ACKNOWLEDGEMENT

First and foremost, I am grateful to the almighty God for the good health and well-being that were necessary to complete this piece of work. I am humbled by the courage and strength bestowed on me that kept me going even through the hardships during the study.

It has been an incredible journey all through these years, and I am taking this opportunity to acknowledge those who made my ride smoother and memorable. As I pen down my message of thanksgiving, I would like to remember all those who made this study period a remarkable learning experience and helped to expose the potential within me, to achieve this feat!

I would like to express my sincerest and heartfelt gratitude towards my guide, Dr. Kumar M. R. Bhat, Professor & Chairperson, RAK Medical and Health Sciences University, Ras Al Khaïmah, UAE. His expert guidance, support, mentorship and immense motivation helped me pursue my dream better. He has greatly inspired and encouraged me in every aspect of life and has instilled a sense of purpose in me and nurtured me to grow professionally. In all ups and downs, he has always supported and cheered me to pursue my dream. I am ever thankful to him for being kind and supportive.

I would like to show my greatest thankfulness towards my co-guide, Dr. K. Sreedhara R. Pai, Professor & Head, Department of Pharmacology, Manipal College of Pharmaceutical Sciences, Manipal Academy of Higher Education, Manipal for his kind support, guidance, and suggestions during the work. I am also grateful to him for providing the required help, excellent facilities, and resources at the institute. His ever encouraging attitude has continuously strengthened my efforts towards the successful completion of the study.

I would like to thank the members of the Doctoral Advisory Committee; Dr. Anuradha C K Rao, Professor, Department of Pathology, Srinivas Institute of Medical Sciences,
Mukka, Surathkal and Dr. Padmanabha Udupa, Associate Professor, Department of Biochemistry, Kasturba Medical College, Manipal for their guidance and help.

I gratefully acknowledge the financial support provided by the Department of Science & Technology- Science & Engineering Research Board (DST-SERB), Government of India, for the study.

I am thankful to Manipal Academy of Higher Education for the financial and infrastructural support.

I sincerely thank Dr. Sneha Guruprasad Kalthur, Professor & Head, Department of Anatomy, Kasturba Medical College, Manipal and Dr. Antony Sylvan D Souza, Former Associate Dean, Kasturba Medical College, Manipal, for providing the department facilities. They have also greatly inspired and supported me during my study.

I place on record, my humble thank you to Dr. Pragna Rao, Dean, Kasturba Medical College, Manipal for her support and encouragement.

I am ever grateful to Dr. Jayakrishna Nayak, Associate Professor, SDM College of Ayurveda, Udupi for his help and assistance during the preparation of the test materials. I am also thankful to Dr. K. Gopalakrishna Bhat, Professor of Botany (Rtd), Poornaprajna College, Udupi for aiding with the authentication of the plant, Nerium indicum.

Sincere thanks to Dr. N.V. Anil Kumar, Department of Chemistry, MIT Manipal, Dr. Keerthana Prasad, School of Information Sciences, Manipal, Dr. Ruchee Sharma, Mr. Ramanath Kamath, Mrs. Reshma and Mr. K Raghavendra Bhat, Department of Pathology for providing the required assistance and help in conducting different parts of the study.

Special thanks to my dear friend, Dr. Hemalatha Bangera, Lecturer, Department of Anatomy, Father Muller Medical College, Hospital, Mangalore for greatly aiding me with the animal experiments. I am also glad to acknowledge the help and support
Acknowledgement

rendered by Dr. Divya Padma, Ms. Ashwini and Ms. Bhagya in the course of my study. Thanks to all these wonderful people; Ashok Kumar, Keerthi Priya, Pallavi, Karthik Gourishetti, Sanchari Basu Mallik, Manas Kinra, Othman Hakum, Vijay Vicky Amin, Mrs. Hemalatha Nayak, Mr. Ganesh Kini, and Mrs. Sukanya for their support.

I am also blessed to have the following people in my life initially as teachers and now good friends and colleagues; Dr. Suhani Sumalatha and Dr. Lydia Andrade, Assistant Professors, Department of Anatomy, KMC, Manipal. I am thankful for all the help, support and guidance offered by them. I am also grateful to Mr. Huban Thomas, Dr. Prasanna L.C., Dr. Mamatha, Dr. Nandini Bhat and Mr. Anjaneyalu whose words of encouragement and support kept me going during this study.

I thank all the teaching and non-teaching staff of the Department of Anatomy, Kasturba Medical College, Manipal, for their encouragement, help, and advice during my research work.

Special thanks to Mr. Sreedhara Prabhu, In-charge; Mr. Sanjeeva, and all the staff members of the Central Animal Research Facility, Manipal Academy of Higher Education, Manipal for their help. It is also my prime responsibility to express my tearful acknowledgments to the animals who were sacrificed for the benefit of humanity!

I extend my heartfelt thanks to Dr. Arvind Kumar Pandey, Assistant Professor, Department of Anatomy, Kasturba Medical College, Manipal, previously my teacher and now a dear friend of mine. I am also indebted to my beloved friend, Dr. Anne D Souza, Associate Professor, Department of Anatomy, Kasturba Medical College, Manipal. I will always be grateful to both of them for sharing the good as well as bad times of my life. I am forever thankful to them for enduring my tantrums in unpleasant situations and greatly motivating me to complete my thesis. Thanks to Arvind Sir and Anne for the help in managing the animal experiments and in editing the thesis too.
I have been extremely fortunate in my life to have a family who has shown me unconditional love and support in every step. I fall short of words to express my sincere gratitude to my parents, Mr. Rama Kotian and Mrs. Manjula.

My words would be inadequate to describe how lucky I am to have an ever supportive mother! Her unceasing prayers and words of cheer have kept me going throughout my life. I can never repay the love and affection she has bequeathed and all the support and encouragement she has showered on me throughout my study and my entire life. I also thank my younger sister, Ms. Amritha R.K. for being there for me always and encouraging me. I am forever indebted to my younger uncle, Mr. Sudhakar, who firmly believes in me and continually supports me in all walks of my life. No words can express the gratitude I owe him.

I would also like to mention lovable thanks to my little cousins; Ananya and Sagar whose playfulness make me lively and their little help rendered in the animal house made my period of study, all the more fun, joyous and cherishing. I would also like to acknowledge those members who are very special to me- My Dodda; Cousin Ashwini and my uncles and aunts. I also wish to mention the names of few of my other friends who were always encouraging and supportive: Ravindra Kumar K., Linet N. Menezes, Sonia Rao, Nisha, and Abhinaya.

I am grateful to all those who helped and supported me directly or indirectly and knowingly and unknowingly. If I have missed mentioning anyone, please consider it as an unintentional mistake.

Thank You all

Sushma R.K.