

# **1. TABLE OF CONTENTS – FRONT MATTER**

## **2. Anatomy of Teleost Fish Immune Structures and Organs**

- Håvard Bjørgen, Erling Olaf Koppang

Pages 1-30

## **3. Innate Immunity**

- Roy Ambli Dalmo, Jarl Bøgwald

Pages 31-103

## **4. Adaptive Immunity**

- Beatriz Abós, Christyn Bailey, Carolina Tafalla

Pages 105-140

## **5. Cellular Immune Responses**

- Uwe Fischer, Fumio Takizawa

Pages 141-176

## **6. Lymphocytes of Teleosts**

- G. Scapigliati, A. Miccoli, F. Buonocore, A. M. Fausto, S. Picchiatti

Pages 177-201

## **7. Fish Macrophages**

- Geert F. Wiegertjes, Philip M. Elks

Pages 203-227

## **8. Immunoglobulins in Teleost**

- Manuel Mendoza, Susana Magadán

Pages 229-251

## **9. B-Cell Responses and Antibody Repertoires in Teleost Fish: From Ag Receptor Diversity to Immune Memory and Vaccine Development**

- J. Oriol Sunyer, Pierre Boudinot

Pages 253-278

**10. Complement Activation in Fish with Emphasis on MBL/MASP**

- Per W. Kania, Kurt Buchmann

Pages 279-300

**11. Cytokines and Immunity**

- Christopher J. Secombes

Pages 301-353

**12. Major Histocompatibility Complex (MHC) in Fish**

- Eva Stina Edholm, Louis Du Pasquier, Geert F. Wiegertjes, Pierre Boudinot

Pages 355-386

**13. Mucosal Immunity in Fish**

- Irene Salinas, Yang Ding, Álvaro Fernández-Montero, J. Oriol Sunyer

Pages 387-443

**14. Immune Response Against Piscine orthoreovirus (PRV) in Salmonids**

- Maria K. Dahle, Øystein Wessel, Espen Rimstad

Pages 445-461

**15. Antiviral Innate Immune Responses: Infectious Pancreatic Necrosis Virus and Salmonid Alphavirus**

- Cheng Xu, Amr A. A. Gamil, Koestan Gadan, Aase B. Mikalsen, Øystein Evensen

Pages 463-494

**16. The Ontogeny of the Fish Immune System**

- Kurt Buchmann

Pages 495-510

**17. Antibacterial Immune Responses**

- Kurt Buchmann

Pages 511-533

**18. Antiparasitic Immune Responses**

- Kurt Buchmann

Pages 535-563

**19. Immunopathology**

- Khattapan Jantawongsri, Brian Jones, Diane Elliott, Heike Schmidt-Posthaus, Barbara F. Nowak

Pages 565-598

**20. Current Use and Need for New Fish Vaccines.**