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Qualitative detection of chromone from *Centella asiatica* (L.)

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CORRESPONDENCE

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ABSTRACT

Thin layer chromatography and spectroscopic methods were adopted for qualitative detection of choromone. Chromone from *Centella asiatica* was extracted by using different solvent and they are detected by paper chromatography.

Introduction

Chromone are biological active compound they are widely distributed in plants played an important role as antispasmodic and vasodilator (kuroda et al., 2007). It is used in the treatment of asthma. *Centella asiatica* is the rich source of triterpenoid i.e. asiaticoside, madecassoside, essential oils and contain polyne-alkene. Present study is that most of the plant belongs to family Apiaceae contain chromones.

Centella asiatica (L) is prostrate herb, stem is creeping with long stolon and rooting at nodes, leaves are simple in rosettes, orbicular, reniform, crenate, denated and rotund. Flowers are purplish in simple umbels. Fruit are mericarp, flattened.

Materials and Methods

Centella asiatica (L.) was collected from east west marathwada region and it was identified on the basis of the morphological characters up to the species level.

Preparation of plant extract for chromones

50 gm of plant material i.e. stem, leaves, flowers and fruits were dried at 50^0 C in oven. The dried material was treated with petroleum ether for to remove chlorophyll and waxy substance. The material was then filtered by whatmen paper. The dry material was extracted with methanol (150ml) for 24 hrs. by keeping it cover. Then extract is filtered and concentrated in rotary vacuum evaporator.The residue extracted with 100 ml. of ethyl acetate, concentrate used for paper chromatographic separation by using 15 % acetic acid as a solvent system. Yellow colored band of chromone appeared under U.V. light near to the solvent front. The R.F. value recorded was 0.8 (Prokopenko et al., 2009).

TLC and spectroscopic detection

The plant material was treated with methanol and it was then filtered. The extract was concentrated by R.V.E. The concentrated plant residue was treated with 20 ml. of chloroform in separating funnel. The chloroform was allowed to evaporate completely. The TLC plate of alumina of 0.5 mm thickness was prepared. The TLC plate was developed by using ethyl acetate: chloroform: benzene solvent system in the proportion of 5:1:4. The TLC plate was observed under U.V. light. Chromone appeared as a yellow band of R.F. value 0.64. The TLC spot was eluted in a 3.5 ml. of ethyl alcohol. This mixture was slightly heated at 50^0C, cooled and 10 ml. of 10N sulfuric acid was added. The solution was allowed to incubate for 2-5 min. and filtered by glass filter to obtain clear solution and O.D. at 415 nm was measured on the spectra.

Result and Discussion

Chromone were detected from *Centella asiatica* by paper chromatography, thin layer chromatography which appears a yellow band. The R.F. value is 0.8 and 0.64 respectively measure spectra at 415 nm. Chromone appear a yellow band under U.V. light.The different types of chromones are recorded in *Ammi visnaga* Lam (Farmat-zhurnal 1968). It concluded that the plant belongs to family Apiaceae contain different forms of chromones.

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