



Integrated transcriptome and metabolome analyses reveal anthocyanin biosynthesis in red and green mango pericarps under light and shade conditions

Jingxian Chen ^a, Wenting Wu ^a, Siwei Gao ^a, Mohammad Shah Jahan ^b, Jincan Xiao ^a, Tianli Guo ^a, Canbin Chen ^a, Baijun Li ^a, Cong Luo ^a, Xinhua He ^a  , Fangfang Xie ^a  

Show more 

 Share  Cite

<https://doi.org/10.1016/j.scienta.2024.113617> 

[Get rights and content](#) 

Highlights

- Light-induced anthocyanin biosynthesis occurred in the pericarps of red mango cultivars but not in green mango cultivars.
- Metabolome analysis showed that peonidin O-hexoside and procyanidin A1 were the dominant anthocyanins of red and green mango cultivars, respectively, under light conditions.
- Key genes related to anthocyanin biosynthesis and chlorophyll breakdown were investigated in the pericarps of red and green mango cultivars under light and shade conditions using transcriptome and RT-qPCR analyses.
- MYBs (LOC123223113 and LOC123197673) and bZIP (LOC123221145) were the main transcription factors regulating anthocyanin biosynthesis in response to light signals.

Abstract

Anthocyanin is a natural plant pigment whose biosynthesis is intricately linked to light regulation. Here, pericarps of red mango cultivars named 'Xinshiji (XSJ)' and 'Hongmang No.6 (HM6)' directly exposed to sunlight were red