Acknowledgement

I would like to thank my supervisor, Prof S. K. Sopory for all his encouragement, support and guidance.

I would like to thank Prof. Najma Z. Baquer, (former Dean), Prof Rajendra Prasad (former Dean) and Prof R. K. Saxena for extending all research facilities during the period of my work. Their concern and prompt action in ensuring that the registration process was always accomplished on time is duly acknowledged.

This work would not have been possible without encouragement and support from Drs M. K. Reddy and Amos Gaikwad. Their suggestions and endless patience have made this thesis feasible.

To the faculty at the School of Life Sciences and ICGEB: Profs. S. C. Maheshwari, Nirmala Maheshwari, Alok Bhattacharya, K. C. Upadhayaya, Drs. Sunil Mukherjee, Narendra Tuteja, Nirupam Roychoudhury, Raj Bhatnagar, Siva Reddy, Nasreen Z. Ehtesham Hop, Chen, Suresh Nair, Nagesh and Rajyashri for their suggestions and encouragement. To the faculty at Life Sciences goes the special credit for encouraging me to pursue research

I am specially grateful to my seniors at JNU: Dr Renu Deswal, Dr Meena Chandok, Dr Meenakshi Munshi, Dr Sona Pandey and Dr Praveen Verma for their help in various ways. The warmth and advice from Dr Renu Deswal is sincerely acknowledged.

My seniors at ICGEB-Drs Neeti Sanan Mishra, Snehlata Parikh, Mamta Goswami, Veena and Giridhar Pandey for guiding me through the endless steps towards thesis submission. Their warmth and support is gratefully acknowledged.

I am thankful to Prof. K. K. Tiwari (former Director) and Prof. V.S. Chauhan, Director ICGEB for the extensive facilities and support and the opportunity to work at ICGEB.

To Yash, Amit, Sharik, B. N. Singh, Neema, Tarannum, Vijaya, Wricha, Vineetha, Punjab, Mintu, Chamari, Divya, Shilpee, Basavaraj, Ajay, Rabi, Preeti, Bharati, Wu, Hoi, Ana, Solliman and
Dasarathi for providing a warm and healthy working atmosphere and that much needed "cuppa cheer" when required. Special thanks go out to Mr. B. S. Yadav and Preeti for their endless supply of patience and cheerful cooperation in the face of continuous demands on their time.

To my friends who stood by me when I needed them most: the riotous "B.Sc gang" - Archana, Kirti, Juhi, Usha, Ranjana and Gowri. To the quieter but equally caring "M.Sc trio" - Saubiya, Ratna and Mamta. Special thanks are due to Saubiya. Her encouragement, love, caring, her crazy sense of fun and optimism have pulled me through.

To my friends from the Ph.D course who encouraged me all the way: Saubiya, Ranjana, Amita, and Ritu. They were truly "friends in need". To Faisal for his encouragement and support. To Neelesh Suravavanshee for his friendship, whackiness and rock-solid common sense.

To students from the School of Life Sciences - Soma, Satish, Paromita, Mitali, Monideepa for their affection and encouragement.

I would also like to acknowledge the help provided by Bahadur, Chandan, Prakash and Ramesh. They stand witness to the statement that "clean glasware means clean cultures" though that was strictly not always true!!! The help given by Sovan and Radha in the library is gratefully acknowledged as is the assistance provided by Mr. Negi, M. M. Sharma and Raina, formerly CPMB, JNU. The staff at CIF, JNU - Mr. Alexander, Mr. Khan and Mr. Sharma always responded when asked for help.

Financial support from UGC in the form of Junior and Senior Research Fellowships and the Travel Fellowship provided by CSIR for attending the symposium at Potsdam, Germany is acknowledged.

Special thanks go to Dr M. K. Bhattacharyya (Samuel Noble foundation) for providing the soybean PLC clone for screening. The
assistance provided by Dr. Anu Bushamboo (NII, Dr. Sher Ali’s Laboratory) in the densitometric scanning is acknowledged

To my husband, Raja for his patience and to my in-laws for their support.

And finally this thesis would not have been possible without the support and encouragement of my parents and sister, Bhavani. To my father goes the credit for setting an example, to my mother for her support and to my sister for standing by when I was at my lowest. Special thanks go to my sister for her exasperated patience for all those “ten minute delays” that always seemed to occur when she came to pick me up.

Gayatri