عنوان مقاله:

Extraction, Phytochemical Screening, and Isolation of Active Fraction of Turnera ulmifolia Linn

محل انتشار:

نشریه آسیایی شیمی سبز, دوره 8, شماره 4 (سال: 1403)

تعداد صفحات اصل مقاله: 16

نویسندگان:

Vuppula Sruthi - Department of Pharmacognosy, Anurag University, Venkatapur, Ghatkesar Rd, Hyderabad, Telangana ۵۰۰۰۸۸, India

G. Baba Shankar Rao - Department of Pharmacognosy, Anurag University, Venkatapur, Ghatkesar Rd, Hyderabad, Telangana ۵۰۰۰۸۸, India

خلاصه مقاله:

People used Turnera ulmifolia Linn. as an ancient remedy to treat dyspepsia and bronchitis, particularly as a tonic for various diseases such as weakness, fever, and cold. Indians commonly use the drug to treat pulmonary conditions in the thoracic zone, gastrointestinal diseases such as dyspepsia, hepatic disorders with repetitive bile release, and rheumatic diseases. Turnera ulmifolia (TU) was extracted using hydroalcoholic solvent. The obtained extract (ethanol : water; ۷۰ :۳۰) was subjected for column fractionation using different solvents. After TLC analysis it was decided to further proceed with ethanol fraction for further characterization. The reason was, it displayed single fine spot in the TLC. The FT-IR, ۱H NMR, and MS analysis was done on this fraction. Based on FTIR graph of Et : water fraction, it was concluded that the present compound may be alkane, cycloalkane with OH, and/or carbonyl functional group. For more precise analysis, the same fraction was subjected for ۱H-NMR and Mass analysis. We have identified one active phytoconstituent. These findings are significant in light of the plant's prospective uses. Based on the present analysis, it was concluded that the active compound present in the isolated column fraction is ۱-[(۳R,۵S,۱۰S,۱۳S,۱۷S)-۳-hydroxy-۱۰,۱۳-dimethyl-۲,۳,۴,۵,۶,۷,۸,۹,۱۱,۱۲,۱۴,۱۵,۱۶,۱۷-tetradecahydro-۱H-cyclopenta[a]phenanthren-۱۷-yl]ethanone. We aimed to investigate this compound for its analgesic activity using in vitro and in vivo models and perform in silico screening of this compound on some potential targets of inflammation.

کلمات کلیدی:

Turnera ulmifolia, Extraction, isolation, Spectral analysis