

## *Acknowledgement*

*First of all, I would like to express my sincere gratitude to my advisor Dr. Rajashree C Mashru for the continuous support of my Ph.D study and research, for her patience, motivation, enthusiasm, and immense knowledge. Her guidance helped me in all the time of research and writing of this thesis. I could not have imagined having a better advisor and mentor for my Ph.D study. Her discipline, principles, simplicity, profound knowledge and the subject understanding constantly kept me motivated. I am immensely grateful for all the guidance she has provided me so far, academically as well as personally.*

*Besides my advisor, I would like to thank the Dr. Arti R. Thakkar for their encouragement, insightful comments, and help throughout the period. There are no words by which I can say thanks to her.*

*My sincere thanks also goes to Prof. M R. Yadav, Head and Dean, Faculty of Pharmacy, The M.S. University of Baroda and coordinators of G.H. Patel Pharmacy building; Shri S.P. Rathod, Prof. K.K. Sawant and Prof. S.J. Rajput for availing infrastructure and their helping hand whenever needed.*

*I would like to express my heartfelt thanks to University Grant Commission (BSR Division), Government of India, New Delhi for providing financial assistance in terms of research fellowship during my Ph.D tenure.*

*I would also like to extend my appreciation to respected faculty members Late Prof. Rajani Giridhar, Mr. Bhavik Chauhan, Dr. Prashant Murumkar, Mr. Navneet Prajapati, Dr. P.A. Nagar, Dr. H.P. Thakkar, Dr. K.V. Patel and Ms. H.T. Tandel for their help and moral support.*

*I thank my fellow Mr. Riddhish Patadia and Dr. Chintan vora for their extreme support from the very beginning and to the end. There is a saying if u accompany a good fellows you will change to a good fellow. I experience the same with both of them as both of them was the best support I ever wish I could have.*

*There are no words by which I can say thank to Dr. Hardik Gandhi, Mr. Jatin Machhi and sagar patel for their immense support in the research work. They always made themselves free whenever needed it was a great to learn from them a lot during in-vivo studies.*

*There is one more hand whose help can never be compare, I used to say them I will write your name in **BOLD** and capital in my thesis, here thanks a ton sir, your helpful hand helps me a lot and I really mean it **Mr. ABHISHEK PATILAK***

*I am highly grateful to Dr. Himanshu and Ms. Vidisha from Stem cure Ahmedabad for helping a lot in the studies related to the cell lines. Learning at stem cure was one of the best thing happen to me during this tenure.*

*I am also grateful to Dr. Vikram Sarabhai Science Center, Fmedabaaculty of Science, The M.S. University of Baroda, Vadodara for availing facility and skillful assistance in carrying out LC-MS analysis.*

*I am heartiest thankful to Rahul D Dhande who is more than a friend. His support always encourages me and his motivation always keeps me positive and focused.*

*My deep and heartily thanks to my buddy Nirav Patel who helps and support is one of the finest thing I got during the last tenure of the research work. It was great to accompany such a simple leaving high thinking fellow. I think it will be hard for me to pay back to him.*

*I extend my appreciation to my pals Dixit, Karan, Hitesh, Dushyant, Dharmendra, Hitesh ravalviya, Manit, Jigar and especially The Javiya (during writing) who intentionally or unintentionally provided relief from my work-related stress.*

*I deeply extend my gratitude to my dear lab-friends Dr. Roshma Jain, Ms. Prachi Bhamre, Mrs. Madhuri Baghel, Mr Mohit Mahajan for their support in one or the other way.*

*I also acknowledge my colleagues Mrs. Priyanka Bhatt, Mr. Ravi Gandhi, Mr. Nitesh Agrawal, Mr. Mahesh Shidore, Mr. Atul Khadse, Mr. Dushyant Patel, Mr. Sagar Patel, Mr. Praveen Srivastava, Dr. Dipesh Bardiya, Dr. Atul Kolte, Dr. Chetan Yewle, Ms. Arpita Patel, Ms. Prachi Karia, Mr. Ashish Kahmed and Mr. Abhijeet Pandey for all their personal or professional help that they have extended to me throughout.*

*I would also express my heartfelt thanks to my juniors Bharat, Bhumik, Gevriya, Darshan, Satish, and Variya with whom I shared lots of happy moments.*

*At this moment, I must acknowledge the support of my father without which I won't think a fraction of this work was possible for me. In my deep heart I will always remember the sacrifices made by him for making this thing happen. It is really wordless to say thanks to him. I would like to thank my mom whose blessings always pour energy in me whenever I needed.*

*During this a long journey, there was one person who sacrifices a lot and always remained with me was my better half "my wife". Her company always makes the path smoothen and clear. Her suggestions always puts me on right track and her energy was one of the reason I am able to finish this task. I really thank to you for always being with me during this journey.*

*Karan*