

# Contents

<b>Preface</b> .....	<b>v</b>
<b>Contributors</b> .....	<b>ix</b>
<b>1 A Brief Introduction to the Avian Influenza Virus</b> .....	<b>1</b>
Erica Spackman	
<b>2 Avian Influenza Virus Sample Types, Collection, and Handling</b> .....	<b>7</b>
Mary Lea Killian	
<b>3 Avian Influenza Virus RNA Extraction from Tissue and Swab Material</b> .....	<b>13</b>
Erica Spackman and David L. Suarez	
<b>4 Type A Influenza Virus Detection and Quantitation by Real-Time RT-PCR</b> .....	<b>19</b>
Erica Spackman and David L. Suarez	
<b>5 Detection and Identification of the H5 Hemagglutinin Subtype by Real-Time RT-PCR</b> .....	<b>27</b>
Erica Spackman and David L. Suarez	
<b>6 Avian Influenza Virus Isolation and Propagation in Chicken Eggs</b> .....	<b>35</b>
Peter R. Woolcock	
<b>7 Hemagglutination Assay for the Avian Influenza Virus</b> .....	<b>47</b>
Mary Lea Killian	
<b>8 Hemagglutination-Inhibition Test for Avian Influenza Virus Subtype Identification and the Detection and Quantitation of Serum Antibodies to the Avian Influenza Virus</b> .....	<b>53</b>
Janice C. Pedersen	

<b>9</b>	<b>Neuraminidase-Inhibition Assay for the Identification of Influenza A Virus Neuraminidase Subtype or Neuraminidase Antibody Specificity . . . . .</b>	<b>67</b>
	Janice C. Pedersen	
<b>10</b>	<b>Immunohistochemical Staining for the Detection of the Avian Influenza Virus in Tissues . . . . .</b>	<b>77</b>
	Mary J. Pantin-Jackwood	
<b>11</b>	<b>Wild Bird Surveillance for the Avian Influenza Virus . . . . .</b>	<b>85</b>
	Justin D. Brown and David E. Stallknecht	
<b>12</b>	<b>Reverse Genetics of the Avian Influenza Virus . . . . .</b>	<b>99</b>
	Chang-Won Lee and David L. Suarez	
<b>13</b>	<b>Evaluating the Cell-Mediated Immune Response of Avian Species to Avian Influenza Viruses . . . . .</b>	<b>113</b>
	Darrell R. Kapczynski	
<b>14</b>	<b>Measurement of Avian Cytokines with Real-Time RT-PCR Following Infection with the Avian Influenza Virus . . . . .</b>	<b>127</b>
	Darrell R. Kapczynski and Michael H. Kogut	
	<b>Index . . . . .</b>	<b>135</b>