ACKNOWLEDGEMENTS

I take this golden opportunity to express a deep sense of gratitude to my esteemed guide, Prof. Krutika Sawant, Ph.D., Pharmacy department, Faculty of Technology and Engineering, M. S. University of Baroda, Vadodara, for her guidance, kind co-operation, constructive suggestions, continuous encouragement, timely advice, necessary facilities required for completing the studies and meticulous attention throughout the course of this work.

I would like to express my heartfelt thanks to Dr. Justin Hanes, Ph.D., Professor, Johns Hopkins University School of Medicine, Baltimore, MD, USA, for extending his support to materialize collaboration, freedom of expression of my thoughts, refine ideas and provide conducive environment in his lab to learn many things required to conduct research. I cannot forget the contribution of individual people from his group to help me from very first day of joining them for the research.

I would like to mention special thanks to Mycobacteria Research Laboratories, Department of Microbiology, Colorado State University for providing me material for research as part of NIH, NIAID Contract, entitled "Tuberculosis Vaccine Testing and Research Materials", (contract no. HHSN266200400091C).

My wish to convey sincere thanks to Dr. Eric Nuermberger (M.D.), Dr. Paul Converse and (Ph.D.), Research Associate, Dr. Zahoor Ahmed Pari (Ph.D.), from TB Research Laboratory, School of Medicine, Johns Hopkins University, Baltimore-USA for guiding me in animal studies. Each technical discussion enriches my knowledge in these areas.

I would like to express my deepest thanks to Dr. Anjali Karande, Professor, Biochemistry Department, Indian Institute of Science, Bangalore, India, for her un-conditional support. I remember all those days I spent in her lab and took precious time of her group to clearing all my doubts on Molecular Biology technique.

My sincere thanks are due to Prof. A.N. Misra, the Dean, Faculty of Technology and Engineering, M. S. University of Baroda, Vadodara for providing me with the necessary facilities required for my research work. It gives me immense pleasure to express my heartfelt thanks to Prof. M.R. Yadav, HOD and Dr. R. Balram, and Prof. A.N. Misra, former HODs, Pharmacy Department, M. S. University of Baroda, Vadodara, for their kind co-operation during this study. I am thankful to one and all teachers who have given their valuable time of life for teaching me.

I am grateful to the All India Council for Technical Education India, for providing financial support under National Doctoral Fellowship.

I cannot forget the direct help I received from Dr. Sawant's Research group. I would also like to convey my thanks to everyone who worked with me directly and in-directly towards the completion of the work.

I wish to express my sincere thanks to the entire teaching staff of Pharmacy Department for their co-operation and support during this work. I express my sincere thanks to Hasumatiben, Hina ben and the entire non-teaching staff of Pharmacy Department, for their cooperation.

I would be remiss on my part if I don't acknowledge the help and support extended by my colleagues directly or indirectly at various stages of my work.

My heartfelt gratitude to my parents for their blessings, unbound affection, constant inspiration and lifelong support. I deeply appreciate my family and friends support in all the way and I am very much blessed to have such a wonderful people around me. No thanks would be enough to appreciate the moral support and immense patience shown by my husband so that I could complete my work without hassles. I would also like to mention innocent support from my son, Ranveer.

Last but not the least I thank the God for his unlimited favors showered upon me.

Heena