

## **LCMS-Based Phytochemicals Profiling and Identification of *Albertisia Papuana* Becc. Extracts**

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### **Structured Abstract**

**Background:** *Albertisia papuana* Becc. (Menispermaceae) is a plant species which can be found in Indonesia, such as Sulawesi, Jawa, Maluku, Kalimantan, and Papua. This plant which is known by a local name 'Bekai' is used traditionally as substitute for monosodium glutamate (MSG) in food flavoring. The plant was also used to treat various ailments including symptoms related to hypertension, stroke, cancer, and tumor. However, the phytochemicals information on the plant is not well documented. This research study focuses on profiling and identifying the phytochemical constituents present in the methanolic leaf extract of *A. papuana*.

**Methods:** The phytochemicals were profiled on liquid chromatography mass spectrometry (LCMS) technique. While the identification of the phytochemicals was accomplished through tandem MS-databases driven analysis employing MZmine, GNPS and SIRIUS platforms.

**Results:** The technique managed to identify a total of 73 phytochemicals from different classes of compounds including alkaloids, flavonoids, terpenoid and several other classes. Among of these, three compounds namely nicotiflorin **13**, isorhoifolin **15**, and genistein **21** were identified for the first time within the Menispermaceae family. While 26 compounds including 5'-deoxy-5'-(methylsulfinyl) adenosine **1**, coclaurine **3**, magnoflorine **5** isoschaftoside **6**, reticuline **7**, isovitexin **8**, sinapic acid **9**, dicoumaroyl spermidine **10**, apigenin **11**, loliolide **14**, liriodenine **18**, moupinamide **19**, ferulic acid **20**, n-acetylanonaine **22**, 13S-Hydroxy-9Z,11E,15Z-octadecatrienoic acid **23**, 2-hydroxy-3-(2-hydroxyacetoxy) propyl palmitate **24**, norsalsolinol **29**, naringenin **40**, rotundine **44**, nornuciferine **45**, paprazine **46**, acaciin **49**, kamaline **51**, tuberosinone **54**, acacetin **60**, and hinokiflavone **61** are newly reported to the *Albertisia* genus and this species.

**Conclusion:** In conclusion, the utilization of tandem LCMS, along with advanced processing tools have proven to be an effective approach in elucidating the structural details of phytochemicals present in *A. papuana* Becc. However, future studies on isolating few phytochemicals that managed to be identified in the present study is crucial to validate the reliability on the technique.

**Keywords:** *Albertisia*, GNPS, MZmine, LCMS, SIRIUS

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