International Journal of ChemTech Research
CODEN (USA): IJCRGG, ISSN: 0974-4290, ISSN(Online):2455-9555
Vol.9, No.09 pp 465-471, 2016

The evaluation of antioxidant and free radical scavenging activities of *Eugenia polyantha* leaves extracts

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Abstract : *Eugenia polyantha* Wight (*E. polyantha*) has been widely used as culinary additives especially in Indonesia. This plant also used as medicinal herb to treat several illnesses like diarrhea, skin infection and diabetes. Three antioxidant assays were used to evaluate the antioxidant capacity of its four different extracts, petroleum ether (PE), chloroform (CE), methanol (ME) and water (WE). 1,1-diphenyl-2-dipicrylhydrazyl free radical scavenging activity (DPPH), 2,2-azino-bis(3-ethylbenzothiozoline-6-sulphonic acid) cation radical scavenging (ABTS) and ferric-reducing antioxidant power (FRAP) assays were used to determine the antioxidant potential of these extracts. The result showed that all four extracts have the capability to scavenge DPPH free radical where the value of IC_{50} was also calculated from the result. ME was the strongest scavenger with IC_{50} value 0.01746 mg/mL, followed by WE (0.01896 mg/mL), PE (0.02308mg/mL) and CE (0.02932mg/mL). ABTS assay proved that ME has the highest antioxidant capacity with TEAC value is 6.18331 TEAC (mmol), followed by CE (1.91150 TEAC (mmol), WE (1.48987 TEAC (mmol) and PE (0.32187 TEAC (mmol). Lastly, result from FRAP test showed that ME has the greatest reducing power followed by WE, CE and PE.

Keywords : *Eugenia polyantha* Wight, antioxidant activity, free radical scavenging, DPPH, ABTS, FRAP.

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