



Controlled Release Society Indian Chapter

One Day National Seminar on

Translational Research: From Bench to Bedside

Sunday, 17th November, 2019

SOUVENIR & ABSTRACT BOOK

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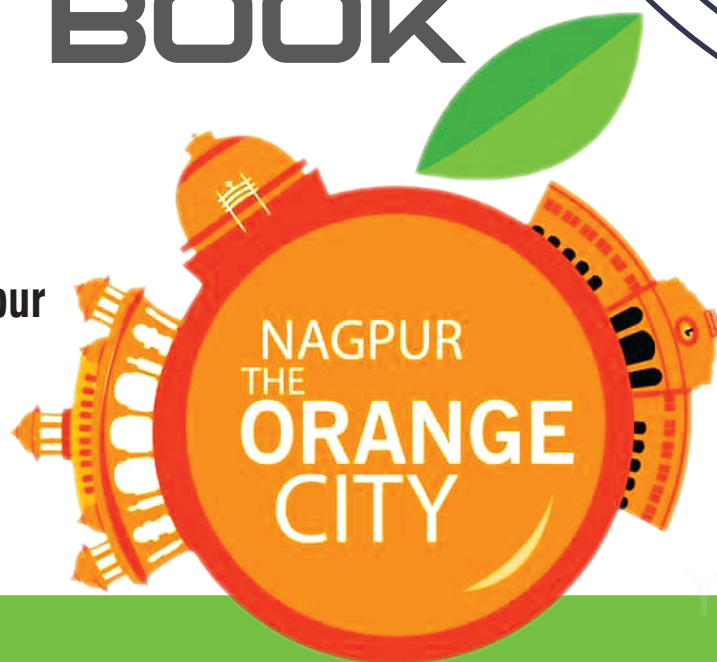
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SOUVENIR

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FORMULATION AND EVALUATION OF PIPER BETLE PETIOLE EXTRACT GEL AND ASSESSEMENT OF ITS ANTIPROLIFERATIVE ACTIVITY

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Abstract:

Aim: In the current research, Piper betle petiole (PPB) extracts were evaluated for its in vitro antiproliferative activity. **Objective:** The objective behind the research was to ascertain the tribal claims on Piper betle petiole extract for treatment of ganglionic cyst of feet and various benign tumors. **Methodology:** PPB were extracted by Clavenger apparatus to obtain essential oil. Gas chromatography coupled with mass spectroscopy (GCMS) revealed the presence of eight components in essential oil. PPB were extracted from non-polar to polar solvent and phytochemical screening was carried to identify the nature of secondary metabolites. Various PPB extracts were screened in vitro antiproliferative activity such as Allium cepa root growth inhibition and Saccharomyces cerevisiae (yeast cell inhibition count) assay. The bioactive extract i.e. ethyl acetate extract of PPB was subjected for isolation of major constituent by solvent fractionation. **Results and Discussion:** The purity of the isolated constituent was ascertained by RP-HPLC in mobile phase water: methanol (1:1) at 1.0 ml/min. Effluent were monitored by PDA detector. Various functional group such as carbonyl group, lactone, and phenolic group were detected by Fourier transform infra-red spectrum. In Allium cepa model, ethyl acetate extracts of PPB at higher concentration (6mg/ml) caused shrinkage of roots and the colour turned blackish brown with statistical significance $***p < .0001$ compared to control. In Saccharomyces cerevisiae model, percentage inhibition of viable yeast cell at 4, 5, 6 mg/ml concentration of EAPPB were 69.04, 73.54, 85.41% while standard drug methotrexate at 50 and 100 μ g/ml exhibited 81.01 and 88.09% compared to control. The results may be attributed to phenolic constituents present in PPB. **Conclusion:** Antiproliferative assay results advocates the potential use of PPB for the treatment of ganglionic cyst of feet and various benign tumors claimed by tribes.

Keywords

Antiproliferative activity, Allium cepa, Saccharomyces cerevisiae.

