## **ACKNOWLEDGMENTS**

First of all, prayerful thanks to **ALLAH our Merciful God** who gives me everything I have.

Many thanks to **Dr. Ahmed Farah**, managing director of ME Agrar company, Germany, for granting me a scholarship from January 2003 to June 2005 to start my doctoral studies at Institute for Zoo and Wildlife research (IZW), Berlin, Germany.

I am very grateful to the **Egyptian Government, Ministry of Higher Education** for granting me a supportive scholarship from July 2005 to June 2007 to complete my doctoral studies at Free University of Berlin, Germany.

I would like to express my deepest gratitude and thanks to **PD Dr. Falko Steinbach** for his supervision, kind advice, encouragement, generous help and valuable discussion which made the completion of this work possible.

It is my great pleasure to express my cardinal thanks to **staff members of IZW** for the fair and honest support they gave to me to perform my doctoral work at IZW.

I would like to thank **Prof. H. Stein**, Berlin, for providing anti-CD163 (Ber-Mac3), **Prof. M. Parawesch**, Kiel, for providing anti-CD68 (Ki-M6), **Dr. W. Davis**, Washington, for providing anti-CD28 mAbs (HB68a and HB65a), **Dr. A. Werners**, Utrecht and **Prof. D. Horohov**, Kentucky, for providing cell lines and information and **Prof. Horejsi**, Prague, for helpful discussion of data. Thanks to **Dr. Julia Kydd**, AHT, **Dr. Julia Flaminio**, Cornell University and **Prof. Paul Lunn**, CSU, for cooperation in subsequent analysis including some two-colour flow cytometry analyses, IHC, and analyzing cell lines. Many thanks to **Dr. S. Mauel**, Berlin, for providing equine cytokines and kind advice regarding mAbs production and separation of leukocytes. Great thanks to **Mrs. Anke Schmidt** and **Mr. Dietmar Lieckfeldt**, IZW, for very kind technical advice they gave to me during sequence analysis of CD28. My greetings to **Prof. Grabner** and **staff members of the Horse clinic**, **Free University of Berlin**, for allowing me to collect blood samples essential for my studies.

I am deeply indebted to **each member of my beloved family** whose continuous support and encouragement paved my way in life and helped me all the time. I take this opportunity to express the profound gratitude from my deepest heart to my thoughtful **mother**, my brothers **Dr. med. Khaled Mahmoud** and **Dr. med. Amr Mahmoud**, my wife **Eman** and my daughters **Arwa** and **Aya** for their sincere prayes, love, patience and spiritual support.