PA-10

Investigation of ß-glucuronidase inhibitor from the secondary metabolites of the root of *Neolitsea acuminatissima*

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According to literature, the main factor induced diarrhea in chemotherapy is β-glucuronidase of *Escherichia coli* (eβG). The authors desire to investigate eβG inhibitor, for the release of side-effect induced by chemotherapy. In the preliminary screen data, the methnolic extract of the root of *Neolitsea acuminatissima* (NA) showed the anti-eßG activity and without affecting human B-glucuronidase (hßG) activity. The results indicated that NA is a valuable source from which natural product-based medicinal products can be derived. In fact, the phytochemistry and the anti-eßG activity of the root of NA has not been investigated. Thus, the root of NA was selected as the candidate. The methanolic extract of NA (NARM) was partitioned with dichloromethane (NARD), ethyl acetate (NARE), *n*-butanol (NARB), and water (NARW) to obtain different soluble fractions. Bioassay-guided fractionation of the root of NARE and NARD, one new eudesmanolide type sesquiterpenes, methoxyneolitacumone A (**8**), one new alkaloid, demethoxydaibucarboline A (**5**), along with 8 known compounds, namely as zeorin (**1**), neolitacumone C (**2**), quercetin (**3**), dihydroquercetin (**4**), β-sitosterol (**6**), neolitacumone A (**7**), oplopanone (**9**), and epicatechin (**11**), were isolated and the structures were characterized spectroscopically. Among them, compounds **3** and **5** showed potent anti-eβG activity with inhibition ratio of 70-80%.

[a]These authors contributed equally in the study.

Key Words: *Neolitsea acuminatissima*, β-glucuronidase, diarrhea.