ACKNOWLEDGMENT

This thesis that you hold in your hand has been possible due to support and encouragement of many people. It is my duty to acknowledge the people around me for all the help I got from them.

The first person who comes to my thoughts, is my Guru Dr. G.C. Mishra. It is under his guidance that I learnt what Immunology is all about. He led me into exciting field of research and it is under his guidance that I was able discover the complexity of immunity that exists in the living organisms. He has been a friend, philosopher and guide to me and has taken care of me by putting me back on right track whenever I erred or lost sight of my goal. Under his guidance I was always able to see light at the end of the tunnel.

I would like to thank Dr C.M. Gupta (Director, IMTECH) who always supported and encouraged me like one of his own students. I am especially grateful that he allowed me to stay back at IMTECH to complete my experimental work, when our lab shifted to NCCS, Pune.

The experimental animals used were mice and were required in good quantity as well as quality. The people manning the animal house under efficient leadership of Dr. B. Ramanamurthy never failed me. I gratefully acknowledge Mr. S.S. Bawa for all the help rendered.

All the FACS experiments were done at the Department of Experimental Medicine, PGI, Chandigarh. I am grateful to Dr. N.K. Ganguli for this facility. All the FACS data were analyzed by Dr. H. Vorha and Ms. Nirupama and I gratefully thank for all their help and cooperation. A cup of tea provided by Kamini used to cheer me up during FACS experiments, I thank her for this hospitality.

Sanjiban has been a great friend to me. He has stood by me in times of my need. I gratefully acknowledge the help in photography for this thesis.

I thank and acknowledge Rajyashree for preparation of manuscript and S. Bauskar for the illustration presented in this thesis.

I would like to take this opportunity to thank the scientists at IMTECH especially Dr. Amit Ghosh, Dr. J.N. Agrewala, Dr. Shabnum Tangri, Dr. G.C. Varshney, Dr. R. Kishore, Dr. Girish Sahani, Dr. M.V. Krishna Shastri, Dr. Manoj Raje, and Dr. Shekhar Mazumdar for their help.

During the stay at IMTECH, a, home away from home, I had some friends who are invaluable to me. I thank God for some wonderful friends like Deepak, Seema, Kamlesh, Parmil, Deepa, Aswani, Samir, Susmit, Navneet, Surinder, Vandana, Rohini, Indrani, Jitesh and of course Abhijitda.

My labmates provided an atmosphere, in which I was able to develop myself scientifically and intellectually. I am indebted to Aneesh, Archana, Bhaskar, Gobardhan, Rajendra, Satpal, Chanchal, Sangeeta, Swanup, Amrit, Raghav, Pinaki, Vrajesh, Satyan and Abdul. Thanks are due, to Chaaya and Sangeeta, for all the help during the preparation of manuscript for this thesis.

Last but not the least I thank my parents and my family members for showing tremendous forbearance during my research period.

Rakesh Kumar Verma.