

# Oxylipins that regulate the symptom of fruit maturation such as ethylene production

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## Abstract

Oxylipins are derived from lipoxygenase-dependent oxidation of fatty acid. We investigated the effects of two kinds of oxylipins such as 9,10-Ketol-octadecadienoic acid (KODA) and jasmonates on fruit maturation including ethylene production in pre-climacteric apple fruit. ACC oxidase activities and ethylene production in KODA-treated fruit were higher than those in untreated control fruit. In addition, the expression of *MdACO1* transcripts in the skin of KODA-treated fruit was higher than that in the untreated controls. The applications of jasmonates at the pre-climacteric stage increased ACC synthase and ACC oxidase activities and ethylene production. Furthermore, the expressions of ACC synthase (*MdACS1*) and ACC oxidase (*MdACO1*) increased in jasmonate treated-fruit. These results suggest that oxylipins such as KODA and jasmonates may regulate fruit maturation through their influence on ethylene production.