## Acknowledgements

At the outset, I would like to pay my tribute to the father and founder of the Banaras Hindu University respected **Mahamana Pt. Madan Mohan Malviya Ji**, because of whom thousands of students every year put their step towards bright and prosperous future.

I welcome this opportunity to express my heartfelt gratitude and thankfulness to my revered supervisor, **Dr. Sairam Krishnamurthy**. His stimulating suggestions and encouraging ideas helped me throughout the period of my research. I always remain indebted for his diligent efforts and professional competencies, which contributed for me to get encouraged towards the completion of the project methodically. I feel very much honored and it has been a real privilege for me to get an opportunity to work under his guidance.

I am grateful to **Prof. S. K. Singh,** Head, Department of Pharmaceutics, Indian Institute of Technology (Banaras Hindu University) and **Prof. B. Mishra**, (Former Head) for allowing me to use the facilities in the department for carrying out my research work and for their kind help during the course of my study.

It is my pleasure to thank all my respected R.P.C members and all the teachers of the department; Prof. J.K. Pandit, Prof. P.V. Sharma, Prof. P.N. Singh, Prof. R. S. Shrivastave, Prof. Sanjay Singh, Prof. S.K. Srivastava, Mr. A.K. Srivastava, Dr. (Mrs.) S. Hemalatha, Dr. Vikas Kumar, Dr. Senthil Raja, Dr. Alakh N Sahu, Dr. S.K. Mishra, Dr. (Mrs.) Ruchi Chawla, Dr. Ashok Maurya and Dr. (Mrs.) Abha Mishra for their valuable suggestion and guidance throughout the course of my research.

I would like to thank Council of Scientific and Industrial Research (CSIR), India and Indian Institute of Technology (Banaras Hindu University), Varanasi for providing me financial support in the form of Senior Research Fellowship.

A special thank to **Dr. Gautam Palit** and **Dr. Ausaf Ahmed** for their help in performing western blot, flow cytometry and radio-ligand binding studies at Central Drug Research Institute (CDRI), Lucknow.

I would like to express my special thanks and indebtedness to my most supportive and enthusiastic lab mates Mr. N. Ranga Reddy, Mr. Puneet K. Samaiya, Mr. Sukesh K. Gupta, Mr. Pankaj Paliwal, Ms. Akanksha Mishra, who always helped me whenever I was in need. Special thanks to my juniors; Rajat, Neha, Jasmine, Pranshu, Chandini, Ravi, Dinesh, Geetanjali, Qadir, Gaurav, Yusuf,

Sudha, Saket, Santosh, Durgesh, Alok, Pawan, Ritu, Rajesh, Milind, Jairam, Preeti, Anshul and

**Rakesh** whose moral support always inspired me in whatever contrive I think off.

I extend my heartfelt gratitude and indebtedness to my beloved friends Gopal, Anupam, Ajit,

Sanjay, Sandeep, Vijay, Meenakshi and all Research scholars of this department for their affection, love

and help.

I pay my sincere thanks to (late) Mr. Ajay Pal ji, Mr. Nandlal ji, Mr. Madan ji, Mr. Upadhya ji, Mr.

Sanjeev ji, Mr. Jaamil ji, Mr. Pathak ji, Mr. Rafeeq ji, Mr. Kapil ji, Mr. Virendra ji, Mr. Chotelal ji, Mr.

Arun ji, Mr. Gopal ji, Mrs. Saroj Kumari ji, Mrs. Archana Singh ji, Ms. Shyamli Ghoshal ji and all other

non teaching staff of the department who had provided me all the requirements that I needed for my

research.

Most importantly, I would like to put my heartiest warm regards and eminent indebtedness to my

Parents, whose love, moral support and blessings have encouraged me more and more to reach this

height in my journey of present existence. Additionally, I would like to thank my In-laws and all my

relatives for their streamline support throughout my journey. A special thank to my life partner Priyanka

and my sweet and cute daughter Paripurna (Pari) for their uncountable contribution and sacrifice towards

my career.

Last but most important I pray to God for the innocent rats who sacrificed their life for the sake of

humanity. I wish and pray to god for their soul to rest in peace.

Date:

Place: Varanasi

(Mr. Debapriya Garabadu)