

عنوان مقاله:

Dryopteris filix-mas (L.) Schott ethanolic leaf extract and fractions exhibited profound anti-inflammatory activity

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خلاصه مقاله:

Objective: Dryopteris filix-mas (D. filix-mas) (L.) Schott, (Dryopteridaceae) is used in traditional medicine, particularly in the Southern parts of Nigeria for the treatment of inflammation, rheumatoid arthritis, wounds and ulcers. In this study, we evaluated the anti-inflammatory activity of its ethanolic leaf extract and fractions. Materials and Methods: The ethanolic leaf extract and fractions were screened for anti-inflammatory properties using egg-albumin-induced paw edema, xylene-induced topical ear edema, formaldehyde-induced arthritis and ulcerogenic models. The ethyl acetate most promising vacuum liquid chromatography fraction (VLC-E7) was purified using size exclusion chromatography technique (Sephadex LH-20) and its structure was elucidated using nuclear magnetic resonance (NMR) and mass spectrometry. Total phenolic and flavonoid contents were also determined. Results: From the study, ethyl acetate and butanol fractions elicited better anti-inflammatory activities in egg-albumin-induced paw edema, formaldehyde-induced arthritis and xylene-induced topical ear edema. The ethanol extract, ethyl acetate and butanol fractions were non-ulcerogenic at 200 and 400 mg/kg. The compound isolated from Sephadex fraction (SPH-E6) was quercetin-3-O- α -L-rhamnopyranoside. Conclusion: Results of this study justify the ethnomedicinal use of D. filix-mas leaf for treatment of inflammation and rheumatoid arthritis. We suggest that D. filix-mas could be a prospective anti-inflammatory agent with no gastric irritation side effect, due to its bioactive component, quercetin-3-O- α -L-rhamnopyranoside.

کلمات کلیدی:

Dryopteris filix-mas, Anti-inflammatory, Rheumatoid arthritis, Quercetin-3O- α L-rhamnopyranoside, Non-ulcerogenic

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