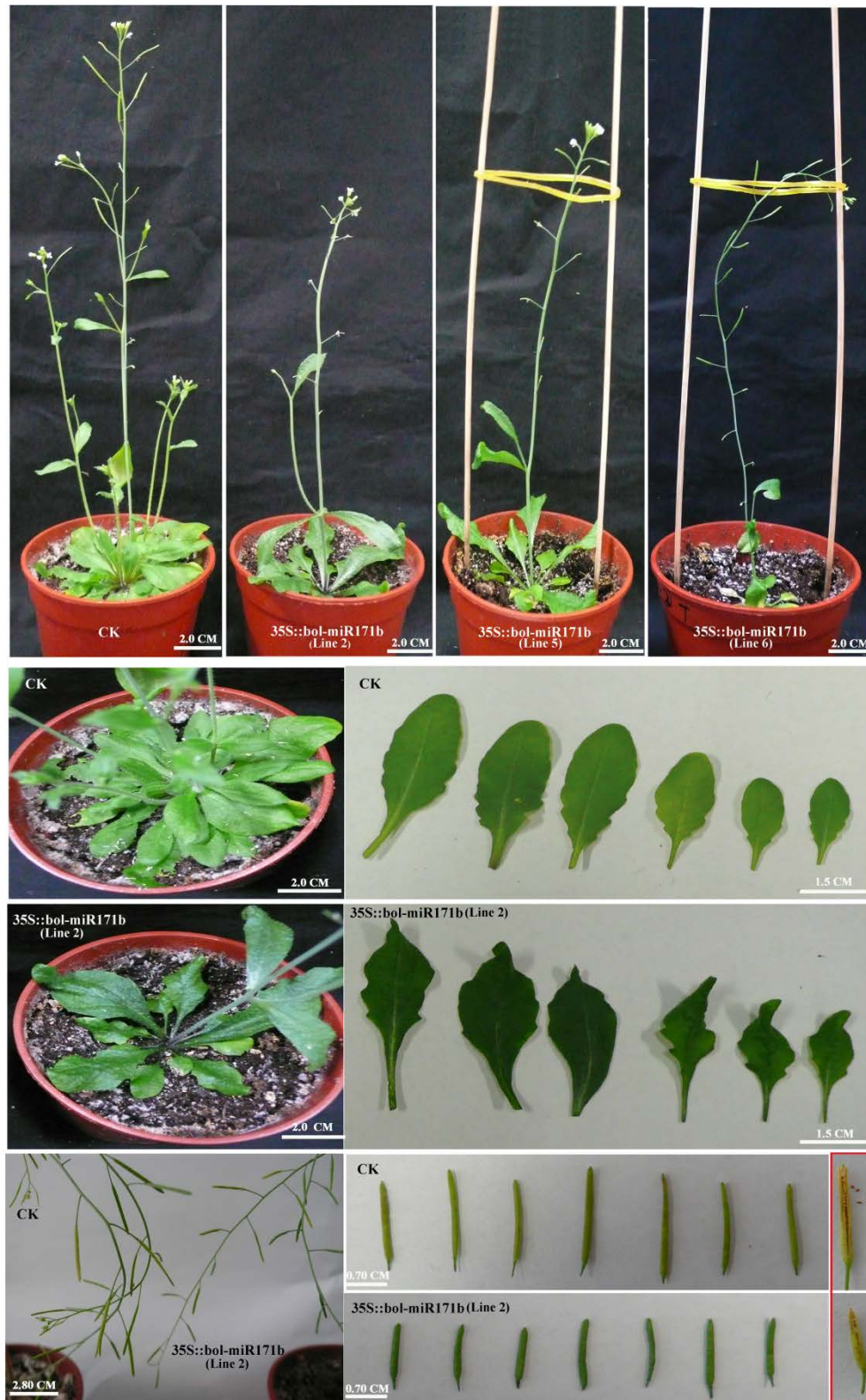


Figure S2 Phenotypes of the overexpressed *bol-miR171b* in *Arabidopsis*. CK showed the vector control. *35S::bol-miR171b* (line + numbers) showed the overexpressed *bol-miR171b* transgenic lines. The mature silique showed in the red box.

