

ACKNOWLEDGEMENT

I wish to express my sincere heartfelt gratitude and indebtedness to my supervising guide Dr. C. S. Paulose, Director, Centre for Neuroscience, Reader, Dept. of Biotechnology for his sustained interest, excellent guidance and motivation throughout the course of this work. His encouragement and timely advice will always be remembered.

I am thankful to Prof. M. Chandrasekaran, Head, Dept of Biotechnology, for all his help and encouragement and providing me the necessary facilities to pursue my Ph.D.

I wish to record my profound thanks to Dr. Sarita G. Bhat and Mr. Elyas K.K. lecturers of this department for their help and encouragement throughout my work.

I take this opportunity to thank Dr. K. P. Rajappan Nair, Dean, Faculty of Science, Cochin University of Science & Technology for his encouragement and support to me.

I would like to extend my sincere thanks to Dr. Babu Philip, Department of Marine Biology, Microbiology and Biochemistry for his valuable suggestions and encouragement. I also remember Dr. Ramesh Kumar, Endocrinology and Immunology Lab, Cochin with thanks for his kind help for doing the hormonal assays.

I wish to express my sincere thanks to my senior colleagues Dr. Jackson James, Dr. Biju. M.P, Dr. Ani Das. V, Dr. Pyroja. S, Dr. Eswar Shankar. P.N and Dr. Renuka .T.R for their immense help and encouragement.

It is with great pleasure I express my sincere gratitude to Mr. Balarama Kaimal S. my junior colleague, who stood by me, helped and motivated greatly in all my efforts.

My friends and colleagues Mr. Santhosh Thomas K, Mr. Akash K. George, Mr. Gireesh G, Mr. Reas Khan. S, Ms. Finla Chathu, Ms. Remya Robinson, Ms. Savitha Balakrishnan, Mr. Binoy Joseph and Mr. Rakesh.S were always been there with a helping hand throughout the period of my work. I thank them for all their affection, friendship and help which I shall always cherish.

I would like to thank Ms. Sreeja Chellappan, Mrs. Jasmin C., Mr. Soorej M. Basheer, Mr. Madhu K. M, Ms. Archana Kishore, Mr. Bernard Rajeev S, Ms. Lailaja V. P, Ms. Bijna, Mrs. Manjusha and Ms. Jissa, research scholars of the Department of Biotechnology, for their kind help and co-operation during the period of my Ph. D. I thank Mr. Adarsh S, Mr. Jyothi, Mr. Santhosh C. V and Mr. Ram Mohan for their affection, care and help during the course of my work. I also thank all the M. Sc. students in the Department of Biotechnology for their affection, help and co-operation.

I thank all the non-teaching office staff of our department-present and past-Mrs. Santhakumari, Mrs. Usha, Mrs. Ajitha, Mrs. Ratna Bai, Mr. Ismail, Mr. Ali, Mrs. Sumathi and Mrs. Girija for the care and help extended to me.

My friends Dr. Shaji S., Dr. Joseph Mathai, Dr. Bindu, Dr. Preetha G. Prasad, Dr. Jean John Vadakkan and Dr. Saji Augustine were inspiring, encouraging and supporting and I express my heartfelt gratitude to them. I would like to extend my sincere thanks to Mr. Saravanan, Mr. Paul, Ms. Sreeja P. B, Mr. Sajeev and Ms. Vidya Raman for their encouragement and support.

I wish to thank all my M.Sc classmates Mr. Noushad, Mr. Vinod, Mr. Suraj. P.S, Mr. Mansur Ali, Mr. Madhu, Mr. Naisam.A, Mr. Sabu.T.K, Mr. Hari Das, Mrs. Abha, Mrs. Geetha Divakar and Dr. Vineetha Aravind for their constant support. I would like to extend my sincere thanks to Mr. Abdul Rasheed M.T, Dr. Renjith, Mr. Baburaj and Mr. Afsal for their encouragement and support.

I thank Dr. Devadas, Director, CIFT and Mr. Ganesh, CIFT, Cochin, the authorities of Small Animals Breeding Station, KAU, Mannuthy and Dr. K. K. Unni and Dr. Elango, Amrita Institute of Medical Science, Cochin for providing experimental animals for my research work.

My special thanks to the authorities and staff of Cochin University of Science and Technology for their help and co-operation.

I am grateful to Council of Scientific and Industrial Research, New Delhi for providing me fellowship for research

I thank all the teachers of my School days and graduation for their kind leading and showing light in the path of my life

I would like to express my sincere thanks to Dr. Shahul Hameed (Former Head, Dept. of Industrial fisheries), Dr. Hridayanathan (Former Head, Dept. of

Industrial fisheries), Dr. Ramakrishnan Korakandi (Head, Dept. of Industrial Fisheries), Dr. Madhusudhana Kurup, Dr. Selina Mathew, Dr. A. Ramachandran (Controller of Examinations), Mr. John Mohan and Dr. Thomson for their inspiration and encouragement given to me.

I am indebted to Dr.M. Thomas Mathew (former Head, Dept. of Nephrology), Dr. Ramdas Pisharodi (Head, Dept. of Nephrology), Dr. Rajarathnam (Dept. of Nephrology) and Dr. V. N. Mony (Dept of Urology), Medical College Hospital, Calicut for their dedication, kind words and invaluable help to me.

Words fail me when I try to thank my family. They have always been supportive of me. My parents, brothers, sisters and in-laws have been selfless in giving me the best of every thing and I express my deep gratitude for their love and support.

There are so many others whom I may have inadvertently left out and I sincerely thank all of them for their help and prayers. Thanks for being with me.

(Mohan V. V.)