Quantification of diosgenin in leaves and rhizomes of *Costus igneus*

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Abstract

The medicinal plants with higher biological activity are commonly utilized in therapeutic drugs. The bioactivity of plant products mainly depend on the major active constituent. *Costus* is an important medicinal plant containing diosgenin- a steroidal saponin as a major bioactive constituent. *Costus igneus* is one of the important species of *Costus* belonging to family- Costaceae, which is widely used in treating diabetes. In the present study, diosgenin quantification in leaves and rhizomes of *Costus igneus* was performed using HPLC analysis. The diosgenin extracted from leaves and rhizomes were eluted at 203nm using C_{18} column as stationary phase. The acetonitrile: water (90:10 v/v) was used as a mobile phase with a flow rate 1 min/ml. The content of diosgenin in both samples was calculated by measuring the peak area comparing with peak area of standard diosgenin obtained from natural remedies. Variation in diosgenin content was observed among two different parts of the same plant. The percentage of diosgenin was found to be higher in rhizomes (1.17%) than in leaf sample (0.39%) of *Costus igneus*. This study can be exploited for the selection of superior genotypes and also the part of plant rich diosgenin.

Key words

Diosgenin, Bioactive constituent, rhizome, HPLC