EFFECTS OF CRUDE KAFFIR LIME LEAF FRACTIONAL EXTRACTS ON WILMS' TUMOR 1 GENE AND WILMS' TUMOR 1 PROTEIN EXPRESSION IN LEUKEMIC CELL LINES

FAH CHUEAHONGTHONG

MASTER OF SCIENCE

IN MEDICAL TECHNOLOGY

THE GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
MAY 2011

EFFECTS OF CRUDE KAFFIR LIME LEAF FRACTIONAL EXTRACTS ON WILMS' TUMOR 1 GENE AND WILMS' TUMOR 1 PROTEIN EXPRESSION IN LEUKEMIC CELL LINES

FAH CHUEAHONGTHONG

A THESIS SUBMITTED TO THE GRADUATE SCHOOL IN
PARTIAL FULFILLMENT OF THE REQUIREMENTS

FOR THE DEGREE OF

MASTER OF SCIENCE

IN MEDICAL TECHNOLOGY

THE GRADUATE SCHOOL
CHAING MAI UNIVERSITY
MAY 2011

EFFECTS OF CRUDE KAFFIR LIME LEAF FRACTIONAL EXTRACTS ON WILMS' TUMOR 1 GENE AND WILMS' TUMOR 1 PROTEIN EXPRESSION IN LEUKEMIC CELL LINES

FAH CHUEAHONGTHONG

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	THESIS ADVISORY COMMITTEE
Akamon Bypnom CHAIRPERSON	S. Anuchayw ADVISOR
Mr. Akamon Tapprom, M.D.	Asst. Prof. Dr. Songyot Anuchapreeda
Grynding MEMBER	Smyn Co-ADVISOR
Asst. Prof. Dr. Songyot Anuchapreeda	Assoc. Prof. Siriporn Okonogi
S. Anuchaju MEMBER	CO-ADVISOR
Assoc. Prof. Dr. Siriporn Okonogi	Asst. Prof. Dr. Chadarat Ampasavate
C. Ampuret MEMBER	Nutjeera Intasai CO-ADVISOR
Asst. Prof. Dr. Chadarat Ampasavate	Lect. Dr. Nutjeera Intasai
Nutjeera Intasai MEMBER	Tangarat Jongeow CO-ADVISOR
Lect. Dr. Nutjeera Intasai	Lect. Dr. Tanyarat Jomgeow
Tanyarat Jongcow MEMBER	

27 May 2011 © Copyright by Chiang Mai University

ACKNOWLEDGEMENTS

The author wishes to express her profound appreciation and gratefulness to Asst. Prof. Dr. Songyot Anuchapreeda, thesis advisor, for his professional and helpful guidance, valuable suggestion, unforgettable assistance in all areas, peerless care and attentiveness, and especially his contribution of valuable knowledge throughout the study. Moreover, I would like to express my deep gratitude to Asst. Prof. Dr. Chadarat Ampasavate for her assistance in preparation of crude kaffir lime leaf fractional extracts. This thesis would not be successful without their support.

In addition, I am always grateful to Lect. Dr. Nutjeera Intasai, Assoc. Prof. Dr. Siriporn Okonogi, Lect. Dr. Tanyarat Jomkeow, Assist. Prof. Dr. Sawitree Chiampanichayakul, Mr. Singkome Tima, and Miss Suwanna Semsri for their kind assistance, invaluable advice, and full support.

I wish to give thanks to all of the staff members in the Department of Medical Technology, Faculty of Associated Medical Sciences for giving help and facilities when needed. I also express special acknowledgement to Thailand Government Budget, National Research Council of Thailand (NRCT), and Thailand Research Fund (TRF) for their financial support.

Most of all, I am very thankful to my parents, my family and my friends for their love, moral support and encouragement in all aspects throughout my study.