ACKNOWLEDGEMENTS

I have genuine feeling of gratitude, indebtedness and gratefulness to all those who were instrumental in the successful completion of this work. I know that all those who made this thesis work possible know me and my feelings of gratitude for them, though I may not be able to express them here because of my limited vocabulary and unbound emotions.

I have great pleasure in expressing my sincere gratitude and obligation to Dr. M. Chandrasekaran, Reader in Microbiology and U.G.C. Career Awardee, Department of Biotechnology, Cochin University of Science and Technology, for introducing me to the exciting world of Microbiology. He has been a constant source of inspiration and guidance throughout the course of my work and I bow my head before his vision of treating his research students as his own "Academic Children".

I take this opportunity to thank Dr. G.S. Selvam, Dr. C.S. Paulose and Dr. Padma Nambisan, of the Department of Biotechnology for their kind co-operation and encouragement. I am indebted to Dr. P. Madhavan Pillai, Head, Dr. K.L. Sebastian, S.S. Bhatnagar Awardee, and all other faculty members of the Department of Applied Chemistry for allowing me to use the excellent facilities of the Department, without which this work could not have been completed.

I wish to acknowledge the kind help of Dr. Ashok Pandey, Scientist, Regional Research Laboratory (CSIR), Trivandrum, India in the scanning electron microscopic studies and also for making available valuable reprints. M/s. Madhavan Nampoothiri, K. Balakrishnan, and P. Selvakumar of the Biotechnology Unit, RRL, also deserve my special thanks for their help during my stay there.
I am greatly indebted to Dr. Kenji Soda, Professor of Microbial Biochemistry, Institute of Chemical Research, Kyoto University, Japan, for his valuable suggestions and encouragement during the 16th IUBMB Congress at New Delhi, September, 1994, and also for sending highly useful study materials. Thanks are also due to Dr. P. Ajitkumar, I.I.Sc, Bangalore, Dr. Rakesh Sehgal, PGIMER, Chandigarh, Dr. R. Harikrishnan, Indian Immunologicals Ltd, Hyderabad, and Mr. Smarajit Pal, Chittaranjan National Cancer Institute, Calcutta for sending me several useful reprints in my research area which have helped me to complete the work successfully. The authorities of RRL, and Regional Cancer Centre, Trivandrum; All India Institute of Medical Sciences and National Medical Library, New Delhi; Central Food Technological Research Institute, Mysore; Anna University and Madras University, Madras are gratefully acknowledged for permitting me to utilize the library facilities.

The support, encouragement and help which I received from my lab-mates cannot be expressed in words. The stimulating discussions and suggestions of M/s. Mohanan, P.V, Suresh, P.V, Jayachandran, K, Abi. N. Eldo, Williams, C, Ms. Krishna, C, Ms. Keerthi, T.R. and Mrs. Shylaraj, K.S. have helped me a lot in completing my work successfully. M/s. Sabu, A, Unnikrishna Pillai, P.R, Pius. S. Padayatti, Ms. Sudha. B. and all other colleagues in the Department are gratefully remembered for their help and encouragement.

Thanks are also due to my seniors Dr. M.P. Nandakumar, CFTRI, Mysore; Dr. S. Renu, CSRI, Mysore, and Dr. C. Mohandass, NIO, Goa, for their help and suggestions. Dr. (Mrs) Manpal Sridhar, CMFRI, Cochin; Dr. K.G. Raghu CDRI, Lucknow, and Mr. E.V. Dasan, Medical College, Trivandrum, also deserves special mention for their interest and help in my work.
Mr. Harilal, S.S. and Mr. Riju C. Isac, International School of Photonics, CUSAT and Mr. N. Saravanan, Department of Applied Chemistry have helped me in the preparation of the manuscript and figures. They have spent many sleepless nights and sacrificed lot of time and energy for me. I take this opportunity to convey my heartfelt gratitude to them.

My friends M/s. Ajit Sacheendran, Jyothish, Bimal Lal, Gopakumar, Anzar, Sreekumar and Subramanian have constantly encouraged and supported me. I thank them all for what they have done to me. I humbly remember all my teachers at the P.G. Department of Zoology, S.D. College, Alleppey, for motivating and encouraging me to pursue my Ph.D. research.

The administrative staff of the Department of Biotechnology, CUSAT, Mrs. Lalithambal, Mrs. Sumathi, Mrs. Girija Devi and Mrs. Thilakamani are also acknowledged for their support and cooperation. I also thank the authorities of CUSAT for providing necessary facilities for carrying out the work. Financial support from the Council of Scientific and Industrial Research, Govt. of India, New Delhi in the form of a research fellowship is gratefully acknowledged.

The support I received from my parents, brothers and other members of my family has enabled me to spend most of my time in the laboratory and complete the work successfully. I also thank Ms. Latha for silently and patiently waiting for the completion of my research work. Finally, I would like to dedicate my work to my beloved parents and Mr. M.R. Mohammed Riaz (1969-1994) who was like a brother to me and was always ready to sacrifice anything for our friendship. Remembering him now is the least I can do in his everlasting memory.

G. NAGENDRA PRABHU