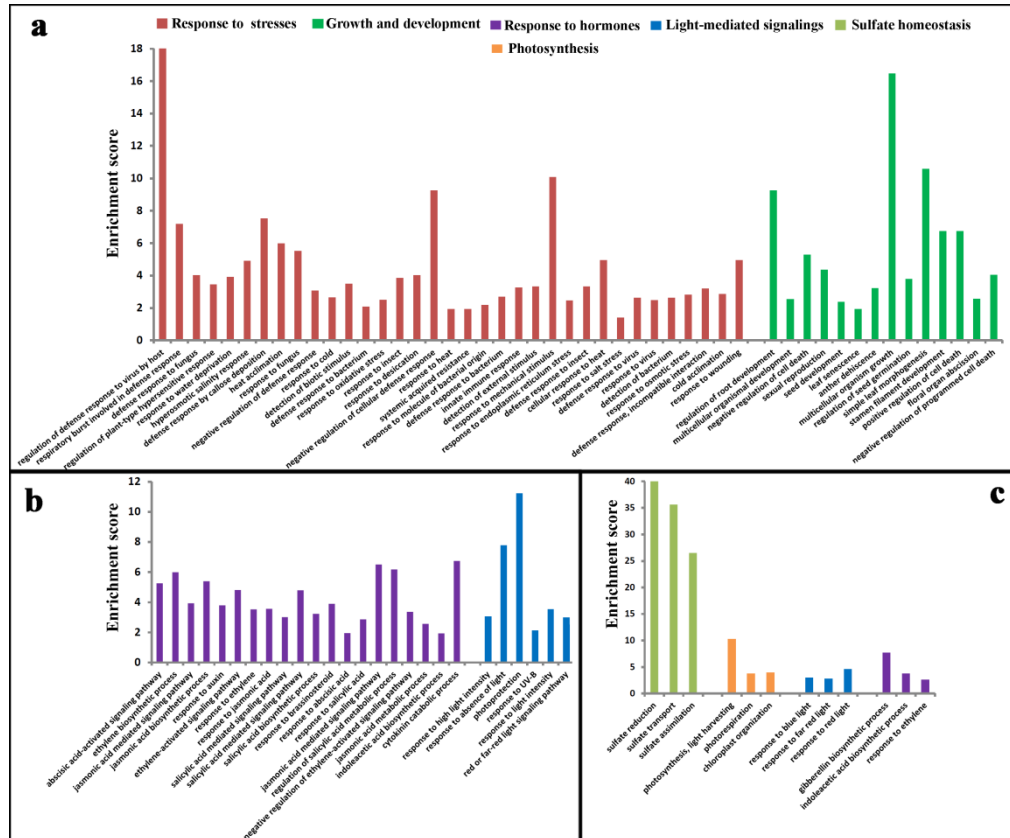


Figure S3 GO enrichments of the differentially expressed genes between the *35S::bol-miR171b* transgenic broccoli and the vector controls. (a) and (b) The significantly enriched GO terms targeted by the up-regulated genes in the *35S::bol-miR171b* transgenic broccoli (corrected p -value < 0.05). (c) The significantly enriched GO terms targeted by the down-regulated genes in the *35S::bol-miR171b* transgenic broccoli (corrected p -value < 0.05). Significantly enriched GO terms in different biological processes are distinguished by the bar color.

