

Expression analysis of phytochromes A, B and floral integrator genes during the entry and exit of grapevine-buds from endodormancy

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A common molecular regulatory pathway that involves PHYA, PHYB and floral integrator genes CONSTANS (CO), FLOWERING LOCUS T (FT) and SUPPRESSOR OF OVEREXPRESSION OF CO1 (SOC1) has been suggested to participate in the regulation of photoperiod dependent processes such as flowering and dormancy. In grapevines (*Vitis vinifera* L.), decreasing photoperiod and low temperatures trigger the transition of buds into endodormancy (ED), a process that is accompanied by drastic changes in gene expression of VvPHYA and B in leaves. To analyse the relationship of VvPHYA, VvPHYB, and grape homologues of Arabidopsis floral integrator genes VvCO, VvFT, VvMADS8, with ED, a comparative expression analysis of these genes was performed in grapevine-leaves and buds before, during and after the transition of buds into ED. The expression of all the above genes in the bud-tissue, and the fact that photoperiod regulates differently the expression of VvPHYA and B in buds than in leaves, suggests that the bud might