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An efficient protocol for *in vitro* propagation of *Phyllanthus niruri* L. - A valuable medicinal plant

Thirunahari Ugandhar
S. R. R. Govt Arts & Science College, India

Phyllanthus niruri L. has a long history in herbal medicine systems worldwide. The whole plant and its aerial parts are used for many remedies, mostly biliary and urinary. Some examples are kidney and gallbladder stones, hepatitis, colds, flu, tuberculosis, and other viral infections. *Phyllanthus niruri* L. was collected from plant science green house in our University. The explants of node are taken from in vivo plant for the direct organogenesis technique, the plant leaves are taken for indirect organogenesis by the production of callus. Various explants were tested for different hormones at different concentration. The different concentrations of BAP, Kin and 2iP tested, individual treatment of 1. 0 mg/L of BAP showed the best response and produced average of 7. 2 shoots per shoot tip explants with 76% of response. In nodal explants also 1. 0 mg/L BAP showed the best response (82 %) and produced 8. 5 shoots per explant. Among the different concentrations tested, 0. 5 mg/L Kin showed the best response and produced 8. 5 shoots per shoot tip explants. Root induction was achieved within 7 days of culture. IAA alone was effective for induction of roots. Usually root induction in *Phyllanthus* was difficult when compared to other medicinal plants. The combinations of BAP and IAA were produced high percentage (85%) of response. In the present study media comprising of MS salts, B5 vitamins, BAP + IAA (0. 5+1. 5 mg/L) was effective for induction of roots (9. 5 roots/explant). In this concentration, the roots reached maximum length of 4. 5±0. 18 cm within three weeks of culture. For hardening process sand, soil and vermiculated soil were used in 1:1:1 ratio. These plantlets were transferred to environmental growth chamber with 80% relative humidity for acclimatization. After proper acclimatization the hardened plants were transferred to field condition. Among the regenerated plantlets, no phenotypic variation was observed.

Biography

Dr. T. Thirunahari Ugandhar has completed his PhD at the age of 25 years from Kakatiya University under the guideness of Prof N. Ramaswamy Head Department of Biotechnology Kakatiya University Warangal immediately he was started his committed teaching career as a Assistant Professor in Botany at C. V. Raman P. G. College Mancherial in 2005 after six years teaching he was appointed as Assistant Professor by APPSC at S. R. R Govt Degree and P. G. College Karimnagar on December 2011. He has published 43 research articles in International and National Journals, co-authored 2 books and Authored two Books and guided 10 M. Phil Theses. He has attended 25 National seminars and 3 International Seminars and also attends 4 symposia and workshops. His major fields of teaching and research include Cytology and Cytogenetics, Genetics and Plant Breeding, Molecular Genetics, Mutation Breeding, Plant Tissue Culture and Biotechnology. He successfully applied mutation breeding to brinjals, chillies and tomatoes and developed several agronomically useful varieties. He established clonal multiplication of certain forest trees. He has a patent pending for *In Vitro* Propagation of Tassar Silk Plant. He is a Member of Indian Journal of Botany, International Association for Plant Biotechnology, Society for Cytology and Cytogenetics, Society for Genetics and Plant Breeding and Indian Society for Plant Physiology. As the Head of the Department of Biotechnology in S. R. R Govt Arts & Science College Karimnagar.

tugandharbiotech@gmail.com