

## Analysis of Flavonoid Components of Unripen Mandarin in Jeju Island and Change of Flavonoid Composition through Secondary Metabolism

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Unripen mandarin in Jeju Island is known to contain functional ingredients including various flavonoids. This Study was carried out to identify the components of Unripen mandarin extracts and Secondary metabolism by enzyme treatment on Unripen mandarin. We extracted Unripen mandarin using optimal extraction method and selected the most optimal enzyme among commercial enzymes for a Secondary metabolism. As a result, flavonoid components such as Hesperidine and Narirutin, which are known to be contained a lot in unripen mandarin, could be analyzed. However In this extraction method there were no other flavonoid components such as Nobiletin, Tangeretin known to contain in unripen mandarin. However as a result of secondary metabolism a new functional component called Prunin which was not known to be contained in unripen mandarin, was detected as a secondary metabolic product due to enzyme treatment. Through this, it can be confirmed that it would be possible to develop high-value-added products by enzyme treatment on unripen mandarin.

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