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Comparison of Biological Activities of Dendropanax morbiferus by Different Cultivation Areas in Korea

Junseok Oh1), Jae-Heoi Hong1), Tae-Young Park1), Byeonggyu Jeon1), Neul-I Ha2) Kyung Je Kim2), Seong Woo Jin2), Young Woo Koh2), Seung Bin Im2), Hee Gyeong Jeong2), and Kyoungsun Seo2)*

1)Dongbu Eastern Herbal Medicine Agricultural Association Corporation, Suncheon 58019, Korea

2)Jangheung Research Institute for Mushroom Industry, Jangheung 529-851, Korea

ABSTRACT

Dendropanax morbifera H.Lev is an evergreen tree that lives in subtropical climates. About 75 species of D. morbifera live in East Asia, but only one species live in Korea(Korean dendropanax). D. morbifera belonging to Aralicacae family 98% of D. morbifera are distributed in Jeollanam-do in the Korea and the grow wild in Gyeongsangnam-do and Jeju Island. The harvest time and usage of D. morbifera were recorded in traditional medicinal books. The roots and stems of D. morbifera had been used for traditional medicine to treat migraine, menstrual irregularity and skin disease. And D. morbifera leaves are contain flavonoids and polyacetylene compounds. In this study, we were investigated the physiological activity of D. morbifera by different areas collected at the same time, and compared to characteristics of plants. D. morbifera collected from Jeollanam-do (Goheung-gun), Gyeongsangnam-do (Namhae-gun) and Jeju Island, and dried at 50° C for three days. We used dried D. morbifera powder for antioxidant tests. Each sample was extracted with hot water under the same conditions. The contents of total polyphenols and total flavonoids from D. morbifera were identified. Also, we performed to DPPH radical scavenging activity, ABTS cation radical scavenging activity and Superoxide anion scavenging activity efficacy for antioxidant activity determination. The contents of total polyphenols and total flavonoids in hot water extract of D. morbifera harvested from Gyeongsangnam-do and Jeollanam-do were higher than Jeju. However, D. morbifera harvested from Gyeongsangnam-do and Jeollanam-do showed no significant difference those content of total polyphenols and total flavonoids. And the antioxidant capacity was showed the similar patterns in antioxidant activity.

Key words : Dendropanax morbifera H.Lev, DPPH radical scavenging activity, ABTS cation radical scavenging activity, total polyphenols, total flavonoids

*(Corresponding author) E-mail: astragali@daum.net Tel: +82-61-862-8877

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