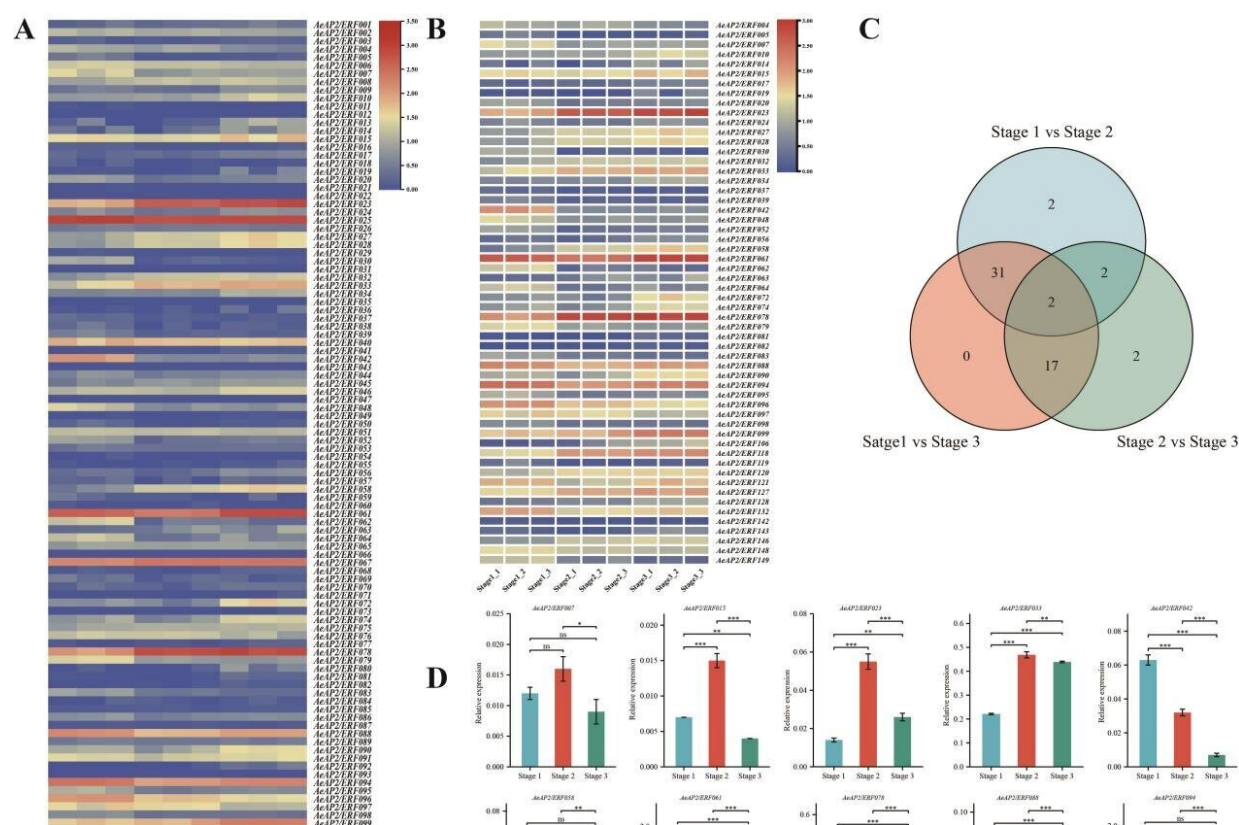


# Researchers identify AP2/ERF family and potential members regulating flower development in kiwifruit

December 5 2022, by Zhang Nannan



Expression profiles of AeAP2/ ERFs. A. The expression profile of AeAP2/ ERF genes in the kiwifruit at different flower developmental stages; B. The expression profiles of different expression genes in the three contrasts; C. Venn diagram of DEGs in three combinations; D. The relative expressions of several AeAP2/ ERF genes analyzed by qRT- PCR. Credit: WBG

The AP2/ERF superfamily is one of the largest transcription factor families in plants and it plays important roles in diverse processes. In a long evolution process, the functions and numbers of AP2/ERF changed dramatically. Flowering is a hot topic addressed in numerous studies, and it is also found to be associated with AP2/ERF genes. However, little is known about the importance of AP2/ERF genes for flowering in *Actinidia eriantha* (kiwifruit).

A research team at the Wuhan Botanical Garden of the Chinese Academy of Sciences identified and characterized the AP2/ERF family from the *A. eriantha* genome and explained the evolution of the AP2/ERF gene family in two main kiwifruit species. Several key regulators in [flower development](#) were predicted as well.

A total of 158 AP2/ERF genes were identified and they were divided into four major subfamilies in *A. eriantha*. These genes demonstrated a favorable collinearity within *A. eriantha*, and many of AP2/ERF genes experienced duplication events and were undergoing a purifying selection. Gene structure and protein motif analyses showed that AP2/ERFs in different families were more conservative.

In addition, one third of AeAP2/ERFs were strongly associated with flower transition by RNA-seq of different flower stages. Among them, two genes were expressed abundantly, which indicated that they may play a vital role in plant flower development regulation and flower tissue forming.

This study displays the first comprehensive analysis of AP2/ERF genes in kiwifruit, and it provides a map for screening [genes](#) for further functional identification and genetic improvement of agronomic traits of [kiwifruit](#).

This work was published in *BMC Genomics*, titled "Genome-wide

identification and characterization of AP2/ERF gene superfamily during flower development in *Actinidia eriantha*."

**More information:** Quan Jiang et al, Genome-wide identification and characterization of AP2/ERF gene superfamily during flower development in *Actinidia eriantha*, *BMC Genomics* (2022). [DOI: 10.1186/s12864-022-08871-4](https://doi.org/10.1186/s12864-022-08871-4)

Provided by Chinese Academy of Sciences

Citation: Researchers identify AP2/ERF family and potential members regulating flower development in kiwifruit (2022, December 5) retrieved 26 April 2024 from <https://phys.org/news/2022-12-ap2erf-family-potential-members-kiwifruit.html>

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