



**Supplementary information, Figure S2 Identification of 4.4-kb-long promoter of *SPL* and *spl-2*.**

(A) and (B) The GUS activity of pSPL-GUS transgenic line in which GUS was driven by 4.4-kb-long promoter of *SPL*. Bars, 1 mm. (C) Schematic representation of T-DNA insertion site in *spl-2* (*SAIL\_519\_H07*). The T-DNA was located in the promoter region of *SPL*. (D) and (E) The mutant *spl-2* displayed male sterility (E) as compared to wild-type (D). (F) to (H) Overexpression of SPLmEAR in which the three conserved leucine

residues of C-terminal EAR motif were mutated to alanines caused the male and female sterility as observed in *spl-2* mutants. **(F)** Top, schematic representation of 35S-SPLmEAR construct. Bottom, from left to right, the opening flowers from wild-type with mature pollens in the stamens (red arrows), two independent lines of 35S-SPLmEAR with no pollens in the stamens (red arrows). **(G)** The siliques from wild-type and 35S-SPLmEAR line. **(H)** The dissected siliques from wild-type, 35S-SPLmEAR and *spl-2*. The 35S-SPLmEAR lines and *spl-2* all displayed the similar sterility. Bars, 1 mm and 250  $\mu$ m in the insets. **(I)** to **(L)** SPLmEAR overexpression lines displayed down-curved leaves opposite to those observed in *spl-D* mutants. **(I)** 21-day-old wild-type plant. **(J)** and **(K)** Two independent lines of 35S-SPLmEAR. **(L)** The close-up views of the 4<sup>th</sup> and 5<sup>th</sup> leaves from 21-day-old wild-type and two independent lines of 35S-SPLmEAR plants. Bars, 1 mm.