

INVESTIGATION OF *IN VITRO* EFFECTS OF DEFERIPRONE AND
CURCUMIN ON IRON STATUS AND OXIDATIVE STRESS
IN END-STAGE RENAL DISEASE PATIENTS
ON REGULAR HEMODIALYSIS

WACHIRAPORN TIPSUWAN

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

GRADUATE SCHOOL

CHIANG MAI UNIVERSITY

AUGUST 2004

ISBN 974 - 658 - 666 - 1

INVESTIGATION OF *IN VITRO* EFFECTS OF DEFERIPRONE AND
CURCUMIN ON IRON STATUS AND OXIDATIVE STRESS
IN END-STAGE RENAL DISEASE PATIENTS
ON REGULAR HEMODIALYSIS

WACHIRAPORN TIPSUWAN

THIS THESIS HAS BEEN APPROVED
TO BE A PARTIAL FULFILMENT OF THE REQUIREMENTS
FOR THE DEGREE OF MASTER OF SCIENCE
IN BIOCHEMISTRY

EXAMINING COMMITTEE

Somdet SrichairatanakoolCHAIRPERSON

Lect. Dr. Somdet Srichairatanakool

Yuttana MundeeMEMBER

Lect. Dr. Yuttana Mundee

Derek BunnachakMEMBER

Dr. Derek Bunnachak

K. PattanapanyasatMEMBER

Prof. Dr. Kovit Pattanapanyasat

Udompun KhansuwanMEMBER

Lect. Dr. Udompun Khansuwan

30 August 2004

© Copyright by Chiang Mai University

ACKNOWLEDGEMENT

I must firstly thank my advisor Lect. Dr. Somdet Srichairatanakool who really does deserve the greatest of thanks, since he has provided me with incredible support, encouragement and guidance in both the research working and writing of this thesis. It was a great pleasure to me to complete this thesis under his supervision.

I am also grateful for the encouragement given by Prof. Dr. Kovit Pattanapanyasat, Lect. Dr. Yuttana Mundee and Dr. Derek Bunnachak at various stages of the production of this research. I would like to sincere thank to Prof. Dr. Suthat Fucharoen (Senior Research Scholar of Thailand Research Fund) for supporting consumable chemicals and reagents.

The work presented in this thesis was carried out in the laboratories of Biochemistry, Faculty of Medicine, Chiang Mai University. I would like to express my gratitude to all staffs of Biochemistry for teaching and giving me the opportunity to continue my studying, further developing of my skills and giving me permission to do the necessary research work and also using departmental equipments. I also want to thank Dr. Chada Philsalapong from Government Pharmaceutical Organization of Thailand who kindly donated L1 and CP22.

I am highly indebted to all patients, nurses and personnel at Kawila hospital, Changpuek hospital and Nakornping hospital who provided me the materials and collected them for this research.

Special thanks go to my friends in Biochemistry Department, for providing both friendship and entertainment during my study.

Finally, thanks must go to my family, my parents for love and inspiration throughout my life, my elder sister for the excellent suggestion, as well as having shown me the importance of getting a good supervisor.

Wachiraporn Tipsuwan