

**Title** Semiquantitative expression of anthocyanin biosynthetic genes of a hybrid Vanda variety (*V. teres* x *V. hookeriana*) orchid flower

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### **Abstract**

The expression of four genes encoding putative proteins in the anthocyanin biosynthesis pathway including (phenylalanine ammonia-lyase [PAL], chalcone synthase [CHS], flavanone 3-hydroxylase [F3H] and dihydroflavonol 4-reductase [DFR] was spatially investigated in root, stem, leaf, floral bud, half-full bloom and full bloom flowers of a hybrid Vanda variety (*V. teres* x *V. hookeriana*) orchid using reverse transcriptase polymerase chain reaction (RT-PCR). The competitive RT-PCR showed that PAL was highly expressed in all of the vegetative parts and three development stages of orchid flowers. CHS was sharply expressed in the three development stages of orchid flowers rather than the vegetative organs. With similar to F3H, the putative F3H gene was significant expression in floral parts including bud, and flowers at half-full bloom and full bloom stages. The expression of DFR was dominant during floral development stages of the hybrid Vanda variety (*V. teres* x *V. hookeriana*) orchid.