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Plant Regeneration from Epicotyl Segment and Callus of *Vigna angularis* : (cv.Tanbadainagon)

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Abstract:

Epicotyl segments(approximately 1 cm in length)of *Vigna angularis* (cv.Tanbadainagon)inoculated with *Agrobacterium rhizogenes* produced hairy roots and/or adventitious buds. Mikimopine and the predictable PCR band for rol gene were detected in the hairy roots, and plantlets obtained from the adventitious buds were negative for both products. These results suggested that the segments can induce the formation of adventitious buds without an infection of *A.rhizogenes*; therefore this possibility was examined. As a result, adventitious buds were formed from the segments on a hormone-free medium and promoted by low concentrations of 6-benzyladenine(BA) and 1-naphthaleneacetic acid(NAA). When the calli induced on the medium containing BA and/or NAA were transplanted onto the hormone-free medium, they induced an organogenic callus, which was growing with the formation of a green leaflike structure. Especially, the frequency of organogenic callus formations was very high in calli that had once produced adventitious buds. The development of shoots from organogenic callus was induced on the medium containing gellan gum with NAA. Shoots(more than 1 cm in length)cut from epicotyl segments and organogenic callus produced roots and developed actively on the hormone-free medium. The procedures obtained in the present study are useful for the genetic improvement of the plant via biotechnology.

Keywords:

Organogenic callus, Regeneration, Tanbadainagon, *Vigna angularis*[\[Full-text PDF \(1632K\) \]](#) [\[References \]](#)

