# ANALYSIS OF RANDOM AMPLIFIED POLYMORPHIC DNA (RAPD) PATTERNS OF CLINICAL AND ENVIRONMENTAL ISOLATES OF <u>CRYPTOCOCCUS</u> <u>NEOFORMANS</u> IN CHIANG MAI

KHATTIYA SUDA

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS
FOR THE DEGREE OF
MASTER OF SCIENCE
IN MICROBIOLOGY

Copyright by Chiang Mai University

All rigraduate school es erved

CHIANG MAI UNIVERSITY

SEPTEMBER 2003

## ANALYSIS OF RANDOM AMPLIFIED POLYMORPHIC DNA (RAPD) PATTERNS OF CLINICAL AND ENVIRONMENTAL ISOLATES OF <u>CRYPTOCOCCUS</u> <u>NEOFORMANS</u> IN CHIANG MAI

### KHATTIYA SUDA

### THIS THESIS HAS BEEN APPROVED TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE IN MICROBIOLOGY

Pojana Sniburu CHAIRPERSON Assist. Prof. Dr. Pojana Sriburee

Pravit Tharavichitkul. MEMBER

Associate Prof. Prasit Tharavichitkul

**EXAMINING COMMITTEE** 

Mongruch Vanittanakom. MEMBER

Prof. Dr. Nongnuch Vanittanakom

Kayphtz Chahyra MEMBER

Assist. Prof. Dr. Kunyaluk Chaicumpar

#### 2 SEPTEMBER 2003

© Copyright by the Graduate School, Chiang Mai University

### **ACKNOWLEDGEMENT**

I am really grateful to my thesis advisor, Assistant Professor Dr. Pojana Sriburee, for her valuable advice, criticism and encouragement throughout this study which enable me to carry out my study successfully.

I would like to thank Associate Professor Prasit Tharavichitkul, Professor Dr. Nongnuch Vanittanakom, and Assistant Professor Dr. Kunyaluk Chaicumpar, for their helpful advice and providing some biological, chemical reagents, and instruments.

I sincerely thank to Mr. Tripet Wannalak for his helps on environmental samples collection, and Mrs. Chantana Khamwan for providing stock of clinical isolates of *C. neoformans*.

Finally, I would like to express my gratitude and deepest appreciation to my family for love, attention, understanding and encouragement which never been forgotten. And also sincerely thanks to my all friends, who always encourage me in this study.

Khattiya Suda

