

Allosteric Activation of the Ubiquitin Ligase UBR1 by Short Peptides:  
Molecular Mechanisms and Physiological Functions

Thesis by  
Fangyong Du

In Partial Fulfillment of the Requirements  
for the Degree of  
Doctor of Philosophy

California Institute of Technology  
Pasadena, California  
2002

(Defended November 21, 2001)

© 2002

Fangyong Du

All rights reserved

## ACKNOWLEDGMENTS

Despite bumpy roads at the beginning of my journey, I have had a wonderful time learning to ask the right questions and design neat experiments in Alex's lab; the thrilling moments of coming up with good ideas are unforgettable.

I am very grateful to Alex for his patience to allow me to grow at my own pace, for the freedom to work independently in his lab, and for driving me to be my best. It has been a great experience to observe closely his creativity, rigor, and above all, his devotion to science. I am thankful for his time and efforts in editing my thesis. I also want to thank my thesis committee— Ray Deshaies, Bill Dunphy, Judith Campbell and Giuseppe Attardi for their advice and encouragement over the years.

I particularly thank Glenn C. Turner, my collaborator and a good personal friend, for his good ideas, in-depth discussions and excellent editorial efforts. His "refuse-to-feel-depressed" attitude has been inspiring to me over the years. In addition, Ailsa Webster helped me get started with protein purification, and her encouragement kept me going for a long way in the early days. Larry Peck showed me how to be meticulous with my experiments, and his patience in correcting my everyday English benefited me greatly. I thank Xiao-Dong Su for his abundant help, he made me understand what "a friend in need is a friend indeed" is all about.

My sincere thanks also go to Drs. Tau-Mu Yi and Scott Stevens for their numerous suggestions and reagents, past and current Varshavsky lab members: Marty Gonzalaz, Hai Rao, Takafumi Tasaki, Yong Tae Kwon, Ilia Davydov, Chris

