

Determination of syringaldehyde content in *Dendrobium tosaense* and other medicinal *Dendrobium* species

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Dendrobium, a genus of orchids, contains many valuable species used in Traditional Chinese medicine, which has been discovered the ability to reduce blood sugar, enhance immunity and promote neuronal cell growth. Among the *Dendrobium*, there are three most well-known species, including *Dendrobium officinale*, *Dendrobium huoshanense*, and *Dendrobium tosaense*. *Dendrobium officinale*, subject to overexploitation for trades in China, was listed as the key wild herb protected by State Department of China in 1987 and catalogued in the Chinese Plant Red Book. Thus, now the main resource of *Dendrobium officinale* is from cultivation. And we had found that *Dendrobium tosaense*, a Taiwanese native species, had ninety-nine percent similarity with *Dendrobium officinale* in gene identification in a joint research, conducted by our laboratory and Nihon University.

We isolated several compounds from *Dendrobium tosaense*, of which the most notable component is syringaldehyde, demonstrated by the literature that it has good hypoglycemic activity. Therefore, we used it as a valid indicator of the active ingredient in quantitative analysis to compare syringaldehyde content in the different growing time periods of *Dendrobium tosaense* with other commonly used medicinal *Dendrobium* species. The result of analysis showed that the active ingredient would accumulate as time goes by. In comparison with other species, *Dendrobium huoshanense* has the highest concentration, the second is *Dendrobium tosaense*, and the third is *Dendrobium moniliforme* (from SunLinkSea).

Acknowledgements: This research is funded sponsored by the Committee on Chinese Medicine and Pharmacy, Department of Health, Executive Yuan (Project No. : CCMP101-CP-010). The separation active component of *Dendrobium tosaense* and variety of medicinal *Dendrobium* species sample provided by the Taiwan Seed Improvement and Propagation Station, COA, Mr. Chi-Luan Wen .