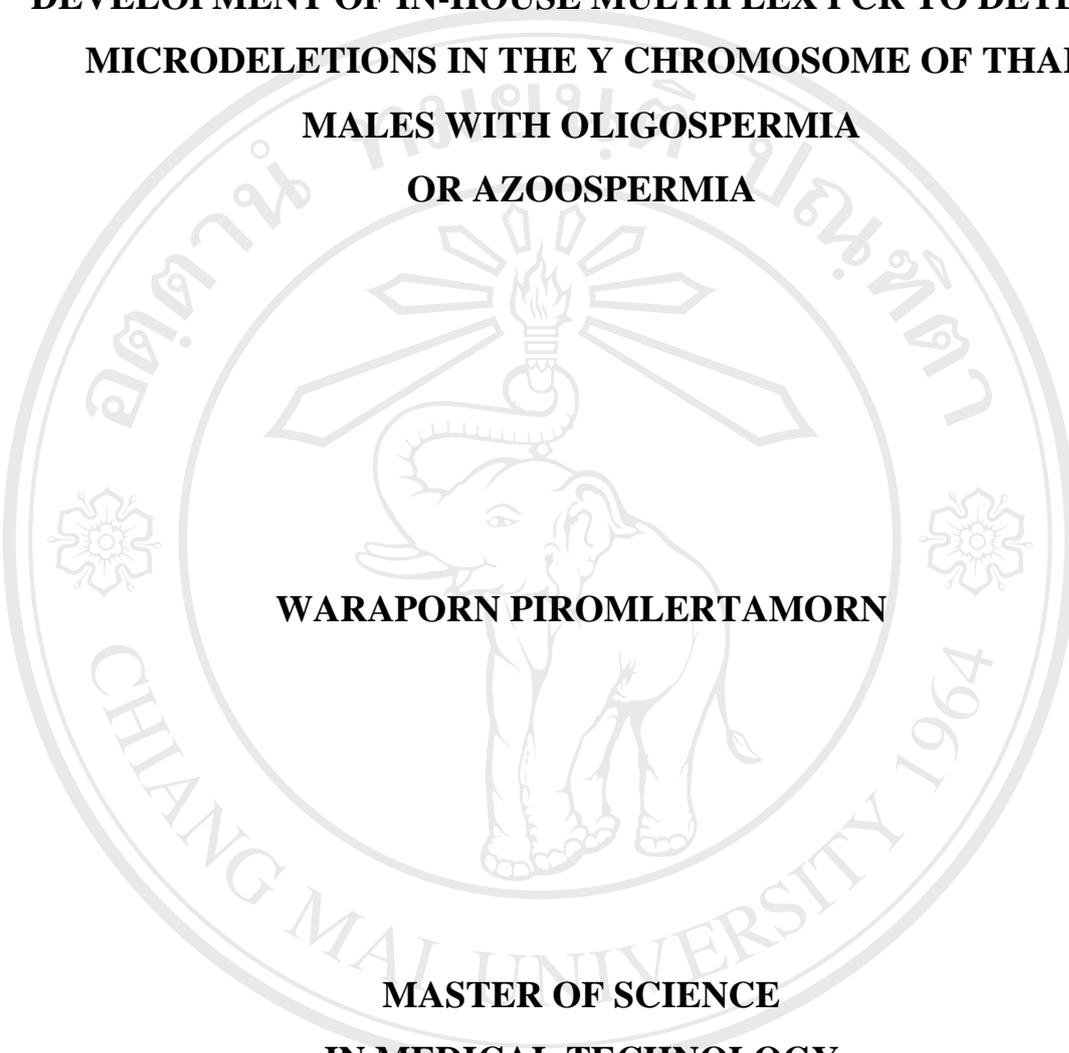


**DEVELOPMENT OF IN-HOUSE MULTIPLEX PCR TO DETECT
MICRODELETIONS IN THE Y CHROMOSOME OF THAI
MALES WITH OLIGOSPERMIA
OR AZOOSPERMIA**



WARAPORN PIROMLERTAMORN

**MASTER OF SCIENCE
IN MEDICAL TECHNOLOGY**

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright © by Chiang Mai University

All rights reserved

**GRADUATE SCHOOL
CHIANG MAI UNIVERSITY**

JULY 2006

ISBN 974-9893-62-X

**DEVELOPMENT OF IN-HOUSE MULTIPLEX PCR TO DETECT
MICRODELETIONS IN THE Y CHROMOSOME OF THAI
MALES WITH OLIGOSPERMIA
OR AZOOSPERMIA**

WARAPORN PIROMLERTAMORN

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

ลิขสิทธิ์มหาวิทยาลัยเชียงใหม่

Copyright © by Chiang Mai University

All rights reserved

**GRADUATE SCHOOL
CHIANGMAI UNIVERSITY**

JULY 2006

ISBN 974-9893-62-X

DEVELOPMENT OF IN-HOUSE MULTIPLEX PCR TO DETECT
MICRODELETIONS IN THE Y CHROMOSOME OF THAI
MALES WITH OLIGOSPERMIA
OR AZOOSPERMIA

WARAPORN PIROMLERTAMORN

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

EXAMINING COMMITTEE

.....CHAIRPERSON

Asst. Prof. Dr. Wasna Sirirungsi

..... MEMBER

Assoc. Prof. Dr. Teraporn Vutyavanich

..... MEMBER

Prof. Dr. Aram Rojanasakul

..... MEMBER

Asst. Prof. Dr. Pranee Leechanachai

28 July 2006

© Copyright by Chiang Mai University

ACKNOWLEDGEMENT

I would like to express my sincere gratitude and appreciation to Asst. Prof. Dr. Wasna Sirirungsi, my thesis advisor, for her excellent guidance, kindness, continuous suggestions and encouragement throughout the study.

My gratitude is extended to Assoc. Prof. Dr. Teraporn Vutyavanich, my thesis co-advisor, for his excellent advice, valuable suggestions and continuous supports throughout my study.

I would like to thank the staffs who work in the Human Genetic Laboratory, Department of Anatomy and the Endocrinology Laboratory, Department of Obstetric and Gynecology, Faculty of Medicine, Chiang Mai University for helping in chromosome and hormone analysis.

I wish to thank doctors and nurses at the infertile clinic, Maharaj Nakorn Chiang Mai Hospital for their kind helps in specimen collection.

I would like to thank all faculty members and Master degree students at the Division of Clinical Microbiology, Department of Medical Technology, Faculty of Associated Medical Sciences, Chiang Mai University for their kind help and valuable advices.

I wish to specially thank to Miss Nipaporn Limtrakul, Miss Tanawan Sumleerat, Mr. Boonsong Tanjai and Miss Kallaya Somjit for their supports and co-operation.

I would like to thank the Head of Division of Clinical Microbiology, Department of Medical Technology, Faculty of Associated Medical Sciences, Chiang Mai University for providing instruments for my experiment.

Finally, I would like to express my deepest gratitude and appreciation to the members in my family for their love, encouragement and continuous support throughout my study.

This work was supported by a Research Fund from the Faculty of Medicine and Faculty of Associated Medical Sciences, Chiang Mai University.

Waraporn Piromlertamorn