

An Alternative Antimicrobial Approach to Fight Bacterial Pathogens from *Phellinus linteus*

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Abstract : The objective of this research was focused on investigating *in vitro* antimicrobial activity of *Phellinus linteus* fruiting body extracts on *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus* and Methicillin-resistant *Staphylococcus aureus*. *Phellinus linteus* fruiting body was extracted with ethanol and ethyl acetate and was vaporized. The disc diffusion assay was used to assess antimicrobial activity against tested bacterial strains. Primary screening of chemical profile of crude extract was determined by using thin layer chromatography. The positive control and the negative control were used as erythromycin and dimethyl sulfoxide, respectively. Initial screening of *Phellinus linteus* crude extract with the disc diffusion assay demonstrated that only ethanol had greater antimicrobial activity against *Pseudomonas aeruginosa*, *Escherichia coli*, *Staphylococcus aureus* and Methicillin-resistant *Staphylococcus aureus*. The MIC assay showed that the lower MIC was observed with 0.5 mg/ml of *Pseudomonas aeruginosa* and Methicillin-resistant *Staphylococcus aureus* and 0.25 mg/ml. of *Escherichia coli* and *Staphylococcus aureus*, respectively. TLC chemical profile of extract was represented at $R_f \approx 0.71-0.76$.

Keywords : *Staphylococcus aureus*, *Escherichia coli*, *Phellinus linteus*, Methicillin-resistant *Staphylococcus aureus*, antimicrobial activity

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