606/E2

Antioxidant activity of *Vataria copallifera* (Hal) extracts

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Vataria copallifera which belongs to Family Dipterocarpaceae is commonly known as 'Hal'. The plant is frequently used in indigenous medicine to treat various diseases such as rheumatic pains, ulcers, diarrhea and diabetes mellitus. This study evaluates the antioxidant potential of *Vataria copallifera* extracts (n=12) *in vitro* [using 1,1-diphenyl-2-picrylhydrazyl] ($DPPH^{\cdot}$), 2-azino-bis(3-ethylbenzothiazoline-6-sulfonic) acid ($ABTS^{+}$) and ferric reducing antioxidant power (FRAP) assays. Total phenolic content was determined using Folin Ciocalteu assay. Assays were done for both aqueous and methanolic extracts of bark, leaf, seeds and pericarp of *Vataria copallifera*.

The $DPPH^{\cdot}$ radical scavenging activity of methanolic extracts of bark showed the highest value, which is (0.49 ±0.01 m moles Trolox equivalent antioxidant activity (TE)/ 1 g) of the aqueous extract of the leaf showed the highest activity which is 0.85 ±0.007 (m mol TE/1 g). Aqueous extracts of leaf, bark and seed showed relatively higher scavenging activity than methanolic extracts in DPPH assay. The methanolic and aqueous extracts of leaf showed higher values than other vegetative parts in $ABTS^{+}$ radical scavenging activity and the corresponding values are 0.563 ±0.04 and 0.52 ±0.004 (m moles TE/1g). But activities of methanolic and aqueous extracts did not show distinctly different values in ABTS assay as in DPPH assay. The activity of methanolic extract for reducing power assay decreases as follows, Pericarp < seed < bark < leaf. For the aqueous extract the order is, seed < pericarp < bark< leaf. The highest phenolic content was found in leaf for both the methanolic and aqueous extracts and the corresponding values are 643.32 ±29.0 (mg Gallic Acid Equivalent (GAE)/1g) and 443.82 ±55.0 (mg GAE/1g).

In conclusion, *Vataria copallifera* extracts have high total phenolic content and high antioxidant activity. The results of this research suggest that the extracts of the plant could be an addition to basic medicine to treat certain disease conditions.

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