



Acknowledgements

I regard my research supervisor and guide **Prof. G. Naresh Kumar**, Head Department of Biochemistry for insisting and motivating me to join for research. His constant encouragement during this tenure helps me to fight back all the ill thoughts which use to come in my mind. His cool and calm nature also thought me many other things of life other than research. Under his direct or indirect guidance I grew as a person which I was not. I am thankful to him for giving generous comments at critical point of the work and his thought provoking nature. These things put all the member of my lab at different levels than others. The way he looks at any problem showed us path, how to see things differently. I sometime felt very angry to his attitude but then later on I found he is right at his part but sometimes it really affects us.

I am really grateful and thankful to **Prof. James W. Goden**, Texax A. and M. University for important plasmid without it this work was not possible to do and for providing Anabaena sp. Strain PCC 7120 during the investigation and time to time providing pdf of his published paper.

I am really thankful to **Prof. Tara Mehta**, a former Head of the Department to allow me to perceive my research goal in the Department of Biochemistry. Her critical comments on each and every subject impressed me lot during my research work. After her retirement also she use to ask about our research that spirit always gives positive support to our work.

I would like to thank to **Prof. V. Nagaraja**, Department of Microbiology and Cell Biology, Indian Institute of Science, Bangalore for his support and providing excellent facilities for doing part of my research work in his lab and giving me a wonderful person Mr. M. Sarvanan for carryout our work with lot of molecular biology and protein studies.

Dr. Mukhopadhyay has important different role during my PhD tenure. He always shown me a path of reality rather ideality, his lab at NDDDB taught me things which were sometime come across in life of PhD students. He taught me rigorous screening and cloning and other activities. He taught me the meaning of priority in life and I am always thankful to him for everything.

Retired **Prof. S. S. Katyare** helps me lot during my SRF-CSIR, he discussed lot of issues which taught me lessons of life in research. I am thankful to him and his lab for various reasons which I can not explain here.....

I pay my thanks to my wife **Dr. Anju** for being a person of my life who really changed me and show me the goal of PhD. She is wonderful person who support though out my investigation with love and care it is which I will never forget. Here I also pay my regard to **my parents** and **my brother Dr. Tushar and family** for their constant encouragement during my PhD. **Harshil** son also had got less time in his childhood and I am thankful to him for being a part of my PhD tenure.

My relations with other teachers like **Prof. Telang, Dr. Rasidunissa Begum, Dr. Sarita Gupta, Dr. Jayshree, Dr. Acharya, Dr. Puspa and Dr. Jani** at

the department was also unforgettable, since all these teachers taught one or other approach for getting good results..

Dr. R. Karunakaran, person who initiated this work, my thanks are due to him for his support during my initial struggle of my work and his way of working which I hardly did, dreamed always. His work in our lab was a path showing work.

Thanks are due to my lab seniors cum friends cum elder brother **Dr. Siddharth Srivastava** and **Mr. Vikas Sharma** for teaching me everything during my PhD. They both are being a opposite personality use to work together and sometimes I being a small learn few things along with them and found moral support during last few years.

Mr. Gopit Shah being my junior always acts as my elder brother and play an important role in my PhD. He deserves more than thanks but don't have words to explain it.

Thanks are also to my other members of the lab like, **Miss. Divya Patel, Miss. Aditi Buch, Miss. Jisha, Deepa** for support during my investigation.

Thanks are also to **Dr. G. Archana** for research discussion and support for many things which we needed during investigation along with dinner party.

I thanks to all my M.Sc. dissertation students like, **Natashaa Singh, Hemlata Tiwari, Ranganayki Kannan, Bhavika Modi, Sushmita, Pavan Agrawal** and **Swetank Verma** for their work and make my journey of investigation more fruitful.

I would like to thanks all the people of **Dr. Nagaraja' s lab** like **M. Sarvanan, Vasu, Dr. Anuradha, Dr. Atanu, Dr. Bobby, Anirban, Sugopa, Arnab and Somitra** all.... for support during my investigation.

Thanks are due to endless discussion with my other friends and fellow research student like. **Dr. Jignesh, Dr. Shubhash, Dr. Vihas, Dr. Jyoti, Dr. Anil, Dr. Laxmi, Meena, Keyur, Namita, Dr. Mukta Mohan, Shajil, Dr. Samir, Hiren, Dr. Sayied Zenulabedin, Pradeep, Hemendra, Maulik, Purva, Chirayu, Niraj, Prakash, Heena, Jyotika, Iqbal** and others.....

I also pay my regards and thanks to all the department staff for their help and support during my tenure.

This work could not have been possible without fellowship provided by **University Grants Commission (UGC)** and **Council of Scientific and Industrial Research**.

Prashant Devjibhai Kunjadia