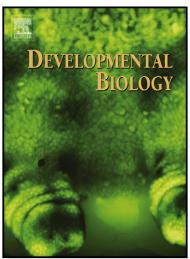
Author's Accepted Manuscript

Evolutionary conservation of microRNA regulatory programs in plant flower development

Yan Luo, Zhenhua Guo, Lu Li



www.elsevier.com/locate/developmentalbiology

PII: S0012-1606(13)00253-4

DOI: http://dx.doi.org/10.1016/j.ydbio.2013.05.009

Reference: YDBIO6085

To appear in: Developmental Biology

Received date: 18 January 2013 Revised date: 5 May 2013 Accepted date: 9 May 2013

Cite this article as: Yan Luo, Zhenhua Guo, Lu Li, Evolutionary conservation of microRNA regulatory programs in plant flower development, *Developmental Biology*, http://dx.doi.org/10.1016/j.ydbio.2013.05.009

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting galley proof before it is published in its final citable form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.

ACCEPTED MANUSCRIPT

Evolutionary conservation of microRNA regulatory programs in plant flower development

Yan Luo^{a,*}, Zhenhua Guo^b, Lu Li^c

^aKey Laboratory of Tropical Forest Ecology, Xishuangbanna Tropical Botanical Garden, Chinese Academy of Sciences, Menglun, Mengla, Yunnan 666303, China

^bPlant Germplasm and Genomics Center, The Germplasm Bank of Wild Species; and Key Laboratory of Biodiversity and Biogeography, Kunming Institute of Botany, Chinese Academy of Sciences, Kunming, Yunnan 650201, China

^cYunnan Academy of Biodiversity, Southwest Forestry University, Bailongsi 300, Kunming, Yunnan 650224, China

Abstract

MicroRNAs (miRNAs) are post-transcriptional regulators of growth and development in both plants and animals. Flowering is critical for the reproduction of angiosperms. Flower development entails the transition from vegetative growth to reproductive growth, floral organ initiation, and the development of floral organs. These developmental processes are genetically regulated by miRNAs, which participate in complex genetic networks of flower development. A survey of the literature shows that miRNAs, their specific targets, and the regulatory programs in which they participate are conserved throughout the plant kingdom. This review summarizes the role of miRNAs and their targets in the regulation of gene expression during the floral developmental phase, which includes the floral transition stage, followed by floral patterning, and then the development of floral organs. The conservation patterns observed in each component of the miRNA regulatory system suggest that these miRNAs play important roles in the evolution of flower development.

Key words: microRNA; evolutionary conservation; flowering regulation; floral transition; floral patterning; the development of floral organs.

Download English Version:

https://daneshyari.com/en/article/8468034

Download Persian Version:

https://daneshyari.com/article/8468034

<u>Daneshyari.com</u>