

The effects of indole-3-butyric acid and 1-naphthaleneacetic acid on the induction of roots from *Clitoria ternatea* L / Yi Ling Chan, Fui Joo Bong, Sreeramanan Subramaniam, Bee Lynn Chew

Yi Ling Chan, author

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Abstrak

ABSTRAK

Clitoria ternatea L., or commonly known as butterfly pea, from the family of Fabaceae, is a perennial medicinal plant. Its flower which is deep blue or white in colour is commonly used as a natural food colorant. the plant originates from tropical Asia and known to possess essential bioactive compounds where the extracts from its roots, leaves and seeds are used in the phytochemical, pharmacological and clinical investigations for therapeutic drug development. The root extracts have been reported to exhibit analgesic, anti-pyretic, anxiolytic, anti-depressant, anti-convulsant, anti-stress, anti-diarrheal, anti- asthmatic and most importantly, in the treatment of central nervous system disorders. The root extracts have shown memory enhancing properties in neonatal rats. The aim of the study was to induce roots from the seedling explants of *Clitoria ternatea* L. for the establishment of a root suspension culture system that could function as efficient alternative to the ex- vitro plants from the soil for harvesting of medicinal secondary metabolites. the sterilized seeds of *Clitoria ternatea* L. were germinated on half-strength Murashige and Skoog (MS) medium, and the cotyledon and hypocotyl from the 7 - 8 days old seedlings were placed in the media supplemented with indole-3-butyric acid (IBA) and 1-naphthaleneacetic acid (NAA) at different concentrations. It was evident that NAA was the potential growth hormone for root induction in *Clitoria ternatea* L. the cotyledon explants cultured on MS medium supplemented with 2 mg/L NAA produced the highest percentage of root induction (70%) while 1 mg/L NAA produced the highest average number of roots from cotyledon explants. the study provided an efficient protocol for the induction of roots and callus from *Clitoria ternatea* L.