

Research Paper :

## Shoot induction from leaf explants of *Capparis zeylanica* L.

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### SUMMARY

Micropropagation involves multiplication of genetically identical individuals by sexual reproduction within a short span of time with tremendous potential for the production of high quality plant based medicines. The present study established reliable and reproducible protocol for rapid multiple shoot induction from node explants of *Capparis zeylanica* using different concentration and combination of cytokinins. Murashige and Skoog (1962) medium supplemented with 0.5 to 2.0 mg/l BAP was found to be optimum to induce shoots directly from the node explants. Since very scarce information is available about micro propagation of this important medicinal plant, an attempt was made to develop a reproducible protocol for multiple shoot induction form nodal explants of one the culture. Significant increase in the number of shoots per explants was found ion M.S. medium supplemented with 2.0 mg/l BAP and 14 mg/l adenine sulphate. All the tested combinations have effect on increasing the number of shoots. Leaf explants derived shoot cultures were sub cultured to M.S. medium fortified with same concentration of hormone for shoot elongation. The percentage of explants exhibiting shoot induction was found to be between 50-60 i. most of the concentrations of benzyl amino purine. Several workers in past have micro propagated. Some of the important Asclepiadaceae members such as *Ceroegia bulbosa* (Britto *et al.*, 2003), *Holostemma ada – kodien* (Martin, 2002-2003).

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### Key words :

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The present study was undertaken to explore the immune-modulatory activity of ethanolic and water extracts of *Capparis zeylanica* Linn (family Capparidaceae). Immuno-modulatory activity was also assessed by serological haematological tests. The study comprised the acute toxicity and preliminary phytochemical screening of the ethano land water extracts. Pre-treatment of water extract (300 mg/kg, oral) of *Capparis zeylanica* evoked a significant increase in neutrophil adhesion to nylon fibers. Theaugmnetaton of humoral immune response to sheep red blood cells by athanolic and water extracts (150-300 mg/kg) is evidenced by increase in antibody titres in mice. Oral administration of ethanolic and water extracts of *Capparis zeylanica* leaves, at doses of 150 and 300 mg/kg in mice, dose dependently potentiated the delayed type hyper sensitivity reaction induced by sheep red blood cells. A dose related increase in both primary and secondary antibody titre was observed. Large climbing shrubs with hooked spines, stems woody, rough broom tomentose. Leaves ovate or elliptic – oblong, 3.5-6.5X2.3-4 cm, rusty tomentose when young glabrous at maturity, cuneate, entire, apex mucronate. Flowers 3-5 cm across white, turning pink.

Berries 2.5-6 x 2-4.5 cm; ripe red, globese. *Capparis zeylanica* extracts prevented myelo suppression in mice treated with cyclophosphamide drug.

### MATERIALS AND METHODS

In brief, present efforts on selected species led to the limited success in these species. Still a large number of species are not amenable by these methods. It because of variation between the interspecific species that the results obtained with one material are not replicated for another material. Experiments with *Capparis zeylanica* leaf explants using nutrients medium developed in to normal plants when placed in hormone MS medium.

### RESULTS AND DISCUSSION

Majority of the reports describe development of biotechnology for rapid mass multiplication, and the improvement of trees. Though a considerable progress has been made in tissue culture of tree species, the methods is not widely applicable in its presene state for cloning, improvement, somaclonal variation, disease resistance, protoplasts culture and genetic useful on these lines of work for

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