

Extraction of functional components from *Angelica furcijuga* using supercritical carbon dioxide extraction

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Nihon Yamaninjin (*Angelica furcijuga*) is a perennial plant that inhabits mainly in southern Kyushu, Japan, and is known as a medicinal herb. *Angelica furcijuga* is shown in Figure 1. The roots of *Angelica* are registered in the Japanese Pharmacopoeia, and the ingredients and effects have been clarified [1]. However, previous research on the functional components contained in the leaves of *Angelica furcijuga* are still little.

In this study, we conducted supercritical carbon dioxide extraction with ethanol on freeze-dried *Angelica furcijuga* leaves and analyzed the components contained in the extracts. As a result of the analysis, it was found that the leaves of *Angelica furcijuga* contain phthalides such as butylidenephthalide, ligustilide, and ferulic acid as other angelica [2,3,4]. It is also interesting that kaempferol, which is not contained in the roots, was detected in the leaves. Figure 2 show the functional components in *Angelica furcijuga*.

From the above, it was clarified that the leaves of *Angelica furcijuga* contain various kinds of functional components. In the future, it is suggested that it could be used not only in foods such as healthy tea but also in a wide range of fields such as dietary supplements.

Reference

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Figure 1 *Angelica furcijuga*

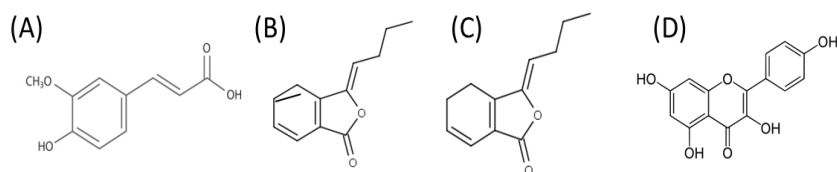


Figure 2 Functional ingredient contained in *Angelica furcijuga*
(A) Ferulic acid, (B) Butylidenephthalide, (C) Ligustilide, (D) Kaempferol