

論文内容の要旨

申請者氏名 LEE ZE HONG

The appropriate timing of the termination of floral meristem activity (FM determinacy) determines the number of floral organs. In *Arabidopsis*, two transcription factors, CRABS CRAW (CRC) and SUPERMAN (SUP), play key roles in FM determinacy. CRC belongs to the YABBY transcription factor family, whose members contain a zinc finger and a helix-loop-helix domain. The *crc* mutation causes the formation of unfused carpels and leads to an increase in carpel number in sensitized backgrounds. The *SUP* gene encodes a C2H2-type zinc-finger protein, and *sup* mutants produce extra carpels and stamens. Even though both of the genes have been reported to regulate floral organs development, floral meristem (FM) determinacy and auxin homeostasis, the genetic interaction between them is not fully understood. The *crc sup* double mutant had significantly more stamens and carpels than the parental lines and an enlarged floral meristem. The transcriptomic data showed that these two transcription factors might regulate multiple common downstream genes which include several cytokinin- and auxin-related genes as well as stress- and metabolic-related genes to function downstream of CRC and SUP during stamen development and possibly FM determinacy. The regulation of common downstream genes by CRC and SUP might contribute to the initiation of an appropriate number of stamens and to subsequent growth and development. Besides that, the confocal live imaging of cytokinin reporter line *TCSn::GFP* on several genotypes which include *crc-1*, *sup-5* and *crc-1 sup-5* mutants implicated that cytokinin might plays important role during spatio-temporal regulation on FM determinacy. This study might open the breakthrough point for further investigation on the transcriptional-hormonal crosstalk network on flower development.

- やむを得ない事由[図書出版, 学術雑誌等への掲載, 特許・実用新案出願, 個人情報等の保護, その他 ()]により本要旨を非公表とする。

【※該当する事由に○印をすること】

