Acknowledgements

At first, I would like to deeply thank Prof. Dr. Lothar H. Wieler and Prof. Dr. Chengping Lu for giving me the opportunity to pursue the doctoral degree and challenge myself in this field of molecular biology. I would also like to thank them for their fully trust and encouragement throughout the entire period of my study.

Uncountable thanks extend to Mrs Claudia Laturnus and Mrs Dr. Christa Ewers for their fully support during the animal tests and intensive, helpful discussions. A lot of thanks also extend to all members in our laboratory for their many helps, comprehensive scientific discussions and useful suggestions.

The deepest thanks go to my parents and my wife, who always have been giving me much support, patience and understanding.