

**Biological activities of *Chromolena odorata* (L.) King and Robinson (Asteraceae) collected from Sabah, Malaysia as protein phosphatase type-1 inhibitor**

**ABSTRACT**

*Chromolena Odorata* has been traditionally used as wound healer in local community. The present study investigated the anti-kinase and anti-phosphatases activities on methanolic *C. odorata* extract. Mutant yeast strains used are MKK1P386, MKK1P386\_MSG5, PAY704-1 and PAY700-4. Bioassay guided fractionation of *C. odorata* revealed positive activities of hexane, ethyl acetate and chloroform partitions. Column chromatography of all partitionates later confirmed fraction F2 from chloroform extract had most favorable activity with inhibitory zone ranged between  $7\pm 0.0$  mm until  $15\pm 0.0$  mm. Kinetic analysis including maximum enzyme velocity ( $V_m$ ) and Michealis-Menten constant ( $K_m$ ) were evaluated and compared for both normal and inhibited reactions. Enzyme activity with DiFMUP as substrate showed fraction F2 act as PP1 enzyme inhibitor with the  $K_m$  value 0.60 mM and  $V_m$  value 200 mM/min as compared to the normal enzymatic reaction. Results provided unveil the potential of *C. odorata* as an effective therapeutic agent.