

STRUCTURAL ANALYSIS OF UNKNOWN BETA-GLOBIN
GENE VARIANT BY DNA SEQUENCING

CHAMAIPHORN JAINOG

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

GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
MAY 2000

STRUCTURAL ANALYSIS OF UNKNOWN BETA-GLOBIN
GENE VARIANT BY DNA SEQUENCING

CHAMAIPHORN JAINOG

THE THESIS HAS BEEN APPROVED
TO BE A PARTIAL FULFILLMENT OF THE REQUIREMENT
FOR THE DEGREE OF MASTER OF SCIENCE
IN BIOLOGY

EXAMINING COMMITTEE

Wilaiwan Suphabphant.

.....CHAIRMAN

Dr. Wilaiwan Suphabphant

T. Sanguansermsri

.....MEMBER

Prof. Torpong Sanguansermsri

Hattaya Kawewong

.....MEMBER

Assoc. Prof. Hattaya Kawewong

May 16, 2000

ACKNOWLEDGEMENT

The author would like to express her gratitude and appreciation to Professor Torpong Sanguansermsri for his guidance and suggestions throughout the study. Without his support and encouragement, this thesis would not have been successful.

She would like to extend her gracious thank to Dr. Wilaiwan Suphabphant, Department of Biology, Faculty of science, thesis advisor, for her guidance, valuable suggestions and corrections of this thesis.

She would like to extend her gracious thank to Dr. Heinrich F. Steger, Faculty of Medicine, for his guidance, training, valuable suggestions and corrections of this thesis.

She would like to extend her gracious thank to Associated Professor Hattaya Kawewong, Department of Biology, Faculty of science for her suggestions and corrections of this thesis.

She would like to express her thanks to the Human Genetic Unit, Medical Science Research Equipment Center, Faculty of Medicine for their instruction, training and suggestions during the experimental part were very helpful understanding of this study and the officials of OPD 29th, Maharaj Nakorn Chiang Mai Hospital, Chiang Mai, for their kind help to collecting blood samples and to Miss Thasaneeya Chamrasratanakorn, for her kind help in typing blood samples by using HPLC.

She would like to express her thanks to She would like to thank to her friends in the Department of Biology for their kindness and friendship.

Finally, she would like to express her deepest gratitude to her father and mother for their love, understanding and encouragement throughout the study.