Dataset of gallic acid quantification and their antioxidant and anti-inflammatory activities of different solvent extractions from Kacip Fatimah (Labisia pumila Benth. & Hook. f.) leaves

ABSTRACT

The article presents data on the quantification of gallic acid (GA) and the assessment of the antioxidant and anti-inflammatory properties of Kacip Fatimah (Labisia pumila Benth. & Hook. f.) leaves using various solvents. GA was quantified using high-performance liquid chromatography analysis. Total phenolic content (TPC) was assessed using the Folin-Ciocalteu method. The antioxidant activities were evaluated using xanthine oxidase superoxide (XOD-Superoxide) and 2,2-diphenyl-1-picrylhydrazyl (DPPH) assays, while anti-inflammatory activities were examined through lipoxygenase (LOX) and xanthine oxidase (XOD) inhibition assays. Results showed that the waterextracted sample had the highest GA and TPC among the solvents tested, along with the strongest inhibition activities in the XOD-Superoxide and DPPH assays. Both water and ethanol extracts showed significant inhibitory activities in the LOX assay but were inactive in the XOD assay. These findings suggest that the bioactivity of L. pumila leaf extract is associated with GA and TPC. GA and TPC strongly correlated with antioxidant and anti-inflammatory activities, except for the XOD assay. The dataset highlights the potential dietary benefits of L. pumila leaves as a natural source of antioxidants and anti-inflammatory properties for pharmaceutical and nutraceutical applications.