

## **Mallotus Mollissimus and Solanum Erianthum Exhibit Antikinase, Antiphosphatase and Anti-Cancer Properties**

### **ABSTRACT**

Cancer is a leading cause of death worldwide and caused by dysregulated signal transduction from kinase and phosphatases. Inhibitors of kinase and phosphatase have demonstrated anticancer properties. Therefore, this study aimed to investigate the antikinase, antiphosphatase and cytotoxic properties of *Mallotus mollissimus* (*M. mollissimus*) and *Solanum erianthum* (*S. erianthum*). Toxic activities against PP1, MKK1 and MSG5 assays were demonstrated by *S. erianthum* methanol extract. Bioassay-guided fractionation of the methanolic extracts showed that chloroform fraction (CE) of *M. mollissimus* exhibited toxic activity against PP1. Meanwhile, CE of *S. erianthum* showed positive activity on PP1 assay. Column chromatography separation of the CE has revealed that fractions F1 and F2 of *M. mollissimus* are toxic against PP1. Meanwhile, F1 and F2 CE fractions of *S. erianthum* were positive against PP1 and F9 fraction showed toxic activity in PP1 assay. Chloroform extracts of both plants exhibit cytotoxicity activity against HeLa, CaOV3 and MCF7 cell lines. This study demonstrated the potential of *M. mollissimus* and *S. erianthum* extracts in antikinase, antiphosphatase and anti-cancer activities which warrant further purification and identification.