ACKNOWLEDGEMENT

Mere words can never encompass the profound gratitude and indebtedness of my esteemed teacher and supervisor, Dr. Anil Kumar, Professor of Pharmacology, University Institute of Pharmaceutical Sciences, Panjab University, Chandigarh.

It is my kind privilege for having worked under the guidance of Dr. Anil Kumar, Professor of Pharmacology, a distinguished neuroscientist, sincere researcher and devoted teacher, who is a great source of inspiration for all young Indian pharmacologists, researchers and teachers. I am extremely thankful to him for his precious guidance and untiring attention which bequeathed on me right from the inception to the successful completion of this research project. His practical suggestions, creative criticisms, patience, dedication have been an enriching and unique experience, which I shall cherish throughout my professional and personal career. He has a unique ability to get the best out of everyone and this is true for me also.

I also wish to express my deep sense of appreciation and gratitude to my co-guide Dr. (Mrs.) Archana Bhatnagar, Professor of Biochemistry. Her continuous inspiration, timely advice, sound judgment, moral support, care and motherly affection which I cherished most and try to emulate them to the best of my ability.

I also wish to express my appreciation and gratitude to Dr. (Mrs.) Kanwaljit Chopra, Dean, Faculty of Pharmaceutical Sciences. Her perpetual inspiration, moral support, care and motherly affection during the difficult times go a long-way in the successful execution of this research work. Working in this department was once in a lifetime experience which will help me during the future endeavors as well as in my personal growth. I am also thankful to Dr Anurag Kuhad and Dr Sangeeta P. Sah, Assistant Professors for their lovely support and advice.

I sincerely thank Professor Bhupinder Singh Bhoop, Chairperson, University Institute of Pharmaceutical Sciences, Panjab University, for providing me the necessary infrastructural facilities required for this research work.
I also thank Dr. Sukant Garg, Associate Professor, Department of Pathology, Dr. Harvansh Singh Judge Institute of Dental Sciences and Hospital, Panjab University, for his kind cooperation as and when needed during my research tenure.

The financial supports “Adhoc Research Project” sanctioned to Professor Anil Kumar by the Indian Council of Medical Research, New Delhi is highly appreciated.

During this work, I have worked with many colleagues, who have helped me during this research work especially, Mr. Jitendriya Mishra, Mr. Puneet Rinwa, Mr. Lalit Machawal, Mr. Pankaj Kalra, Ms. Priyanka Channana, Mrs. Arti Singh, Ms. Manveen, Mr. Dinesh K Dhull, Mr. Varun Gupta and Mrs. Ruchika. All I can say is thanks for being there. I cherish every bit of association with them. I am especially thankful to Mr. Jitendriya Mishra for his help and cooperation throughout the study.

I would like to express my sincere thanks and appreciation to my seniors (Dr. Amit Gupta, Dr. Vipin Arora, Dr. Ajay Prakash) and my friends (Mr. Anand Kamal Sachdeva, Mrs. Seema Bansal, Ms. Yashika and Mr. Ravi), as well as juniors Shree Lalitha, Tanya Chaudhary, Hitesh, Ekavali, Dhirendra, Ankita, Pratistha, Aarchi, Madhurima, Supreeti, Navdeep, akriti and ashmeen for their friendly support, genuine concern and timely suggestions.

A special thanks to Mr. P. D. Chaudhary, former librarian, Mrs. Hema Sharma, library associate, Mr. Dayal Chand, library assistant, University Institute of Pharmaceutical Sciences, Pharmacology laboratory staff (Mr. Rajinder Singh, Mr. Sahib Singh, Mr. Sham Singh, Mr. Jagsohan Singh, Mr. Sunny) for their kind cooperation and support throughout the study. The research facilities of the UGC-Centre with Potential for Excellence in Biomedical Sciences (CPEBS), Panjab University are unique for carry out this research work and I am also thankful to Mrs. Manninder Kaur, senior technician for her support during the HPLC and histopathological analysis.

I am very much thankful to all my friends of UIPS and BMS block especially Mahaveer, Ashish Jena, Neeraj Kumar, Sarwar Beg, Chhanda Charan Danta, Rakesh Kumar, Gaurav, Mandeep, Gajanand, Poonam, Sudheer, Manoj Mahapatra, Ashish, Atul, Jiender singh, Pawanpreet singh, Premjeet and one and all for their help and support during the tenure.
I am no less grateful to my parents, my brother Srisailam, my sister Sravanthi and other family members for their love, care, faith and support during the entire course of my studies. Finally, a very special appreciation is due to my wife Radha not only for her constant encouragement but also for her patience and understanding throughout. May GOD bless her in all her endeavors. Completion of this study would not have been possible without her unreserved support.

I am also thankful to my best pals ever Dilip, Varaprasad, Aravind, Sravan Srujana, Maneesh, and Phani for their constant encouragement and support throughout my study period.

I would like to thank everybody who was important to the successful realization of this thesis and I expressing my apology for I could not mention personally one by one by name.

I owe a great debt of gratitude to my cute and naughty rats that helped me unearth the facts that are the necessary foundation of this research.

Finally, I submit my thesis at the feet of Almighty. I thank Almighty with whose mercy, it has been possible for me to reach this far.

Raghavender Pottabathini