

Investigating the bioactive compounds of endolichenic fungus *Hypoxylon anthochroum* isolated from the lichen, *Pseudocyphellaria* sp.

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It has been reported that 11 endolichenic fungal strains were isolated from lichen, *Pseudocyphellaria* sp. Endolichenic fungi live asymptotically within the lichen thallus and known as a new source useful of bioactive secondary metabolites. Secondary metabolites in endolichenic fungi show distinct bioactivities including antimicrobial, anti-inflammatory, analgesic, antioxidant and cytotoxic activities. These bioactive compounds have potential importance in development of pharmaceutical drugs, nutraceuticals and agrochemicals. The present study was carried out to investigate antioxidant activities of secondary metabolites produced from *Hypoxylon anthochroum* inhabiting the lichen, *Pseudocyphellaria* sp. In this research, *H. anthochroum* was cultured in 50 large petridishes containing potato dextrose agar (PDA) medium and incubated at room temperature for seven days. After the incubation period, secondary metabolites were extracted into ethyl acetate in order to obtain crude extract. The crude extract was partitioned using solvents hexane, chloroform and 60% aqueous methanol. Antioxidant activities of three fractions were evaluated using micro plate DPPH assay. Since chloroform fraction showed the highest antioxidant activity (81.96 % Inhibition at 800 µg/mL) it was further subjected to silica gel column chromatography and preparative thin layer chromatography to isolate bioactive compounds. One UV active pure compound which has antioxidant activity (43.21 % Inhibition at 800 µg/mL) was isolated from chloroform fraction and its structure elucidation will be carried out using ¹H NMR, ¹³C NMR, and 2D NMR spectral data.

Key words: Endolichenic fungi, bioactivity, antioxidant activity, Hypoxylon anthochroum

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