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HPTLC method for studies of phytochemicals from *in vivo* and *in vitro* developed plants of *Pterocarpus marsupium* (Roxb.)

Illa C Patel
Hemchandracharya North Gujarat University, India

Pterocarpus marsupium Roxb. is a medicinally important plant which belongs to the family Fabaceae commonly known as "Biyo" or "Indian Kino" distributed in forest of the Western Ghats of India. Plant contains various phytochemicals compounds like Phenol, flavonoids, alkaloids, Saponin, glycosides, steroids etc. The main constituents are pterostilbene, triterpene alcohol, catechin, pterosuprin and marsupol which have medicinal properties to cure different diseases like kapha and pitta, elephantiasis, erysipelas, rectalgia, dysentry, urinary discharge, piles and in diabetes. This plant urgently need to be conserved, as it is highly exploited due to use of its heart wood and bark for obtaining many phytochemicals from it. Plant needed an ideal protocol for rapid multiplication and valid method of phytochemical analysis using a technique of High Performance Thin Layer Chromatography (HPTLC). This study is aimed to developed *in vitro* callus and plants on MS media containing hormones viz. 2,4-D, BAP, IAA individually at different concentration and in combination by using tissue culture techniques. The *in vitro* developed plant and callus were used to compare the phytochemicals constituent of it with in vivo plant parts through qualitative analysis in different extracts and quantify the amount of pterostilbene in each part with using standard pterostilbene through HPTLC. Result of preliminary analysis shows that *in vitro* developed callus contain many phytochemicals and HPTLC analysis shows it is a good source of pterostilbene. This study may be helpful for *in vitro* synthesis of phytoconstituents and give new resources to pharma industry and also reduces pressure of natural plant population.

Biography

Illa C Patel has completed her PhD in botany from Gujarat University, Gujarat, India. Presently she is Assistant Professor in botany at the department of life sciences, Hemchandracharya North Gujarat University, Patan , Gujarat, India. She is M.Phil and PhD guide and has specialization in plant physiology, biochemistry, tissue culture, medicinal plants and phytochemistry. She has more than 40 publications in the reputed journals and presented more than 35 papers in national and international conferences. She is also having some funded research projects and also is a member of many specific and academic bodies, remove and rendering her services to many scientific journals.

illa.botany@gmail.com

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