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Antioxidant activities and total phenolic and flavonoid contents in four mushroom of *Phellinus* from Thailand

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Phellinus is medicinal mushroom with variety of bioactivity compounds and used with traditional medicine for a decade especially in Asia.

Purpose: In this study, was investigated antioxidant activities with DPPH, FRAP and ABTS assay.

Methods: Four mushroom of *Phellinus* was used such as *P. nigricans*, *P. nigrolimitatus*, *P. rimosus* and *P. wahlbergii*, the fruiting body was extracted using boiling water 95°C, ethanol and ethyl acetate.

Results and conclusions: Total phenolic content, estimated by Folin-Ciocalteu assay, were found highest content from ethanol extract of *P. nigricans* and *P. rimosus* to be 606.4 ± 1.65 and 603.54 ± 4.2 mg GAE/g, respectively. The aluminum chloride colorimetric method was used for the determination of the total flavonoid content were found highest content from ethanol extract of *P. rimosus* 433.12 ± 5.3 mg EC/g extract. The extract showed good free radical scavenging with DPPH assay in ethanol extract of *P. rimosus* (IC₅₀ 49.13 ± 2.1 mg/mL) and ABTS assays in ethyl acetate extract of *P. nigricans* (IC₅₀ 5.96 ± 0.13 mg/mL) and reducing capacities by FRAP assay in ethyl acetate extract of *P. rimosus* (0.45 ± 0.04 mg ferrus sulfate/ g extract). The result showed good antioxidant activities are *P. rimosus* and *P. nigricans* using ethanol and ethyl acetate extract.