

Avian Immunology



EDITED BY

Fred Davison, Bernd Kaspers
and Karel A. Schat



CONTENTS

Foreword	ix
Acknowledgements	xi
List of Contributors	xiii
1 The Importance of the Avian Immune System and its Unique Features <i>Fred Davison</i>	1
2 Structure of the Avian Lymphoid System <i>Imre Oláh and Lonneke Vervelde</i>	13
3 Development of the Avian Immune System <i>Julien S. Fellab, Thierry Jaffredo and Dominique Dunon</i>	51
4 B Cells, the Bursa of Fabricius and the Generation of Antibody Repertoires <i>Michael J.H. Ratcliffe</i>	67
5 Avian T Cells: Antigen Recognition and Lineages <i>Birgit Viertlboeck and Thomas W.F. Göbel</i>	91
6 Structure and Evolution of Avian Immunoglobulins <i>Fred Davison, Katharine E. Magor and Bernd Kaspers</i>	107
7 Avian Innate Immune Responses <i>Helle R. Juul-Madsen, Birgit Viertlboeck, Adrian L. Smith and Thomas W.F. Göbel</i>	129
8 The Avian MHC <i>Jim Kaufman</i>	159
9 Avian Antigen Presenting Cells <i>Bernd Kaspers, Sonja Kothlow and Colin Butter</i>	183
10 Avian Cytokines and Chemokines <i>Pete Kaiser and Peter Stäheli</i>	203
11 Immunogenetics and Mapping Immunological Functions <i>Susan J. Lamont, Jack C.M. Dekkers and Joan Burnside</i>	223
12 The Avian Mucosal Immune System <i>Fred Davison, Bernd Kaspers and Karel A. Schat</i>	241
13 The Avian Enteric Immune System in Health and Disease <i>Adrian L. Smith and Richard Beal</i>	243

14	The Avian Respiratory Immune System <i>Sonja Kothlow and Bernd Kaspers</i>	273
15	The Avian Reproductive Immune System <i>Paul Wigley, Paul Barrow and Karel A. Schat</i>	289
16	Avian Immunosuppressive Diseases and Immune Evasion <i>Karel A. Schat and Michael A. Skinner</i>	299
17	Factors Modulating the Avian Immune System <i>Elizabeth A. Koutsos and Kirk C. Klasing</i>	323
18	Autoimmune Diseases of Poultry <i>Gisela F. Erf</i>	339
19	Tumours of the Avian Immune System <i>Venugopal Nair</i>	359
20	Practical Aspects of Poultry Vaccination <i>Virgil E.J.C. Schijns, Jagdev Sharma and Ian Tarpey</i>	373
21	Comparative Immunology of Agricultural Birds <i>Ursula Schultz and Katharine E. Magor</i>	395
22	Ecoimmunology <i>Daniel R. Ardia and Karel A. Schat</i>	421
	Appendix 1: Genetic Stocks for Immunological Research <i>Mary E. Delany and Terri M. Gessaro</i>	443
	Appendix 2: Resources Available for Studying Avian Immunology <i>Pete Kaiser and Fred Davison</i>	459
	Glossary	467
	Index	473