

عنوان مقاله:

Analysis of Chalcone Synthase and Chalcone Isomerase Gene Expression in Pigment Production Pathway at Different Flower Colors of Petunia Hybrida

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خلاصه مقاله:

Variation in flower color is commonly observed in many plant species and also occurs on petunia (*Petunia hybrida*) as an ornamental plant. Variegated plants are highly valuable in the floricultural market. To gain a global perspective on genes differentially expressed in variegated petunia flowers, we investigated the expression of chalcone synthase (chs) and chalcone isomerase (chi) as two essential genes in biosynthesis pathway of pigment production. Also, we measured the concentration level of total flavonoids, naringenin chalcone and naringenin to evaluate the probably relationship between the expression profile of chs and chi genes and the concentration of mentioned pigments. The results indicated that chalcone synthase and chalcone isomerase expression had different profile in different petal color of *Petunia hybrida*. Because red flower color in petunia is related to the synthesis of pelargonidin-based (orange to red) pigments, our results suggest that the low chalcone synthase and chalcone isomerase expression levels in white petals reduce dihydrokaempferol formation, thereby inhibiting pelargonidin production. In contrast, the high expression levels of these genes observed in red petals ensure sufficient anthocyanin yields to make flowers red

کلمات کلیدی:

Real-time PCR, Chs, Chi, *Petunia hybrida*

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