

Induction of callus for secondary metabolite extraction in ashwagandha

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ABSTRACT

In Ashwagandha (*Withania somnifera*) induction of callus for secondary metabolite extraction have initiated from leaf bits, stem bits and petiole bits on Murashige and Skoog medium supplemented with NAA, 2,4-D and coconut water at different concentrations. Among the explants investigated leaf bits took the least number of days (17.00) for callus induction. MS medium +2,4-D 5.0mg/l, NAA 2mg/l and coconut water 10ml/l was found to be the best for inducing callus in explants. The callus fresh weight was maximum (1.01g) in leaf explants in the MS medium supplemented with 2,4-D (5.0), NAA (2mg/l) and coconut water 10ml/l. Among the calli derived from various explants, those from leaf bits recorded the highest contents of withaferin A (0.16 per cent) and withanolide A (0.08 per cent). The Petiole derived calli had the lowest content of withaferin A (0.10 per cent) and withanolide A (0.50 per cent).

Key words : Aswagandha, Leaf bits, Withaferin A, Withanolide A.

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