中国农业科技导报 2009, 11(4) 89-94 DOI: ISSN: 1008-0864 CN: CN 11-3900/S

研究报告

AT-hook基因AHL27过量表达延迟拟南芥开花

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摘要：

拟南芥中有29个被称为AHL的蛋白质 (AT-hook motif nuclear localized protein)，但是大多数AT-hook蛋白的功能未知,其中AHL27蛋白含有一个AT-hook基序和一个PPC结构域。*AHL27*在不同器官的mRNA表达和GUS 组织化学染色分析表明，*AHL27*主要在根和花中表达；GFP-AHL27亚细胞定位显示AHL27蛋白是一个核定位蛋白。*AHL27*基因的过量表达，可抑制开花基因*FT*的表达，同时促进*FLC*的表达，从而延迟拟南芥在长日和短日条件下的开花时间。研究表明，*AHL27*基因在拟南芥的生长发育中起重要作用。

关键词： 拟南芥；AHL27；AT-hook；开花时间

Over-expression of AT-hook Gene *AHL27* Can Delay the Flowering of *Arabidopsis*

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Abstract:

There are 29 AHL proteins (AT-hook motif nuclear localized proteins) in *Arabidopsis*, but the functions of their mojorities remain unknown. The AHL27 protein, reported in this study, contains an AT-hook motif and a PPC domain. The analysis of mRNA expression in different tissue organs and GUS histochemical staining showed that *AHL27* was mainly expressed in roots and flowers. The sub-cellular localization of GFP-AHL27 indicated that AHL27 was a nuclear protein. *AHL27* over-expression could inhibit the expression of flowering gene *FT* and promote the *FLC* expression, therefore, delay the Arabidopsis flowering time both under long daylight and short daylight conditions. Our data suggested that *AHL27* could play a very important role in Arabidopsis growth and development.

Keywords: *Arabidopsis thaliana* *AHL27* AT-hook flowering time

收稿日期 2009-03-23 修回日期 2009-06-29 网络版发布日期 2009-07-24

DOI:

基金项目:

中国农业科学院杰出人才基金资助。

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