ACKNOWLEDGEMENT

To my esteemed teacher and guide Dr. N. SUTHANTHIRARAJAN, M.Sc., Ph.D., Professor and Head, Department of Physiology, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras. I am extremely grateful for his eminent guidance, invaluable suggestions, and kind support throughout the course of my research work.

I am extremely grateful to my co-guide Dr. R. SHEELA DEVI, M.Sc., M.Phil., Ph.D., Lecturer and Head i/c, Department of Physiology, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, for being a constant source of encouragement and guiding me throughout my Ph.D tenure, especially during the later part of my thesis and also for correcting my thesis. I take this opportunity to express my heartfelt gratitude for all her help without which it would not have been possible for me to complete my work.

I offer my profound and heartfelt thanks to my beloved Professor Late Dr. A. NAMASIVAYAM, M.D., Ph.D., MNAMS., Emeritus Medical Scientist – ICMR, Former Director, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, who had always been a source of encouragement and helped in each and every aspect of my research work. The help I received from him is beyond words to describe.

My sincere thanks to Dr. G. JAYARAMAN, Reader, Department of Genetics, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, for providing me with useful suggestions, constant encouragement and help throughout the study.

I extend my sincere thanks Mr. RAVINDARAN, M.Sc., Lecturer, Department of Physiology, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras for his valuable help and suggestions.
I am extremely grateful to Dr. A. JAGANATHA RAO, Professor and Dr. UPPAL TATU, Associate Professor Department of Biochemistry, Indian Institute of Sciences, for permitting me to do part of my work in their labs.

I am thankful to Dr. R. VENKATARAMAN, Professor, Department of Pharmacology and Environmental Toxicology, and Dr. SAKTHISEKARAN, Professor, Department of Biochemistry, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, for their valuable suggestions and involvement during the course of my study.

My sincere thanks are due to Dr. RAJESH, Department of Pathology and Mr. N. RAVIKUMAR, Lab attender, Department of Anatomy, Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras for their invaluable help in the histological studies of my work.

My heartfelt thanks to Dr. B.J. DARE, Veterinary Consultant, and to the staff members of the Animal house (Mr. PORUSOTHAMAN, and Mr. BALAGURULAH), Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras, for arranging the animals (rats) required for my work and for the maintenance of the animals.

I extend my profound thanks to my friends and colleagues, students and staff of the Dr. A.L. Mudaliar Post Graduate Institute of Basic Medical Sciences, University of Madras for their help and cooperation during this study.

I thank the authorities of the University for granting me University Research Fellowship as financial support for my doctoral work.

I extremely grateful to my Mother, Brother, Sister-in-law, Uncle and Sisters for their patience, constant encouragement and moral support, throughout my work.

(O.S. SETHU RAMAN)