I take this opportunity to express my sincere and heartful gratitude to my research guide Dr. K. R. Mahadik who played most important part in the successful completion of this project. He offered excellent guidance, freedom of thoughts in a friendly research atmosphere and encouragement at all stages of my work. He helped me giving different dimensions to my thinking and analyzing abilities. His constant quest for knowledge and strive for excellence will always remain a source of inspiration throughout my life.

I would like to acknowledge and express my obligation to our Vice-Chancellor Dr. Shivajirao S. Kadam for providing the necessary infrastructure and all facilities required for carrying out my research work.

I would also like to thank my co-guide Dr. L. Sathiyanarayanan for his valuable contribution in this work. I am equally thankful for his steady support, inspiration and precious guidance.

It would not have been possible to complete this thesis without the valuable guidance, timely help, inspiration, persistent encouragement and moral support of Dr. P. D. Chaudhari sir Principal, PES’s Modern College of Pharmacy, Pune and Prof. Dr. Gajanan Ekbote, Chairman Progressive Education Society, Shivajinagar, Pune.

My heartfelt thanks to Dr. S. Arulmozhi mam for her guidance and constant support in animal studies required for this research.

I wish to express my sincere and respectful thanks to Dr A. P. Pawar, Dr Bothiraja, Dr Ashwin Mali and all staff members of Poona College of Pharmacy for their motivation throughout my research work.

I am also thankful to the non-teaching staff especially Kamble Kaka, Mandake Kaka, Khade Kaka, Joshi Sir, Tatya Kadam, and other office staff and library staff for their contribution in the successful completion of this project.

I am also thankful to all my Ph. D. seniors Dr. Ajinkya Nikam, Atul Rathore, Dr. Sachin Potawale, Dr. Arpana Patil, Dr. Hemant Kamble, Dr. Parag Kadam, Dr. Ashwin Kuchekar, Dr. Ganesh Barhate for their guidance, vital encouragement, incisive criticism and dynamic assistance. They have been a source of persistent inspiration and encouragement.

I owe special thanks to my friends Dr Pravin Pawar, Dr Vaishali Mute, Priyanka Patil, Dr Amit Kandhare, Dr Amol Muthal, Dr Gopal Bihani and juniors Bhagyashree Atre, Sadhana Nanaware, Madhuri Shelar, Harshad Kapare, Nilesh Desai, Kiran Kemkar, Prakash

I also thank the Department of Pharmacology for their support and assistance from the start of my work, especially M. Pharm. students who helped in the research work Adil, Saikrishna Lakampalli, Saiprasanna, Kamlesh Vishwakarma, Nikhila Vengala, Prachi, Mithun, Pooja, Vijay, Sharayu, Maitreyee, Diksha, Devyani, Odiliya, Anamika, Anagha, Antara, Sandipan, Ananya and Anvesha.

I also want to sincerely thank Ms Meghana Kamble, Ms Sonali Nipate, Dr Shailaja Jadhav, Dr Deepti Bandawane and other teaching and non teaching staff of PES’s Modern College of Pharmacy, Pune for their constant support and motivation during this thesis.

Above all, I would like to thank my parents Mr. Ramchandra B. Balap and Vrushalini Balap, my grandmother Mrs. Sushila Pawar, mama Mr. J. J. Pawar, Pratibha mami, my lovely sisters Mrs. Tejaswini Mahadik and Prajakta Balap, my beloved brother Tejomay Balap, my cousins Sayali, Pooja, Aman and bhaiji Mr. Mohan Mahadik who has given me their unequivocal support throughout as always.

I want to thank each and every person who directly or indirectly helped, supported and contributed in this research work.

I am thankful to All India Council for Technical Education. New Delhi, India for financially supporting the project.

Aishwarya Balap