

ESTABLISHMENT OF TISSUE CULTURE OF  
*Hibiscus tiliaceus*

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ESTABLISHMENT OF TISSUE CULTURE OF *Hibiscus tiliaceus*

By  
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## LIST OF ABBREVIATION

%	percent
2-iP	6-( $\gamma,\gamma$ -dimethylallylamino)-purine
BAP	6-benzylaminopurine
g	gram
g/L	gram per liter
m	meter
mg/L	milligram per liter
min	minute
$^{\circ}\text{C}$	degree Celsius
TDZ	thidiazuron
v/v	volume per volume
w/v	weight per volume

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## ABSTRACT

*Hibiscus tiliaceus* belonging to the family Malvaceae, found along the salty soil at seashore and mangroves forest. *H. tiliaceus* was use in tissue culture to produce antiviral and antifungal plant for using in medicinal properties. The objective of this study is to establish the tissue culture of *Hibiscus tiliaceus* and determine the suitable medium for the growth performance. Shoot tips and axillary bud were used as explants were obtained from swamp surrounding Universiti Malaysia Terengganu (UMT). The explant sterilization was done of varies strength of Clorox (10, 20, 30, 40, 50, 60, 70, 80, 90 and 100%) for 5, 10 and 15 minutes. The best surface sterilization of shoot tip explants was obtained with 70% Clorox with 15 minute immersion time while in 80% Clorox with 15 minute immersion for axillary bud. The MS and X medium containing various concentration of 6-benzylaminopurine (BAP), 6-( $\gamma,\gamma$ -dimethylallylamino)-purine (2iP), thidiazuron (TDZ) and zeatine was used for micropropagation. Explants was effect by high level of contamination of fungi and yeast, which appear milky white suspension on the agar and round ball cloud-like around the explants. The high level of phenolic compound in the explants was cause the explants turning black faster and died. There was no culture established due to fungi infection and high phenolic compound problem.

## KULTUR TISU *Hibiscus tiliaceus*

### ABSTRAK

*Hibiscus tiliaceus* berada dalam famili Malvaceae, dijumpai sekitar persisir pantai dan hutan paya. *H. tiliaceus* digunakan dalam kultur tisru untuk menghasilkan tumbuhan bebas virus dan kulat. Objektif kajian ini adalah untuk menghasilkan kultur tisru *Hibiscus tiliacues* dan mengenalpasti media yang sesuai bagi menggalakkan pertumbuhannya. Bahagian pucuk dan tunas yang digunakan sebagai eksplan diperolehi daripada kawasan paya dan sekitar Universiti Malaysia Terengganu (UMT). Eksplan disteril menggunakan pelbagai kepekatan Clorox (10, 20, 30, 40, 50, 60, 70, 80, 90 and 100%) dalam 5, 10 dan 15 minit. Pengsterilan permukaan terbaik bagi eksplan pucuk adalah pada kepekatan Clorox 70% dalam 15 minit masa rendaman manakala Clorox 80% dalam 15 minit masa rendaman untuk eksplantun. Media MS dan media X yang mengandungi pebagai kepekatan 6-benzylaminopurine (BAP), 6-( $\gamma$ - $\gamma$ dimethylallylamino)-purine (2iP) dan zeatin digunakan untuk pembiakan *in vitro* eksplan. Eksplan dijangkiti oleh kulat dan yis, dimana terdapat cairan putih pada agar dan bebola awan disekitar eksplan. Kandungan fenolik yang tinggi dalam eksplan menyebabkan eksplan bertukar coklat dengan cepat dan mati. Tiada kultur yang berjaya dihasilkan kerana eksplan menghadapi masalah pencemaran oleh kulat dan masalah kandungan fenolik yang tinggi.