



40th Meeting of Plant Tissue Culture Association - India (PTCA-I)
&
International Conference on Trends in Plant Sciences and
Agro-biotechnology-2019 (ICTPA-2019)



Accumulation of oleanolic acid and ursolic acid in cell cultures of *Lantana camara* L.

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Abstract

Lantana camara L. commonly known as red or wild sage, belonging to family Verbenaceae, holds a distinct place in the list of medicinally important plants as it is a reservoir of several important bioactive molecules. Hitherto, this plant has been overlooked as far as its exploitation by biotechnological means is concerned. Recently, natural products from *Lantana*, have been implicated in the prevention and cure of many serious diseases including cancers. These molecules of natural origin promote human health without recognizable side effects.

In the present work, we report establishment of aseptic in vitro cultures from the leaves of *L. camara* plant, bearing pink-yellow variety of flowers, on MS medium supplemented with BAP (5 μ M) + 2,4-D (1 μ M) + NAA (1 μ M). Thin layer chromatography and High Pressure liquid chromatography of cell derived extract revealed the presence of pharmacologically active anti-cancerous pentacyclic triterpenoids - Oleanolic acid and Ursolic acid. Apart from this, batch kinetics studies have been carried out that disseminate the pH profile, dissolved oxygen profile, substrate consumption rate of the suspension cultures. This may help to determine experimental parameters for the future research related to scale-up studies, for the harvest of significant anti-cancerous compounds present in *Lantana*.

Keywords: In vitro, Leaves, Suspension cultures, Terpenoids, Verbenaceae