THE INDUCTION AND ESTABLISMENT OF CALLUS FROM IN VITRO PLANTLETS OF *Cryptocoryne ciliata*

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Adalah ini diakui dan disahkan bahawa laporan penyelidikan ilmiah tahun akhir bertajuk: "THE INDUCTION AND ESTABLISMENT OF CALLUS FROM IN VITRO PLANTLETS OF *Cryptocoryne ciliata*" oleh Gooi Kin Tiong, no. matrik UK 4185 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperolehi ijazah Sarjana Muda Sains: Biologi, Falkuti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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ABSTRACT

A study was conducted to induce and establish callus culture from different parts of in vitro plantlets of *Cryptocoryne ciliata*. One hundred percent of cultures established from in vitro plantlets of *C. ciliata*, were indexed as free of cultivable contamination. Callus culture from different part of in vitro plantlets *Cryptocoryne ciliata* was induced and established on MS media containing piclorom alone or combination with kinetin. The highest callus formation was obtained from rhizome explant cultured on medium containing 0.5 mg/L piclorom. Meanwhile, combination of 2.0 mg/L piclorom with 1.0 mg/L kinetin was the best phytohormone for callus induction from petiole. No callus was obtained from other type of explants used i.e. leaf, root and seedling.

ABSTRAK

Kajian ini dilakukan untuk mengaruh dan memperkembangkan tumbesaran kultur kalus pada bahagian- bahagian yang berlainan dari anak pohon *Cryptocoryne ciliata* di dalam tabung uji. Seratus peratus kultur yang berkembang dari anak pohon *C. ciliata* yang berada dalam tabung uji, telah menunjukkan indeks hasil perkulturan yang bebas daripada sebarang kontaminasi. Kultur kalus dari bahagian anak pohon *Cryptocoryne ciliata* telah diaruh dan berkembang dalam Media MS yang mengandungi piclorom tunggal atau berkombinasi dengan kinetin. Pembentukan kalus paling tinggi telah diperolehi dari eksplan rizom yang dikultur dalam medium yang mengaandungi 0.5 mg/L piclorom. Sementara itu, kombinasi antara 2.0 mg/L piclorom dengan 1.0 mg/L kinetin merupakan fitohormon terbaik bagi pengaruhan kalus dari bahagian petiole. Tiada sebarang pertumbuhan kalus diperoleh dari jenis-jenis eksplan yang telah digunakan iaitu daun, akar dan anak benih.