# SCREENING OF MICROORGANISMS WITH PROBIOTICS PROPERTIES FROM FECES OF CAPTIVE ASIAN ELEPHANTS



GRADUATE SCHOOL
CHIANG MAI UNIVERSITY
JULY 2015

## SCREENING OF MICROORGANISMS WITH PROBIOTICS PROPERTIES FROM FECES OF CAPTIVE ASIAN ELEPHANTS

**RONNACHIT RUNGSRI** 

### A THESIS SUBMITTED TO CHIANG MAI UNIVERSITY IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR THE DEGREE OF MASTER OF SCIENCE

IN PHARMACEUTICAL SCIENCES

ลิขสิทธิมหาวิทยาลัยเชียงใหม Copyright<sup>©</sup> by Chiang Mai University All rights reserved

GRADUATE SCHOOL, CHIANG MAI UNIVERSITY
JULY 2015

## SCREENING OF MICROORGANISMS WITH PROBIOTICS PROPERTIES FROM FECES OF CAPTIVE ASIAN ELEPHANTS

#### RONNACHIT RUNGSRI

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

MASTER OF SCIENCE
IN PHARMACEUTICAL SCIENCES

<b>Examination Committee:</b>	Advisor:
Soften My M. Chairman	CL CL
(Dr. Sophon Sirisattha)	(Asst. Prof. Dr. Chaiyavat Chaiyasut)
al al Member	
(Asst. Prof. Dr. Chaiyavat Chaiyasut)	
R. Woolite Sinsatta Member	
(Asst. Prof. Dr. Rungaroon Waditee-Sirisat	tha)
Set See Member	
(Dr. Sasithorn Sirilun)	

1 July 2015

Copyright © by Chiang Mai University

#### ACKNOWLEDGEMENT

I would like to acknowledge the Higher Education Commission, Thailand for the supported the grant for this study thankfully.

I would like to acknowledge to my advisor, Assistant Professor Dr.Chaiyavat Chaiyasut for his valuable suggestions and encouragement that have been given to me throughout this research.

I also express my sincere gratitude to all staff members of Faculty of Pharmacy and Microbiology Laboratory, Chiang Mai University, for continuous encouragement and support during my work.

My grateful thank Maesa Elephant Camp owner, Mr.Choochat Kulmapijit, Who give me the excellent opportunity to do the research with his elephants. And I would like to thank all of the elephants, who make me happy to work.

I would like to thank Dr. SasithornSirilun and Miss Sasima Woraharn for their helpful suggestions and encouragement. Finally, I am deeply grateful to my beloved Dr. Porrakote Rungsri and my parents for their support, understanding and encouragement throughout my study.

adansuk on Buk on Buk of Rungsri All rights reserved