

**CALLUS INDUCTION FROM DIFFERENT PARTS OF *in vitro*
*Phaleria macrocarpa***

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ABSTRACT

CALLUS INDUCTION FROM DIFFERENT PARTS OF *in vitro* *P. macrocarpa*

Phaleria macrocarpa is a herbal plant which belongs to the Thymelaeaceae family. It has numerous medicinal properties that can treat diabetes, high blood pressure and even cancer. The main objectives of this study are to initiate callus induction from different parts of *in vitro Phaleria macrocarpa* and to observe the effects of different treatments in callus induction of the different parts of *in vitro in Phaleria macrocarpa*. The different parts of the plant used in this study were the leaves, nodes and roots. The seeds were cultured in Murashige and Skoog (MSO) media and transferred into new fresh media every four weeks for three months. After 12 weeks, the leaves, nodes and roots were subcultured onto media containing hormones. Treatment 1 (MSO) did not induce any callus growth. However, after three weeks, callus induction was observed on the leaves and nodes but not in the root of the explants in treatment 2 (MSO+0.5 ml 2,4-D), treatment 3 (MSO+1.0 ml 2,4-D) and treatment 4 (MSO+1.5 ml 2,4-D). Treatment 5 (MSO+0.5 ml 2,4-D+0.2 ml BAP) showed the best callus induction in all of the parts of *Phaleria macrocarpa* explants. Treatment 6 (MSO+1.0 ml 2,4-D+0.2 ml BAP) and treatment 7 (MSO+1.5 ml 2,4-D+0.2 ml BAP) showed callus induction in the nodes and roots but not in leaves. In conclusion, the best treatment given to induce callus from different parts of *in vitro Phaleria macrocarpa* was treatment 5 (MSO+0.5 ml 2,4-D+0.2 ml BAP).