C205 Origin of Callus and Adventitious Root Induced from *Vigna radiata* Stem

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Induction of callus from young stem explant of *Vigna radiata* was very effective on MS medium, supplemented with 0.5 mg/l 2,4-D and 1.0 mg/l kinetin. For the root organogenesis from the induced callus tissue, the hormone ratio of MS medium was applied to 0.75 mg/l NAA and 1.5 mg/l kinetin. Callus tissue was originated by endogenous growth of meristematic tissue, which was transformed from cortex parenchyma cells and localized outside of vascular cambium. Adventitious roots were developed from root primordia. These root primodia were developed from the center of callus tissues which made tracheid first, and then induced meristemoid cells for the cambium cells. These meristemoid cells existed scatteringly on callus tissues and became root primordia. These transverse sections of adventitious roots were induced from callus tissue showed the typical tetrache actinostele type.

C301 Effects of Colchicine on the *Naegleria gruberi* Differentiation and mRNA Localization

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During the differentiation of *N. gruberi* amebae into flagellates, differentiation -specific mRNAs (*e. g.* α-tubulin, β-tubulin, flagellar calmodulin, and Class I mRNAs) are localized at a specific area in the differentiating cell at which basal bodies will be formed. Two flagella and cytoskeletal microtubules are sequentially formed from these basal bodies. Generally, mRNA localizations appear to be mediated by cytoskeletal system; microfilaments, microtubules and intermediate filament. To investigate the involvement of microtubules in differentiation specific mRNA localization, we treated the differentiating cell with colchicine, microtubule-disrupting drug, at various times. Addition of 10 mM colchicine at 0 min, 30 min, 65 min, and 75 min after initiation caused no significant effects on *Naegleria* differentiation. 80% of the cells formed flagella with a normal shape at the end of differentiation. Moreover, differentiation specific mRNAs are mostly located in the specific sites of the cells. These results suggest that the differentiation specific mRNA localization of *N. gruberi* might not be mediated by microtubules.