

# Screening of Phytochemical Constituents, Total Phenolic Content, Flavonoid Content and Antioxidant Activity of Root of *Eurycoma longifolia* Jack (yellow Tongkat Ali)

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## Abstract

*Eurycoma longifolia* Jack (yellow Tongkat Ali) is a plant species that belongs to the Simaroubaceae family and is found in Malaysia, Indonesia, Vietnam, Myanmar, and Thailand. This plant is excellent in pharmacological properties such as anticancer, aphrodisiac, and antimalaria. The purpose of this research is to assess the phytochemical constituents, total phenol and flavonoid content. Moreover, antioxidant activity of *E. longifolia* Jack's roots was also studied. Phytoconstituent examination was used by means of the test tube method. The Folin-Ciocalteu method for total phenol content, the aluminium chloride method, the colorimetric method for flavonoid content, and the DPPH assay method for antioxidant activity were all used. By analyzing these methods, in this study, alkaloids,  $\alpha$ - amino acids, carbohydrates, glycosides, organic acids, phenolic compounds, saponins, starch, steroids, and terpenoids were found to be present, whereas cyanogenic glycosides, tannins, and reducing sugar were absent from the roots of *E. longifolia*. Furthermore, total phenol and flavonoid contents of EtOH extract are higher than watery extract, as the same condition as antioxidant activity. Antioxidant activity is therefore positively correlated to the total phenol and flavonoid content. According to the findings, the extracts of this plant will be effective in the treatment of a variety of disorders, including cancer, malaria, inflammation, and others.

**Key words:** *Eurycoma longifolia* Jack, antioxidant activity, phenol content, flavonoid content

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