Bogor, 9th September 2018

Dear Editor in Chief Indonesian Journal of Biotechnology,

We wish to submit an original research article entitled **NMR-metabolomics revealed metabolites and bioactivity variation inTorbangun leaves (*Plectranthus amboinicus* L.)from different origins** by Nancy Dewi Yuliana, Muhammad Anwari Sugiharto, Hanifah Nuryani Lioe, Masao Goto, and Yuko Takano Ishikawa.

The manuscript discussed the use of NMR based metabolomics to reveal metabolites and diabetes related bioactivity of Torbangun leaves grown in different area (Bogor-Indonesia and Tsukuba-Japan). The method was combined with targeted analysis using validated HPLC method to quantify specific metabolites identified as markers in previous untargeted metabolomics step. The plant used in this study, Torbangun or *Plectranthus amboinicus* L, are traditionally used to stimulate breastmilk of breastfeeding women in North Sumatra. The plant was also reported to have other bioactivities such as antioxidant and antidiabetic. However, the content of phytochemicals might vary, as it is influenced by many factor including climate and geographical origin, thus the bioactivities might vary too. There is no study yet which focusing on this aspect for this plant, despite it becomes more popular not only in North Sumatra but also to other province in Indonesia and even worldwide. Here we applied the newly emerging approach, namely NMR based metabolomics to explore which phytochemicals content might be changes as a result from different growing area (Torbangun grown in Bogor and in Tsukuba), and whether these changes affect the bioactivities of the plant, particularly antioxidant and antidiabetic activity. We found that indeed flavonoids content were different among the two groups, as well as antioxidant and α-glucosidase inhibitor activity.

We hope our manuscript can be accepted as a publication in Indonesian Journal of Biotechnology.

Thank you,

Sincerely yours,

Dr. Nancy Dewi Yuliana