

THE USE OF DIFFERENT PRESERVATIVES AND DNA
EXTRACTION METHODS OF MEMBRANE
MEMBRANE (MAM) TISSUES IN PCR
AMPLIFICATION STUDY

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THE USE OF TWO DIFFERENT PRESERVATIVES AND DNA EXTRACTION
METHODS OF *MERETRIX MERETRIX* (CLAM) TISSUES IN PCR
AMPLIFICATION STUDY.

By

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**PENGAKUAN DAN PENGESAHAN LAPORAN
PROJEK PENYELIDIKAN I DAN II**

Adalah ini diakui dan disahkan bahawa laporan penyelidikan bertajuk 'THE USE OF TWO DIFFERENT PRESERVATIVES AND DNA EXTRACTION METHODS OF *MERETRIX MERETRIX* (CLAM) TISSUES IN PCR AMPLIFICATION STUDY' oleh Nurul Elianis bt Mohd Lambri No. Matrik UK 7938 telah diperiksa dan semua pembetulan yang disarankan telah dilakukan. Laporan ini dikemukakan kepada Jabatan Sains Biologi sebagai memenuhi sebahagian daripada keperluan memperoleh Ijazah Sarjana Muda Sains- Sains Biologi, Fakulti Sains dan Teknologi, Kolej Universiti Sains dan Teknologi Malaysia.

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LIST OF SYMBOLS

1x	One time
bp	Base pair
cm	Centimeter
dH ₂ O	Distilled water
DNA	Deoxyribonucleic acid
dNTP mix	Deoxyribonucleotides mixture
EDTA	Ethylenediaminetetracetic acid
g	Gram
M	Molarity
μg	microgram
μL	Microlitre
μM	Micromolar
mg	Milligram
mL	mililitre
mM	milimolar
OD	Optical density
PCR	Polymerase Chain Reaction
Ppt	Part per minute
TBE	Tris-borate-EDTA buffer
TE	10mM Tris Cl, 1 mM EDTA

TNES	Tris-base, Nacl, EDTA SDS-Urea
Tris-HCL	Tris (Hydroxymethyl) aminomethane hydrochloride
UV	Ultra violet
VDS	Video Documentation System
v/v	Volume/ volume
w/v	Weight/ volume

ABSTRACT

The main objectives of this study are to determine the best preservatives tissue and the best extraction method. Two tissue preservatives, (95% Ethanol and TNES- Urea buffer) and Two DNA extraction techniques (Phenol Chloroform and Wizard™ Genomic Purification Kit) were employed. The samples of hard clam, *Meretrix meretrix* has been used. The quantity of DNA was measured by electrophoresis gel agarose. For both DNA extraction Method, sample in TNES Urea Buffer produced clear band while 95% Ethanol produced degrade band. The quantity and the purity of *Meretrix meretrix* for both extraction method are ranged from 245 (µg/mL) to 1537.5 (µg/mL) and 1.09nm to 1.89nm respectively. Phenol Chloroform Method show high quantity and the purity of DNA compare to Wizard™ Genomic Purification Kit Method. In this study, RAPD-PCR is used to screen genomic DNA using OPA 1 to OPA 10. The size of band of sample in TNES Urea buffer and 95%ethanol are 200bp to 1500bp and 300bp to 1031bp respectively. Result in this study indicated that the TNES urea buffer was the best for tissue preservation and Phenol Chloroform Method was the excellent DNA extraction technique for *Meretrix meretrix*.