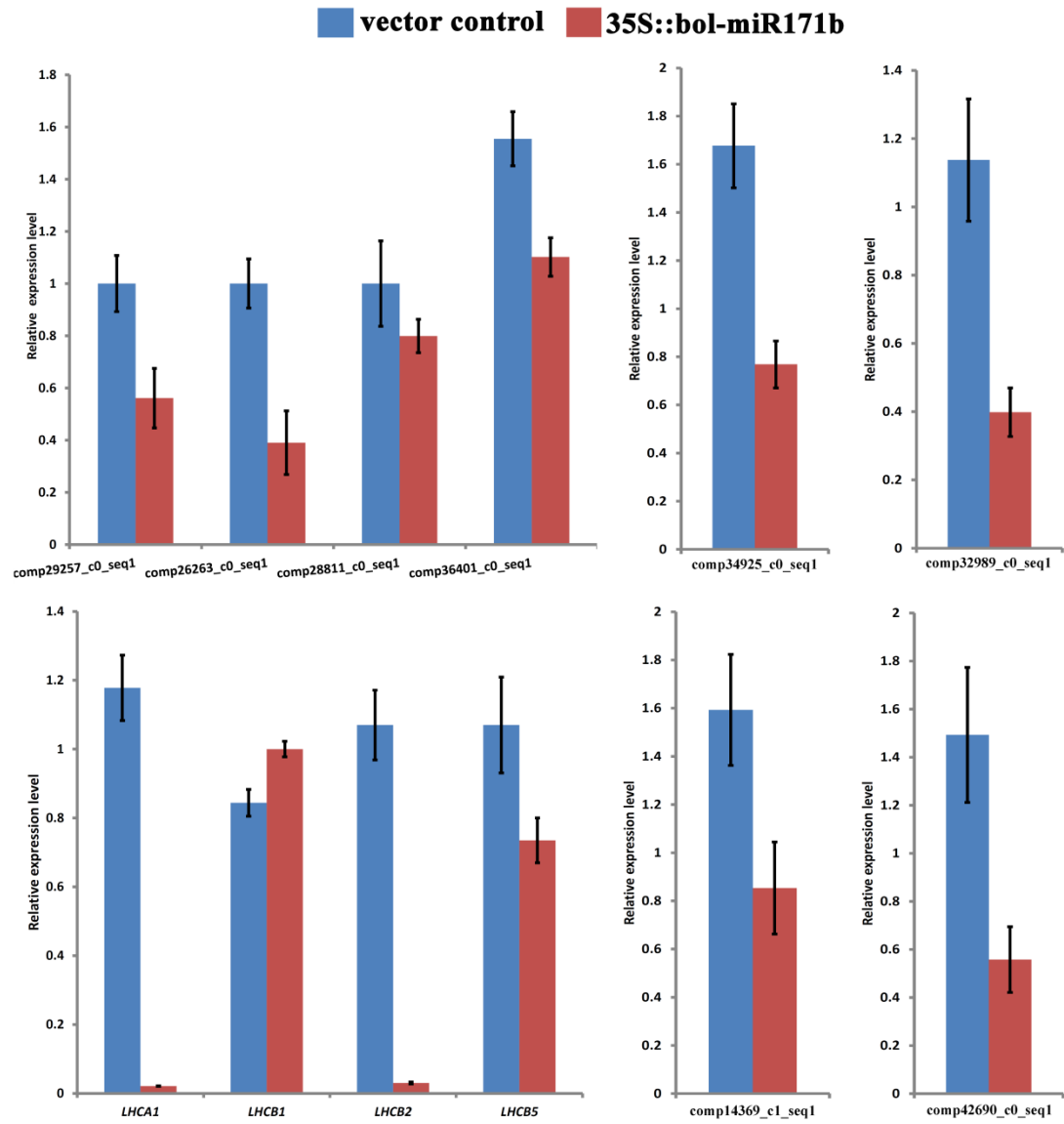


Figure S4 Expression levels of the genes involved in chloroplast development and sulfate homeostasis detected by qRT-PCR. The functional annotation of the corresponding genes can be found in Table S3.

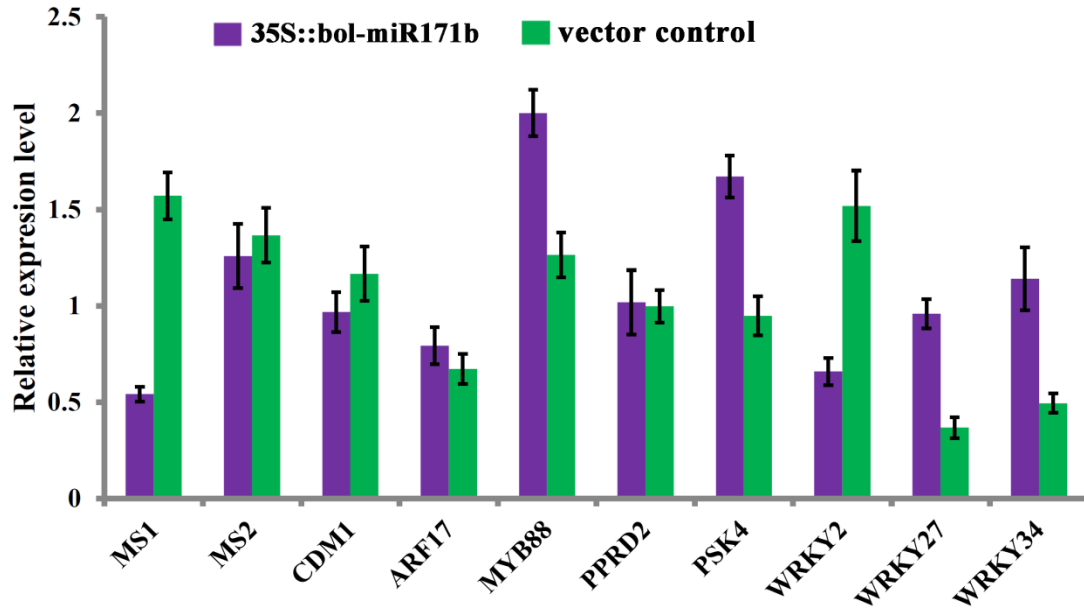


Figure S5 Expression levels of the marker genes involved in plant sterility. All these genes have been demonstrated to play important roles in the sterility of other plant species. *MS1* (male sterility 1), *MS2* (male sterility 2), *CDM1* (*CALLOSE DEFECTIVE MICROSPORE1*), *ARF17* (*AUXIN RESPONSE FACTOR17*), *PPRD2* (*polyprenol reductase 2*) and *PSK4* (*Phytosulfokine 4*).